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JUNE 1957

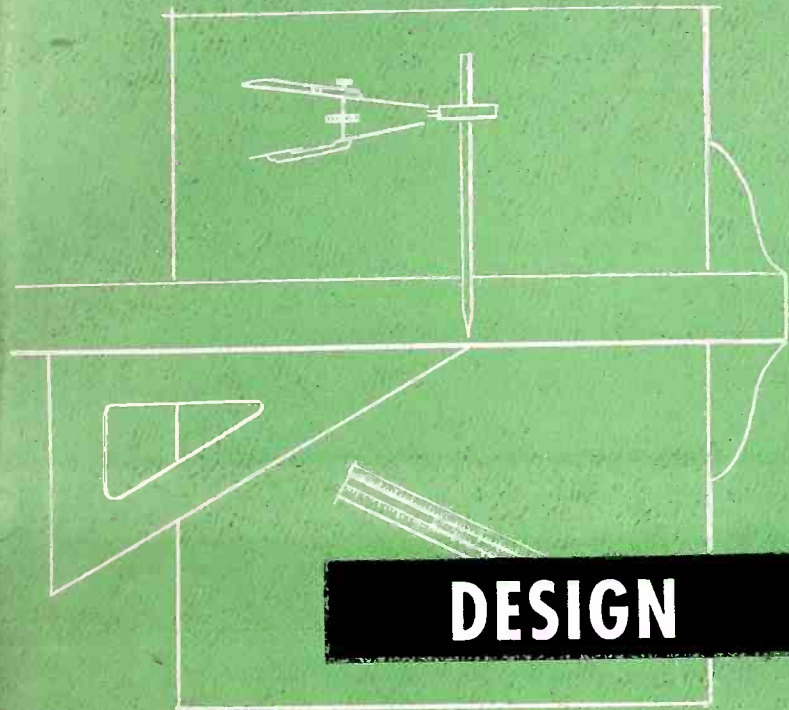
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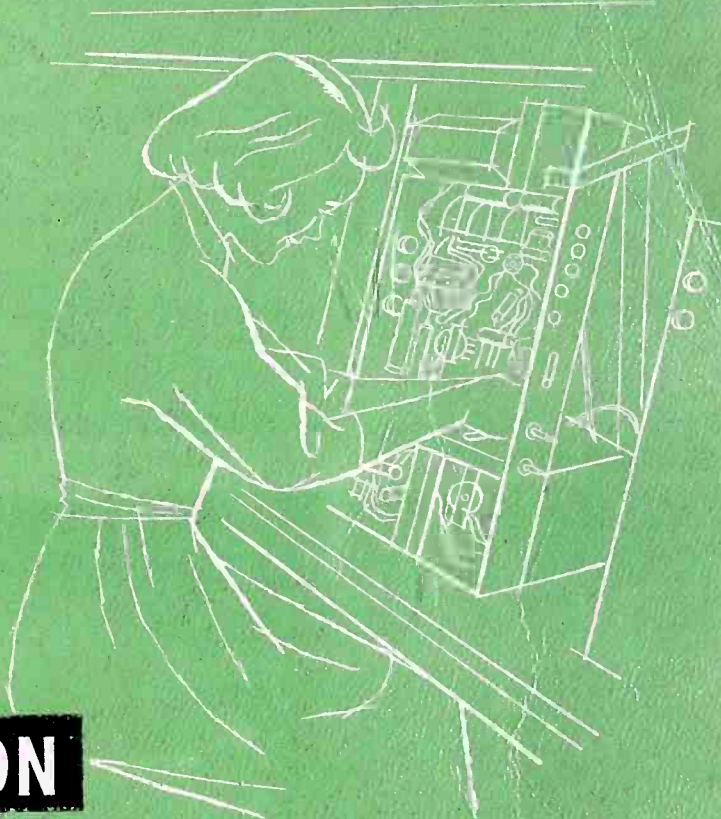
# electronics

## BUYERS' GUIDE ISSUE

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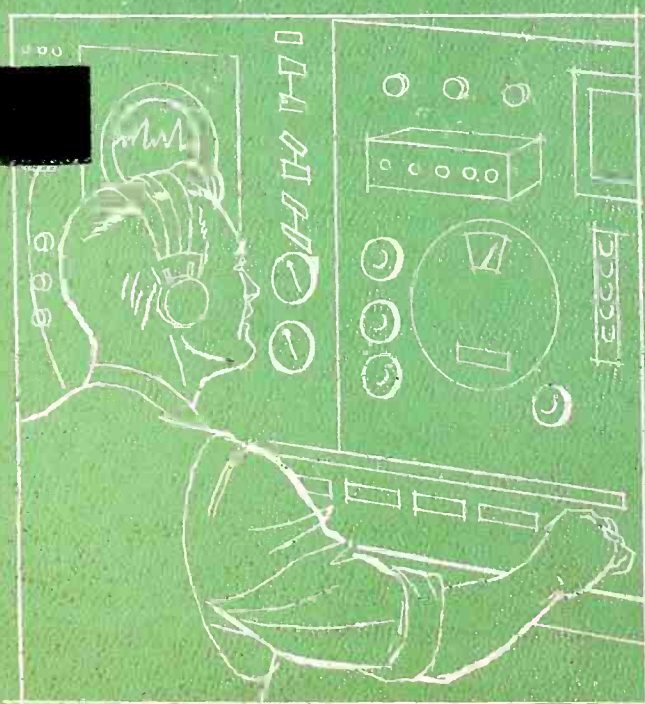


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PUBLICATION

330 West 42nd St.,

New York 36, N. Y.

# electronics BUYERS' GUIDE

JUNE MID-MONTH • 1957

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Useful features that provide shortcuts for busy design engineers

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PUBLICATION

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June, 1957—Mid-Month

ELECTRONICS  
Member ABC and ABP

Vol. 30, No. 6C



Published three times a month, with an additional issue in June, by McGraw-Hill Publishing Company, Inc. James H. McGraw (1860-1948), Founder. Executive, Editorial, Circulation and Advertising Offices: McGraw-Hill Building, 330 W. 42 St., New York 36, N. Y. Longacre 4-3000. Publication Office: 239 So. American St., Philadelphia 5, Penna. See panel below for directions regarding subscription or change of address. Donald C. McGraw, President; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publications Division; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator.

Single copies 75¢ for Technical Edition and 50¢ for Business Edition in United States and possessions, and Canada; \$2.00 and \$1.50 for all other foreign countries. Buyers' Guide \$3.00. Subscription rates—United States and possessions, \$3.00 a year; \$9.00 for two years. Canada, \$10.00 a year. All other countries \$20.00 a year. Three-year rates accepted on renewals only, are double the one-year rate. Second class mail privileges authorized at Philadelphia, Penna. Printed in U.S.A. Copyright 1957 by McGraw-Hill Publishing Co., Inc.—All Rights Reserved. Title registered in U. S. Patent Office. BRANCH OFFICES: 520 North Michigan Avenue, Chicago 11; 68 Post Street, San Francisco 4; McGraw-Hill House, London E. C. 4; National Press Bldg., Washington, D. C. 4; Archi-

lects Bldg. 17th & Sansom Sts., Philadelphia 3; 1111 Henry W. Oliver Bldg., Pittsburgh 22; 1510 Hanna Bldg., Cleveland 15; 856 Penobscot Bldg., Detroit 26; 3615 Olive St., St. Louis 8; 350 Park Square Bldg., Boston 16; 1321 Rhodes Haverly Bldg., Atlanta 3; 1125 West Sixth St., Los Angeles 17. ELECTRONICS is indexed regularly in The Engineering Index.

Subscriptions: Address correspondence to Subscription Manager, Electronics, 330 W. 42nd St., New York 36, N. Y. Allow one month for change of address, stating old as well as new address. Subscriptions are solicited only from persons engaged in theory, research, design, production, maintenance and use of electronic and industrial control components, parts and products. Position and company connection must be indicated on subscription orders.

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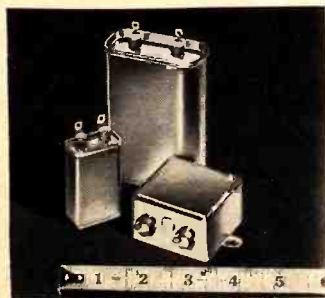
# GENERAL ELECTRIC

**ELECTRONIC COMPONENTS, EQUIPMENT, AND ALLIED PRODUCTS  
FOR ALL COMMUNICATION AND INDUSTRIAL APPLICATIONS**

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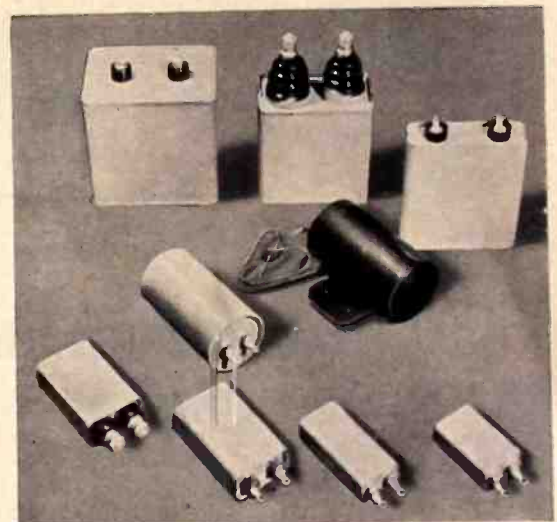
Ratings	D-c Voltage	$\mu$ f
Case Style 53	100 to 1000	.05 to 4
Case Style 61	100 to 1000	.01 to 2
Case Style 70	100 to 1500	.1 to 10

## CAPACITORS

**PERMAFIL CAPACITORS:** Permafil high-temperature capacitors are designed to exceed the performance requirements of MIL-C-25A Characteristic K specifications, and are suitable for operation in ambient temperatures from  $-55$  to  $+125$  C at full rated voltage.

Permafil, used as the impregnant instead of mineral oil, is a solid resinous material having excellent electrical characteristics over a wide temperature range. Since it is a compound, the processing and manufacture of Permafil capacitors can be controlled to exacting requirements, and results in units that are more reliable at elevated temperatures. Because the impregnant is solid, it obviates possibilities of leaks.

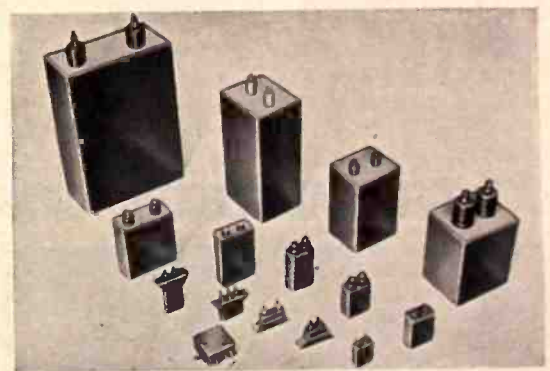
## CAPACITORS



### STANDARD COMMERCIAL TYPES Fixed Paper-dielectric Capacitors

A-c/d-c dual-rated Pyranol\* capacitors for motors, controls, electronic equipments, and other applications will reduce inventories, simplify design problems, and increase standardization. Capacitors in the voltage ranges 236 through 660 volts, a-c, and 400 through 1500 volts, d-c, are now dual-rated and can be used for either a-c or d-c applications. Other a-c and d-c ratings available: 0.01 to 75  $\mu$ f, 236 to 660 volts, a-c, and 100 to 100,000 volts, d-c.

Write for Bulletin GEC-809.

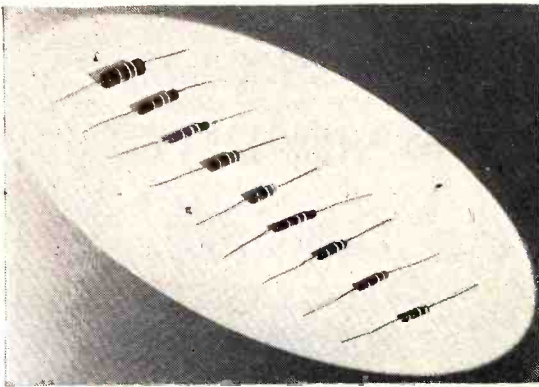


### CAPACITORS TO MEET MIL-C-25A SPEC. 100 to 12,500 Volts D-c—0.01 to 15 Microfarads

These fixed paper-dielectric capacitors are designed to meet the rigid requirements of the Joint Army-Navy specifications for use in electronic equipment for the armed forces. Hermetically sealed in metallic containers, these capacitors for d-c applications are available in Characteristics E and F and in Case Styles CP-53, -54, -55, -61, -63, -67, -69, and -70. In addition to regular applications, these units may also be used at higher temperatures, higher voltages for short-life applications, and with a-c voltages. Write for Bulletin GEC-810.

\* Registered Trade-mark of General Electric Co.

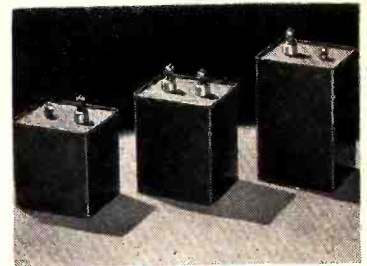
## MOLDED PVZ\* TUBULAR CAPACITORS



\* Trade-mark of General Electric Co.

Write for Bulletin GEC-1452.

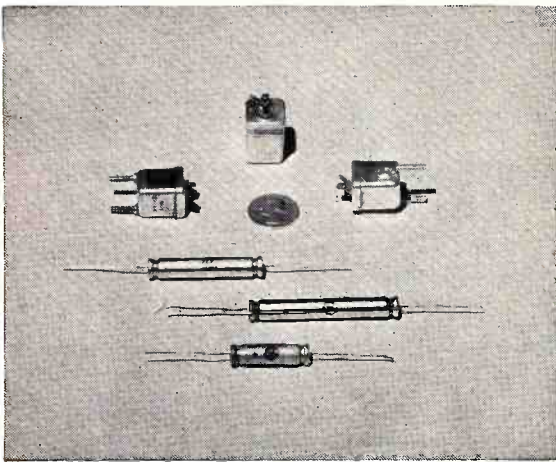
General Electric molded PVZ tubular capacitors have applications in computers, missiles, telephone equipment, and other high-grade military and commercial electronic equipment. Ratings: 100 to 400 volts. They can be supplied from 0.00047 to 0.022  $\mu\text{f}$  in the 400-volt range and from 0.00047 to 0.15  $\mu\text{f}$  in the 100-volt range. Tolerances:  $\pm 5\%$ ,  $\pm 10\%$ ,  $\pm 20\%$ . Temperature range is from  $-55\text{ C}$  to  $+125\text{ C}$ .



### ENERGY STORAGE

These d-c Pyranol capacitors for phototube and similar light-duty, energy-storage applications are the result of years of experience in the design and manufacture of capacitors for this type of service. They are relatively lightweight, small, stable capacitors having a life consistent with the application involved. Write for Bulletin GEC-1357.

## GENERAL ELECTRIC TANTALYTIC† CAPACITORS

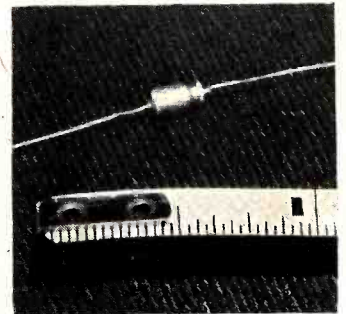


† Registered trade-mark of General Electric Co.

Write for Bulletin GEA-6258.

The Tantalytic capacitor was developed to fit low-voltage applications where superior performance and small size are the major factors.

The Tantalytic capacitor is a foil-type, tantalum-electrode, electrolytic unit, similar in construction to an aluminum electrolytic capacitor, but, because of the characteristics of tantalum foil and the electrolyte employed, is smaller in size. The Tantalytic capacitor has lower leakage currents, longer shelf life, and a wider range of temperature operation, without derating, than the conventional aluminum electrolytic capacitor. Tantalytic capacitors, in a wide range of ratings, are currently being used in telephone equipment and military communication and electronic equipment. They are available for 85 C and 125 C service.



### MICRO-MINIATURE TANTALYTIC CAPACITORS

Designed for low-voltage d-c applications where superior characteristics and size are important. Applications: In miniaturized assemblies with transistors; In hearing aids, and military applications employing transistors. Write for Bulletin GEA-6065.

## GENERAL ELECTRIC DRAWN-OVAL CAPACITORS



Write for Bulletin GEA-5777.

Drawn-oval capacitors have found wide application in fluorescent-lamp ballasts, air-conditioning and refrigeration equipment, business machines, luminous-tube transformers, submersible pumps, and industrial control. They are smaller, lighter, stronger, and 10 to 20 per cent less costly than standard fabricated fixed paper-dielectric types. Ratings range from 1  $\mu\text{f}$  to 20  $\mu\text{f}$  at 236 to 660 volts, a-c, and 1  $\mu\text{f}$  to 20  $\mu\text{f}$  at 600 to 1500 volts, d-c. They are available in single- and double-section types with a wide range of terminal styles. Drawn-oval capacitors can be mounted in any position with suitable brackets available.



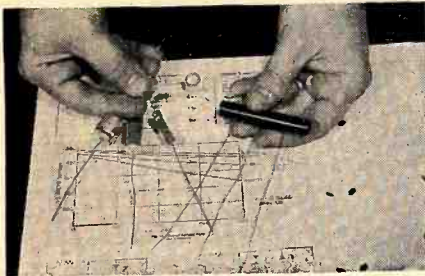
### PULSE-FORMING NETWORKS

These capacitor pulse-forming networks, Type E, are for applications in radar and industrial equipment where the normal (exponential) capacitor discharge shape is not suitable and where an impulse having a definite energy content and duration is required. Bulletin GEA-4996.

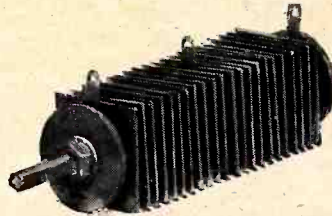
## COMPONENT RECTIFIERS, *Vac-u-Sel*,\* COPPER-OXIDE, GERMANIUM, AND SILICON

Rectifiers for practically any d-c power requirement are available. Vac-u-Sel rectifiers are a high-quality type of selenium rectifier produced by an exclusive

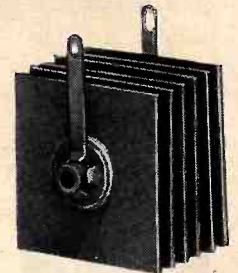
G-E sphere-type, vacuum-evaporation process. In addition, General Electric also makes a full line of copper-oxide, germanium, and silicon rectifiers.



Miniature Vac-u-Sel rectifiers



Standard Vac-u-Sel rectifier stack construction



Tube-mounted Vac-u-Sel rectifier stack construction

### GENERAL ELECTRIC *Vac-u-Sel* RECTIFIERS

• 63 VOLTS PEAK INVERSE

• 150 C PLATE TEMPERATURE

• 80,000 HOURS LIFE EXPECTANCY

The special vacuum-evaporation process employed in making Vac-u-Sel rectifiers makes possible the outstanding performance characteristic of this selenium rectifier. With G-E Vac-u-Sel rectifiers, you can now match performance requirements for life expectancy, ambient operating temperature, and atmospheric protection, as well as electrical characteristics. Two (2) rectifier cells make up the line of Vac-u-Sel rectifiers: a 26-volt and a 45-volt cell. Both are high-temperature cells.

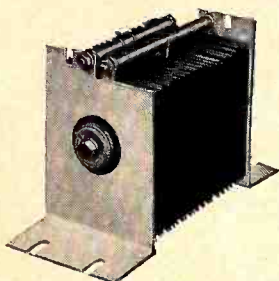
The 26-volt cell is a long-life, standard industrial cell with a life expectancy of 80,000 hours at normal current rating at 35 C ambient. The 26-volt cell can meet operating requirements up to 150 C at full voltage. Current need not be derated where shorter life is acceptable. Life expectancy at 150 C is 1000 hours.

The 45-volt cell has a 63-volt peak inverse voltage. Unlike most 45-volt rectifiers, this is a true, long-life industrial cell. Frequently,

this rectifier may be substituted for those employing 26-volt cells. Since fewer cells are required, savings of up to 30 per cent in cost and up to 35 per cent in the size of the stacks are possible. Life expectancy of the 45-volt cells at normal current rating at 35 C ambient is 60,000 hours, and they can be used at ambient temperatures up to 110 C.

All Vac-u-Sel rectifiers operate with exceptionally low forward-voltage drop and low reverse leakage, and their margin of superiority in these characteristics increases with service. All Vac-u-Sel rectifiers undergo extensive testing and grading, and matched cells are used in assembling stacks. A variety of finishes and mounting arrangements are available to meet virtually any requirement. Write for Bulletins GEA-5935 (miniatures); GEA-6273 (standard); GEC-1330 (application manual).

#### COPPER-OXIDE RECTIFIER STACKS



G-E copper-oxide rectifier stacks offer these outstanding features:

- No unforming
- Ability to withstand momentary current overloads
- Ability to withstand momentary voltage overloads
- Longer life with little aging
- Highest efficiency at low voltages.

These features of General Electric copper-oxide rectifiers make them especially suited for certain types of magnetizing circuits, which require

the rectifier to withstand high current inrush and momentary voltage overload.

Perhaps the most widespread use of copper-oxide rectifiers is in the field of circuit-breaker operation. Here, the unique characteristics of copper-oxide rectifiers are especially important.

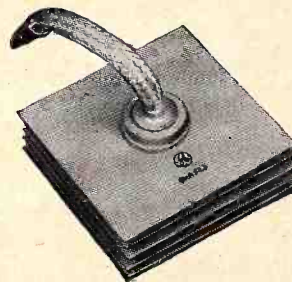
The above features also make copper-oxide rectifiers ideal for the following applications:

- Blocking
- Metering
- Polarizing relays
- High-speed relays
- Electroplating
- Electrolytic reduction
- Telephone and telegraph equipment
- Control contactors
- Low-voltage, high-current power supplies
- Testing equipment
- High-voltage surge protectors
- D-c welders.

Write for Bulletin GEA-5699.

\* Registered trade-mark of General Electric Co.

#### INDUSTRIAL GERMANIUM AND SILICON RECTIFIERS



With more than 1,000,000 amperes of large-area, single-crystal rectifiers now in service, G-E germanium and silicon power rectifiers have become a proven source of dependable d-c power. They offer these features:

- Hermetically sealed cells
- Negligible aging
- Small size and weight
- No unforming.

The application of these new monocrystalline rectifiers is backed up by operating experience both in the laboratory and in numerous field in-

stallations. The extensiveness of this knowledge makes it possible to predict accurately the performance characteristics of these rectifiers in many different types of service.

Both types are well suited whenever the optimum size, weight, and efficiency are desired in heavy current-type applications. Germanium will prove to be more practical at the lower levels and at normal ambient temperatures. Silicon is indicated at the higher voltage levels and at higher ambient temperatures. The General Electric Company is prepared to provide complete engineering and application assistance upon request.

Complete information on all of these rectifiers is available from your nearest G-E Apparatus Sales Office, or by writing to Section 640-472, General Electric Company, Schenectady 5, New York.



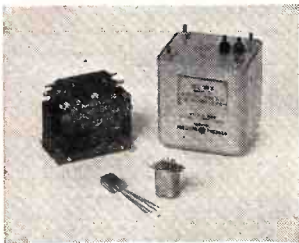
## SPECIALTY TRANSFORMERS



**HERMETICALLY SEALED:** A complete line of hermetic transformers in 22 standardized case sizes was specifically designed to meet the performance requirements of the government MIL-T-27 specifications. These units, featuring drawn-steel cases and silicone bushings, are the most dependable sealed transformers it is possible to provide and can be used on a wide range of applications.



**OPEN TYPE:** Usually applied where moisture resistance is not an important factor, and where size and weight must be kept to a minimum. Composed of automatically wound coils imposed on finest-grade silicon-steel core laminations, they are of the same uniform high quality as our encased transformers. Made to exacting tolerances to provide excellent electrical characteristics. Terminal boards top- or bottom-mounted, or with leads, and with mounting studs or brackets to meet special requirements.



**ENCAPSULATED TYPE:** Three new encapsulated transformer lines now permit designers in the electronic industry to choose the best and least-expensive encapsulation for their applications: (1) an extremely durable elastomer formula for Class H, (2) Class A modified epoxy resin, and (3) other combinations of varnishes and epoxys or polyesters for less-rigid environmental conditions.

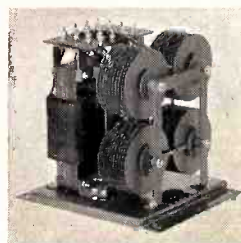
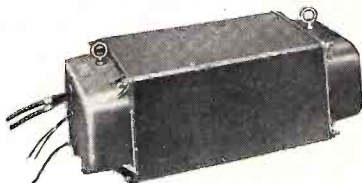


### AIRCRAFT TRANSFORMERS

General Electric manufactures a complete line of standard 400-cycle aircraft transformers which includes general-purpose transformers, phase-changing transformers, high-temperature silicone transformers, ballasts for fluorescent lamps, ignition transformers for cabin heaters, de-icers, and jet engines. General Electric builds transformers to individual specifications, both military and commercial.

## SATURABLE REACTORS

Their features are: (1) provide control in an a-c circuit by means of a direct current, (2) provide a wide range of control with smooth adjustment over entire range, (3) d-c control power required is small, obtainable from any reasonable combination of available current and voltage, (4) very efficient, even at light loads, (5) voltage drop in reactor at full saturation is small, permitting 93% or more of the voltage to be applied to load, (6) compact, sturdy, no moving parts, (7) control power readily obtained from inexpensive rectifier, (8) conveniently installed in least-crowded part of the building for remote-control operation, (9) provide a means of insulating the d-c control from the a-c circuit. These units are for use as control devices for numerous automatic and manual control applications.



**APPLICATION:** The amplistat is a complete packaged d-c amplifier applicable to a wide range of control and instrumentation purposes. Standard ratings are available from 1 va to 930 va. The following are a few of the many possible combinations of **SIGNAL SOURCES** (Thermocouples, Strain gages, Thermistors, Photocells, Phototube amplifiers, Bismuth-wire magnetic-field sensitive resistors, Shunts, Resistance-type temperature bulbs, other Amplistats) with **CONTROLLED DEVICES** (Relays, Solenoids, Small-motor fields, Generators, Amplidyne fields, Power rectifiers, Lamps, Heating elements, other Amplistats).

**FEATURES:** High Gain—Isolation—Input windings galvanically isolated from output. Reliable—Rugged construction, little, if any, maintenance. Static—No moving parts. No warm-up time—Has no tubes. Compact—Fits easily on control panels and chassis.

## SUBMINIATURE TRANSFORMERS

Available in five construction types for pulse, blocking-oscillator, power, reactor, audio, and other miniature-transformer applications. Units are designed



to meet applicable grades of environmental and electrical requirements of MIL-T-27A in sizes of two cubic inches and less. Construction types include plug-in hermetic, flange-mounted hermetic, open core and coil, dip-encapsulated, and cast-encapsulated, as illustrated above.

## CONTROL, PANELBOARD, and SIGNAL TRANSFORMERS

Two lines of transformers for control and small, general-purpose loads designed to fit the needs of electronic-equipment and panel builders. Standard control transformers are available in dual-frequency, series-multiple ratings from 25 to 2000 va, enclosed construction, and from 25 to 250 va for open wiring. Panelboard transformers are available from 50 to 5000 va in a standardized line of 22 ratings featuring a choice of leads, circuit breakers, or 1-, 2-, and 4-fuse combinations. Special control transformers can be furnished for normal and high-reactance applications having special voltage and load requirements.



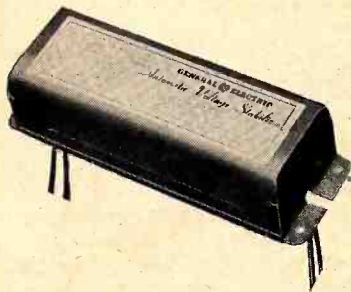
## HIGH-VOLTAGE TRANSFORMERS

Are used as components of radio and television transmitter equipment, and allied devices which require high operating voltages above ground. Construction type shown in the photograph permits a substantial reduction in size and weight—critical factors in many installations. A cost saving is also effected over similar ratings of enclosed-type construction.



## AMPLISTATS

## AUTOMATIC VOLTAGE STABILIZERS

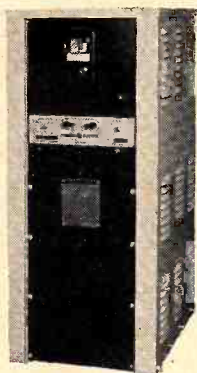


For equipment which requires accurate line-voltage regulation in ratings of 15 to 10,000 va, standard G-E stabilizers can be used to cut costs and save space. Many of the standard models can be operated from either 115 or 230 volts and will deliver either 115 or 230 volts to the load, thus providing transformation, as well as regulation.

With line-voltage variations of 30 per cent, these stabilizers will maintain output voltages to within  $\pm 1$  per cent of the normal. Quiet, automatic, they provide correction within two cycles.

If your product is composed of one of the following items, it will pay you to investigate stabilizers: television and radio equipment; telephone apparatus; sound equipment; lighting circuits; photometers; x-ray equipment; rectifiers (full-wave); electrochemical apparatus; test equipment and precision processes; photographic equipment; electronic circuits; calibration devices; color comparators. Write for Bulletin GEA-5754. Special designs can be furnished in ratings in excess of 10,000 va, or with special voltages, if desired.

## INDUCTROL\* VOLTAGE REGULATORS



Automatic



Motor-driven



Hand-operated

### HAND-OPERATED      MOTOR-DRIVEN      AUTOMATIC

The Inductrol induction voltage regulator is designed for industrial use. Inductrols can be used to hold a constant load voltage accurately, when supplied from a fluctuating supply voltage or, conversely, can be used to provide a variable load or utilization voltage from a relatively constant supply voltage. Either of these functions can be automatically controlled, or can be manually controlled by means of motor drive or hand crank. Other Inductrol controls can be furnished to hold alternating current, or rectified alternating current or voltage. Inductrols are available for circuits up to 600 volts. Inductrols rated 120/240 volts give up to  $\pm 100$  per cent regulation. Write for Bulletins GEC-1450, GEA-6261.

**FEATURES**—No brushes to wear out! No routine maintenance! Drift-free controls! Absolutely stepless control! No wave-form distortion! Autotransformer efficiency!

\* Trade-mark of General Electric Company for induction voltage regulators

## SPECIALTY MOTORS

### FRACTIONAL-HORSEPOWER MOTORS



**Synchronous Induction Motors:** High torque at slow synchronous speed for remote-control devices, indicating instruments, timing devices, etc. For

low-inertia applications requiring rapid changes in rotation. Synchronous speed: 75 rpm, 75 oz-in. torque. Motor starts, stops, reverses, within  $\frac{1}{2}$  cycle of power supply. Smaller size delivers 2 oz-in. at 100 rpm. Write for Bulletin GEC-1294.

**Taxi Dynamotors:** Compact, lightweight units convert low-voltage, d-c power to high-voltage, d-c for mobile radio transmitters in taxis, police cars, trucks, buses, railroads, fire departments, forestry radio transmitters, etc.



Input: 6-28 volts. Output: up to 660 v, 165 watts, 5 min on, 15 min off-duty cycle.



**Permanent-magnet Motors:** Permanent-magnet, totally enclosed, shunt motors for aircraft operation (very high ambient), blower, actuator, tuner, and other applications. Can be dynamically braked by short-circuiting armature terminals, and reversed by use of relays. Explosion-proof, shock-resistant. 0.01 hp, 10,000 rpm, 27.5 v input. 130 rpm with gear reduction. With radio-interference filter. Write for Bulletin GEC-988.

### ELECTRONIC AMPLIDYNE



An extremely responsive amplifier combined with a motor-amplidyne set, useful in many types of motor control where precise regulation of current, voltage, and speed is necessary or desirable.

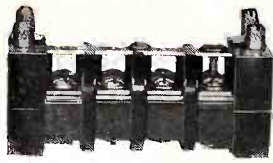
**APPLICATION:** Controls speed, limits loads, holds tension, speeds up acceleration, positions precisely, provides quick stopping. Readily adaptable to programming and processing control.

**RATED**—As a regulated, adjustable-voltage power supply for d-c motors up to  $1\frac{1}{2}$  hp. As regulated exciter for large, adjustable-voltage drives up to 200 hp. The unit has an output of  $1\frac{1}{2}$  kw, 250 volts. Can be arranged for use on 220- or 440-volt, 3-phase, 60-cycle power supply.

The G-E electronic amplidyne is applied as a part of a complete control system. Write for Bulletins GEA-4053, GEA-4889.

## SWITCHBOARD AND PANEL COMPONENTS

### TERMINAL BOARDS



Typical EB-5 board with short-circuit strips



Typical EB-6 board with hinged cover

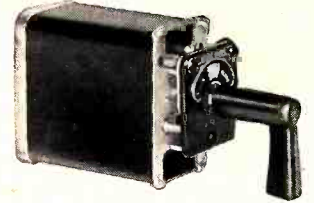
For use where leads are brought to any point for permanent or temporary connection, especially if many wires are involved.

**Type EB-5** are fabricated terminal boards. Each is equipped with the necessary washer-head binding screws for circuit-wire connections.

**Type EB-6** are fabricated terminal boards of the same construction and size as the Type EB-5, except that clamp-type connectors are furnished.

Boards will accommodate wire sizes from No. 18 to No. 10 inclusive. Completely assembled boards can be furnished, with or without covers, for any number of poles, 2 through 18.

### CONTROL and TRANSFER SWITCHES



Type SB-1 design is extremely flexible and can be applied to meet special requirements. Features include: square operating shaft with cams to provide positive contact operation; silver-to-silver contacts; totally enclosed compact design; ample space for connecting leads; choice of operating handles; permanent-finish Textolite\* escutcheons; wide range of stages and contact positions, the number of circuits to be controlled determining the number of stages and contacts needed. Switches having up to 16 stages are commonly furnished. The maximum number of positions, or throws, is 12.

Rating of Type SB-1 switches is 600 v, 20 amp continuous, 250 amp for 3 seconds. Interrupting rating depends upon voltage and character of circuit, as well as number of contacts in series. Write for Bulletin GEA-4746.

\*Registered trade-mark of General Electric Co.

### INDICATING LAMPS

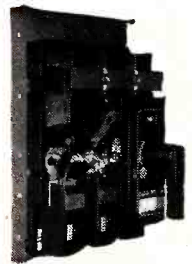


Types ET-5 and ET-6 offer high visibility, low wattage, and long life. Consist of telephone-type lamp with contacts mounted within an insulated tube and with a ceramic resistor for any standard voltage up to 600 v.

For any panel thickness up to 2 in, Color cap provides excellent vision from any angle. Available in 6 colors: red, white, amber, blue, yellow, and clear.

### AIR CIRCUIT BREAKERS

Switching and better protection of power circuits is secured by using air circuit breakers. Type AK-1 breakers are available for switchboard mounting for use, for example, as main power-supply breaker in TV transmitters or are individually enclosed for remote installations. Current ratings from 15 through 4000 amperes, up to 600 volts, a-c. and 250 volts, d-c. See GEA-5915 for full details.



### HIGH-INTERRUPTING-CAPACITY FUSES



The General Electric high-interrupting-capacity, current-limiting, Type CLF fuse provides efficient and economical short-circuit protection for control power circuits, motor starters, feeders, and similar applications on systems 600 volts and below. Not only will the CLF fuse isolate faulty apparatus and circuits, but it also affords better protection by reducing the destructive let-through energy associated with short circuits. Rated to interrupt available short circuits of 200,000 amp at 60 cycles, these fuses are available in ratings from 6 through 4,000 amp, 250 v and 600 v. Write for Bulletin GEA-6319.

## MOLDED-CASE CIRCUIT BREAKERS



Type R Plug-in

Molded-case circuit breakers comprise a complete line of fuseless protection for distribution, power, lighting, and appliance circuits. They are used in individual mountings, built-in applications, separate enclosures,

switchboards, panelboards, and load centers. The sturdy, molded-phenolic cases and trip units are sealed against tampering. The circuit breakers are quick-make, quick-break; they are trip-free and trip-indicating.



Type TQ Bolt-on

### REPRESENTATIVE 50-AMPERE FRAME TYPES

5000-ampere, a-c, interrupting ratings

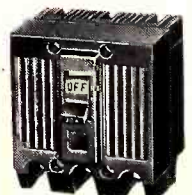
**Type R**—single-pole, plug-in units for standard-duty applications from 15 to 50 amp, 120 v, a-c, 120/240 v, a-c, 2-wire, with thermal magnetic trip.

**Type ALB-1**—single-pole, plug-in unit meeting Navy Hi-shock requirements, 125 v, a-c/d-c, 5 to 50 amp, thermal and independent magnetic trip. Navy breakers not U/L listed.

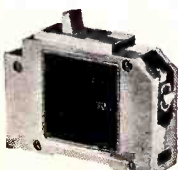
**Type TQ**—single-pole, front and back mounting for applications from 10 to 50 amp, 120 v, a-c, 120/240 v, a-c, 2-wire, with thermal and independent magnetic trip.

**Type TQL**—single-, two-, or three-pole with common trip, plug-in units for applications from 10 to 50 amp: single-pole, 120 v, a-c, 120/240 v, a-c, 2-wire; two-pole, 120/240 v, a-c; two- and three-pole, 240 v, a-c, with thermal and independent magnetic trip.

Other circuit breakers are available in standard industry sizes from 10 to 800 amp for applications up to 600 v, a-c, 250 v, d-c. For further information, request Bulletin GEC-1032 from Circuit Protective Devices Department, 41 Woodford Avenue, Plainville, Connecticut.



Type TQL Plug-in



Type ALB-1 Plug-in

When ordering or seeking information please mention *Electronics Buyers' Guide*.

## CONTROL ACCESSORIES

### AC or DC SOLENOIDS, CR9500

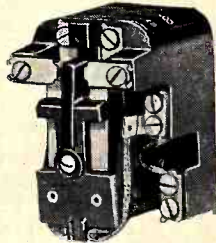


Simplify complex installations: in direct or remote control requiring short, powerful thrusts. Wide selection: 24 different ratings, to 40 lb at 1/2-in. stroke or to 36 lb at 1-in. stroke, available in push- or pull-type operation and for use on a-c or d-c circuits up to 600 volts, maximum. Used to push or pull in a straight line, or to provide mechanical motion at a remote or inaccessible location. They may be operated remotely from a push-button station or automatically by limit switches, pressure switches, float switches, or other pilot-circuit devices. Write for Bulletin GEA-6215.

### GENERAL-PURPOSE RELAYS,

#### CR2790E

Used to control pilot circuits in response to remote-control switch or thermostat. Also, for direct control of small motors driving pumps, fans, etc; as a f-hp motor starter, and in conjunction with a magnetic switch controlling larger motors, and for signal systems. Comes in open-type or in general-purpose case. Explosion-proof and watertight cases available as kits. Three contact arrangements available: double-pole, double-throw; double-pole, single-throw; single-pole, single-throw. Protection against hazard from restarts after power failures can be provided with the double-pole form when one pole is used as a holding interlock in the coil circuit together with a momentary-contact, push-button station. Enclosed forms have convenient conduit entrances at top and bottom. Write for Bulletin GEC-257.



### PLATE RHEOSTATS,

#### IC8000 and IC8070

Back-of-panel or front-of-panel mounting or floor-mounted. Hand-, chain-, or motor-operated. Six-, nine-, and twelve-inch-square plates, providing 27 to 70 divisions.

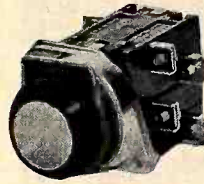


IC8000

These rheostats consist essentially of one or more resistance plates with suitable contact mechanisms assembled in frames. Each resistance plate consists of a molded-compound plate in which resistor elements are welded, and, in turn, embedded in a special cement which provides excellent heat-conducting and electric-insulating qualities. Hand-wheels and sprockets are insulated from the switch parts.

Write for Bulletin GEA-6474.

### OILTIGHT PUSH-BUTTON UNITS, SELECTOR SWITCHES, INDICATING LIGHTS



Push-button unit



Selector switch



Indicating light

A push button with building-block construction. This provides flexibility to meet requirements for special units by simple combination of the basic elements, which consist of separable operators, a removable color ring for identification, and a basic contact block. Operators and contact blocks are furnished separately. Single, double, or tandem contact blocks are quickly and easily attached to any type of operator. A complete line of oiltight stations, units, selector switches, and indicating lights is offered. Write for Bulletin GEA-5779.

### PUSH-BUTTON STATIONS

For control circuits of magnetic controllers designed for push-button control. Standard- and heavy-duty stations available which may consist of various combinations of momentary-contact buttons, maintaining-contact buttons, selector switches, and indicating lights, for surface or flush mounting. Standard-duty station recommended for use with contactors rated up to and including 150 amp. Write for Bulletin GEA-6544.



### ENAMELED RESISTORS, IC9006



Fixed resistor



Slide-wire resistor

The IC9006 enameled resistor units employ a strong, high-heat-resisting, ceramic body developed to withstand sudden and extreme temperature changes. The low-temperature-coefficient resistance wire, after being wound on the body, is embedded in a vitreous enamel, which is fused at high temperatures to a uniform, glossy structure. The enamel is moisture-resistant and extremely durable and gives mechanical protection to the resistor windings.

Fixed and slide-wire resistors are supplied with push-in mounting feet or with alternate mounting arrangements, such as heavy duty mounting feet, through bolts, or multiresistor mounting brackets. Taps, as required, can be supplied on fixed resistors, and a choice of sliders can be supplied in the slide-wire type.

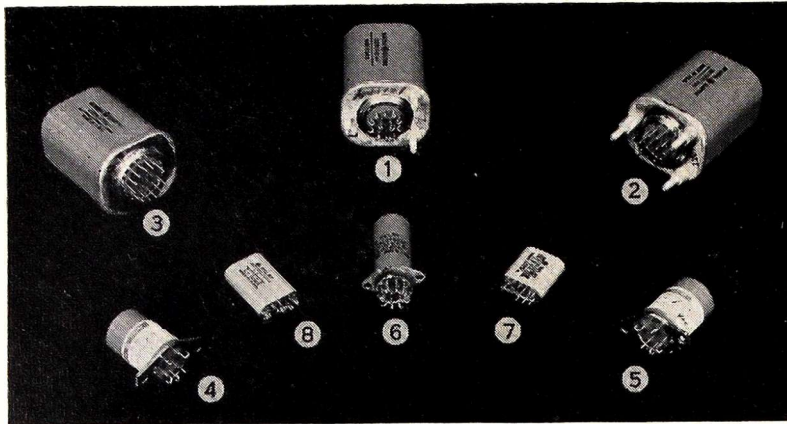
#### RATINGS AND DIMENSIONS

Continuous Watt Rating (Open)	Dimensions in Inches	
	Body Diameter	Length
5	5/16	1
10	5/16	1-3/4
20	5/16	2
25	3/8	2
50	3/4	4-1/2
100	1-1/8	6-1/2
160	1-1/8	8-1/2
200	1-1/8	10-1/2

Write for Bulletin GEA-6592.

When ordering or seeking information please mention Electronics Buyers' Guide.

## SPECIALTY CONTROL



### HERMETICALLY SEALED RELAYS

The General Electric family of hermetically sealed relays combine small size with unusual reliability under severe temperature, shock, and vibration conditions—making them ideal for all radio, radar, fire control, navigational equipment, and industrial electronic jobs.

Though initially designed for military applications, more and more General Electric sealed relays are being used for industrial jobs. Their extreme reliability and small size are being utilized by industrial designers. Resistance welding and other industrial electronic circuitry is being simplified and miniaturized with G-E sealed relays.

### MINIATURE

1. CR2791G121 series—For military and industrial applications; coil voltage 1 to 175 volts, d-c; coil resistance 10-16,000 ohms; AN 3304 type relay; designed for special reliability.
2. CR2790G126 series—For industrial and military applications; operates from 115 volts, a-c; for long-life switching, currents up to 5 amp resistive at 115/220 volts, a-c, or 30 volts, d-c. (Example: pulsing coil of similar relay, expected life, 50 million operations.)
3. CR2791K110 series—High-speed polarized relay; switching up to 10 milliamp; operates in as little as 1/4 millisecond (250 microseconds); AN 3304 size can—4PDT or 4 independent single-pole, double-throw elements.

### SUBMINIATURE

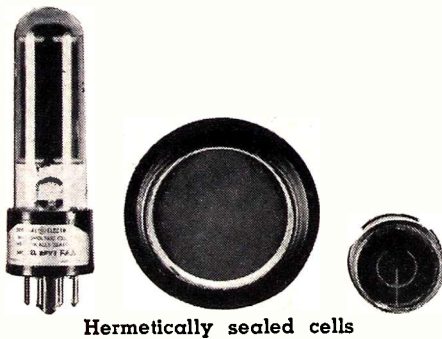
4. CR2791G152 series—Designed to give reliability of AN 3304 type relay in subminiature-size enclosure; weighs less than one

ounce; 3/4 inch in diameter and 1 1/4 inches long; single-pole, double-throw.

5. CR2790G125 series—Same size and weight as CR2791G152. Design is modified to permit operation from 400-cycle, a-c voltage.
6. 3S2791G160 series—High reliability in subminiature size; exceptionally resistant to shock and vibration; two-pole, double-throw.

### MICRO-MINIATURE

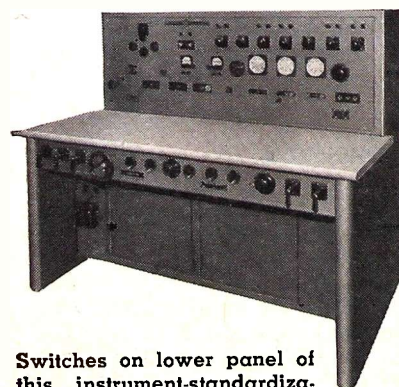
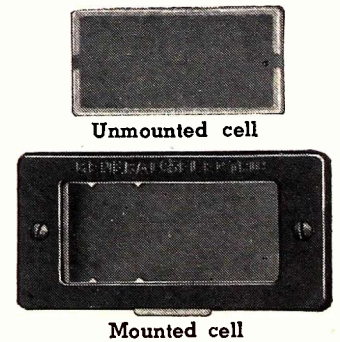
7. 3S2791G200 series—Voltage-calibrated model—two-pole, double-throw; weighs only 0.5 oz, measures 0.36 in. by 0.80 in. by 0.88 in.; contacts rated 2 amp resistive at 28 v, d-c, or 115 v, a-c; has a sensitivity of 340 milliwatts.
8. 3S2791G210 series—Current-calibrated model—has a sensitivity of 200 milliwatts; designed for lower operating power; possesses same features as voltage-calibrated model, but about 0.31 in. longer.



## PHOTOVOLTAIC CELLS

### SELF-GENERATING

For detecting, controlling, and measuring light or color where long life and stability are required, or where it is impractical to employ electronic amplifiers. Extensively used in light meters, reflectometers, colorimeters, densitometers, photometers, photographic exposure meters, headlight testers, phonograph pickups, etc. For complete information, contact your nearest General Electric Apparatus Sales Office.



Switches on lower panel of this instrument-standardization console are used to complete tests after controls on upper panel are set.

## INSTRUMENT-STANDARDIZATION CONSOLE

The instrument-standardization console is designed to be a basic unit in any operation concerning the development, design, standardization, or service calibration of various electric instruments. In large instrument servicing groups, it can be used as the basic or primary instrument-calibration equipment because of its high accuracy and versatility. In smaller electric-instrument servicing groups, its versatility makes it the most complete single facility available for general instrument-calibration activity.

The instrument-standardization console is most widely used for the calibration of portable, small panel, switchboard and recording types of electric instruments. The equipment supplies regulated power in the audio-frequency range of

50 to 3000 cycles per second and finds a definite application in the military, electronic, and aircraft industries as well as other industries making wide use of instruments.

Following are some typical portable, small panel, switchboard, and recording instruments which can be calibrated with this equipment. D-c: galvanometers, microvoltmeters, millivoltmeters, voltmeters, microammeters, milliammeters, ammeters, analyzers (instrument), multimeters, oscillographs, photoelectric recorders, current shunts, and standard cells. A-c: millivoltmeters, voltmeters, milliammeters, ammeters, frequency meters, ammeter with current transformer, voltmeter with potential transformer, and electronic voltmeters.

## PORTABLE TESTING AND RECORDING INSTRUMENTS



**PHOTOELECTRIC RECORDER—Type CE:** For temperature measurements, developmental testing, high-speed recording, laboratory investigations, physiological research, and equipment tests. Provides direct ink records, and is ideal for any test where only a small amount of energy is available for the operation of the recorder. Sensitivities obtained as low as 5.0 microamperes or 0.2 millivolt, full-scale. Response periods as fast as 1/5 second. Four different motor arrangements provide chart speeds from 1/2 inch per hour to 72 inches per minute. Write for Bulletin GEC-254.

**INSULATION-RESISTANCE METER:** An electronic instrument designed to measure insulation resistance over a range of 0 to 20,000 megohms. Measurements indicate poor insulating materials and materials contaminated by dirt or moisture. This instrument also makes possible the study of the effects of temperature and humidity on insulation. Consists of an electronic rectifier, a bridge circuit which contains Thyrite\* resistance material, and an electronic-tube voltmeter, all in one enclosure. Meter is available in range of 0 to 20,000 megohms and has four scales. Over the range of 5 to 20,000 megohms, tests are made at a constant 500-volt d-c potential; and from 0 to 5 megohms at 0 to 250 volts. The meter is small, compact, portable—convenient for production and service testing, simple to operate. Write for Bulletin GEC-753.



\* Registered trade-mark of General Electric Co.

**CURRENT-LIMITED HIGH-POTENTIAL TESTER:** By limiting the output current to a maximum of 5 milliamperes, the tester effectively minimizes most of the hazards encountered with high-potential testing equipment. Features: output current limited to below the maximum current which an operator can let go; nondestructive testing; line surges virtually eliminated in output; indicates voltage on sample regardless of wave shape, internal voltage drop, or variation in line voltage; faults indicated by glow lamp on panel. Output voltage: 0-3500 volts (peak  $\sqrt{2}$ ), milliamperes when shipped. Maximum load for full

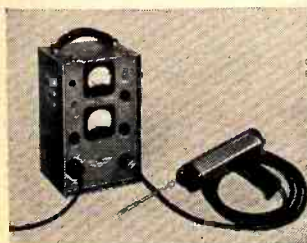


Output current limited to less than 5 milliamperes when shipped. Maximum load for full output voltages: 0.005  $\mu$ i. Write for Bulletin GEC-700.



**GAUSS METERS:** Used for measuring: Flux density in gaps of instrument magnets; of blocked d-c relays and breakers; of blocked-rotor generators or motors. Field gradient across air gaps. Direction and density of leakage flux emitted from perimeter of magnets. Flux density in iron portions of magnetic circuits. Strength and direction of stray fields of many permanent and electromagnets. Magnetic properties encountered in laboratory work. Available in d-c ranges from 25 to 20,000 gaussess; a-c ranges—60 cycles from 0-2500 gaussess. Write for Bulletin GEC-777.

**INDICATING FLUXMETER:** A convenient means for accurately measuring flux densities and total flux. Determines magnetic properties of permanent magnets and d-c electromagnets. Measures flux distribution in a magnet gap, leakage flux along sections of a permanent magnet or electromagnet. Write for Bulletin GEC-777.



**LEAK-DETECTION EQUIPMENT:** A complete line of leak-detection equipment is available for detecting small leaks in any closed system (vacuum and pressure). Types available are helium and halogen leak detectors. Write for Bulletins GEC-233 and GEC-336.

## AC & DC PORTABLE INDICATING INSTRUMENTS

Types AP-11, DP-11, AP-12, DP-12



A line of instruments which is functionally designed to give the greatest convenience and readability. Precision components and spring-mounted moving elements are used to achieve sustained accuracy. These precision instruments are suitable for laboratory use, as well as for field applications and production tests.

**Types AP-11 (a-c) and DP-11 (d-c):** Designed for general testing where a dependable, easily read instrument with 1/2 of 1% accuracy is required. Ideal for trouble shooting and maintenance work where accurate readings must be taken under adverse lighting conditions. Size—7 3/8 by 7 7/8 by 3 1/4 in. Scale length—5.5 inches. Pointer—Knife edge with mirror scale. Damping—Magnetic. Zero Adjuster—External. Shielding—Excellent shielding from stray magnetic fields.

**Types AP-12 (a-c) and DP-12 (d-c):** Specifications are similar to DP-11 above, except accuracy is to 1/4 of 1% full-scale.

## GENERAL-PURPOSE OSCILLOGRAPH Type PM-20



Uniquely designed for fast operation and maintenance, the PM-20 will record up to 71 variables on one oscillogram. A wide range of frequencies, from d-c to 6000 cps, can be recorded. Record speed may be adjusted from 4 to 500 feet per minute. Many additional features are provided, including automatic record numbering, timing lines, trace interruption for identification, automatic record-length control adjustable from 1/2 to 5 feet, and remote control. Write for Bulletin GEA-6348.

**Type PM-18:** Records 2, 3, or 4 rapidly or slowly changing currents and voltages simultaneously. Transient phenomena of short duration can be recorded by means of a synchronizing switch. Records may be made using continuous-drive holder, film-pack holder, or Polaroid-Land film holder, which produces finished oscillograms in one minute without the use of a darkroom. Write for Bulletin GEC-580.

# INDUSTRIAL SOLDERING IRONS

General Electric soldering irons are highly efficient for all work requiring soft soldering. Reserve heat capacity of G-E irons makes them outstanding for continuous, high-speed production soldering. Write for Bulletin GEC-1318.

## FEATURES

### CALORIZED COPPER TIPS

Durable, interchangeable, designed for extra-long life. Calorized coating retards corrosion and oxidation, helps prevent freezing of tips to tip holder—increases tip life.

### IRONCLAD COPPER TIPS

Couple quick heat transfer of copper with long-wearing qualities of iron—for extra-long life.

### TUBULAR HEATING ELEMENTS

Provide quick, more dependable heating.

### STAINLESS-STEEL SHELL

Provides high corrosion resistance and low heat loss.

### MIDGET SOLDERING IRONS

Ironclad tips only



25-watt, 6-volt, 1/4-in.-dia chisel tip. Also available in 1/8-in.-dia pyramid tip and 3/16-in.-dia chisel and pyramid tips.

### LIGHTWEIGHT INDUSTRIAL IRONS

Ironclad tips only



60-watt, 120-volt, 3/16-in.-dia pyramid tip. Also available in 1/4- and 3/16-in.-dia chisel tips.

### INDUSTRIAL SOLDERING IRONS

75, 100, 110, 125, 200, 300 w  
Calorized or Ironclad tips  
115 or 230 v



## BULLETINS COVERING GENERAL ELECTRIC APPARATUS PRODUCTS

Space does not permit description of all products related to the electronic field. For full details and bulletins write your nearest General Electric Apparatus Sales Office.

Amplifiers Magnetic .....See Page 5 Power .....See Page 5 Strain-gage .....GEC-1248	Furnaces, Electric or Gas-fired .....Write for details	Networks, Pulse-forming .....See Page 2
Analyzers Surface Analyzers and Comparators .....GEC-774 Vibration .....GEC-1369, GEC-1370	Gages Comparator .....GEC-774 Ionization .....Write for details Paint-depth .....GEC-319 Strain .....GEC-888 Vacuum .....GEC-385, GEC-986	Ohmmeters .....See Pages 7, 11
Antennas, Radar .....GEA-6279 Arresters, Lightning .....GEA-2977	Galvanometers .....GEC-694	Photoflash Equipment, Electronic .....GEC-337
Balancing Equipment, Dynamic .....GEC-320	Generators Gas-engine-driven .....GEA-5299 Motor .....GEC-302	Potentiometer, Self-balancing .....GEC-367
Battery Chargers .....GEC-826	Heating, Electronic Induction .....GEA-4945	Pots, Soldering .....GEC-512 Pots and Tanks, Heating .....GEC-1005
Bearings, Jewel .....GEC-370	Indicators Antenna-position .....GEA-2176 Film-thickness .....GEC-319 Liquid-level .....GEA-3833 Material-thickness .....GEC-319 Nuclear-radiation .....Write for details Smoke & Combustion .....GEA-5254 Strain .....GEC-888 Telemetering .....GEA-5233 Temperature .....GEC-218 Vacuum .....GEC-385, GEC-986	Power Supplies, D-c .....See Page 3 Pyrometers & Potentiometer Pyrometers .....GEA-6020, GEC-713
Bus Bar Systems .....GEA-5460	Inverters .....Write for details	Recorders Potentiometer .....GEC-1362 Temperature .....GEC-1362
Communication Systems, Carrier Current .....Write for details	Jewels, Glass .....GEC-370	Relays, Time-delay .....GEC-1425
Controls Elevator Leveling .....Write for details Heat-treating .....Write for details Illumination .....Write for details Machine-safety .....GEA-6131 Mechanical Switch .....GEA-6131 Motors .....GEA-6198 Package-wrapping .....GEA-4371 Positioning .....GEA-2176 Pressure .....Write for details Register-cutter .....Write for details Servo .....GEC-767 Smoke & Combustion .....GEA-5254 Temperature .....GEC-1005 Vacuum .....Write for details	Kilovoltmeters .....GEC-218	Shunts, Meter .....GEC-218
Converters, Low-frequency .....GEA-5551	Magnetic Analysis Equipment .....GEC-777	Spectrophotometers .....Write for details
Detectors, Radiation .....Write for details	Meters Electrical Quantities .....See Pages 7, 11 Frequency .....GEC-218 Vibration .....Write for details Viscosity .....GEC-339	Starters, Magnetic .....GEA-6198
Dielectrics, Liquid (Pyranal*) .....Write for details	Motors Fractional-hp .....GEC-1026 Gear .....GEA-1437, GEC-1026 Single-phase, Integral-hp .....GEC-1026 Polyphase, Integral-hp .....GEC-1026 Servo .....GEA-2176 Synchronous .....GEA-5426, GEC-344 Mounts, Antenna .....GEA-6279	Switches Limit .....GEA-6131 Pressure-operated .....Write for details Vacuum .....Write for details
Dynamometers .....GEA-5923		Synchros .....GEA-2176
Dynamotors .....See Page 5		Telemetering Systems, Electronic .....GEA-5233
Elements, Heating .....GEC-1005		Testers Coating-thickness .....Write for details Insulation .....GEC-700
		Thermocouples .....GEC-714
		Thermostats .....GEC-1350
		Timers Automatic, Cycle .....GEC-1223 Automatic, Interval .....GEC-1223 Automatic-reset .....GEC-525, GEC-1223 Sequence .....GEC-1223
		Vibration Analysis Equipment .....GEC-1369, GEC-1370

\* Registered trade-mark of General Electric Co.

General information may be secured from the following bulletins: Industrial Heaters, GEC-1005; Measuring Equipment for Laboratory and Production Testing, GEC-1016; Motors, GEC-1026; and Control, GEC-1260.

For more dependable service . . .



**SPECIFY G-E ELECTRONIC TUBES FOR YOUR EQUIPMENT**

Essential Characteristics of typical G-E Electronic Tubes to aid you in selecting tube complements for your circuits.



FULL INFORMATION, DETAILED DATA ON ANY G-E TUBE SENT ON REQUEST

tubes

**GENERAL ELECTRIC LIGHTHOUSE TUBES**

tubes

Type* No.	Service	Cathode		Plate		Max Dissipation, Watts	Frequency for Max Ratings mc/s	Mu	Gm $\mu$ mhos
		Heater Volts	Heater Amp	Max Volts	Max Amp				
GL-2B22	RF Detector	6.3	0.75	100 Peak	0.7 Peak		1500		
GL-2C39-B# (metal-ceramic)	CW Oscillator or Class C Amplifier	6.3	1.0	1000	0.125	100	2500	100	2400
GL-2C40	Class A RF Amplifier CW Oscillator	6.3	0.75	500	0.025	6.5	1200	36	4850
		6.3	0.75	500	0.025	6.5	3370	36	4850
GL-2C40-A	CW Oscillator Plate-Pulsed Oscillator	6.3	0.75	500	0.025	6.5	3370	35	5100
		6.3	0.75	1400	2.0	4.0	3370	35	5100
GL-2C43	CW Oscillator Plate-Pulsed Oscillator	6.3	0.9	500	0.040	12	1500	48	8000
		6.3	0.9	3500	2.75	12	3370	48	8000
GL-6299 (metal-ceramic)	Class A RF Amplifier	6.3	0.300	200	0.012	2	3000	115	12000
		Noise figure—8.2 decibels at 1200 megacycles; 4.5 decibels at 400 megacycles;							
GL-6442# (metal-ceramic)	Plate-Pulsed Oscillator Class C Amplifier or CW Oscillator	6.3	0.9	3000	2.5 Peak	7.5	4000	50	16500
		6.3	0.9	350	0.035	8	2500	50	16500
GL-6897#	CW Oscillator or Class C Amplifier	6.3	1.05	1000	0.125	100	2500	100	24000

\* GL-2B22 is a diode; all others triodes. Metal-ceramic types withstand severe vibration and shock conditions. Applicable military specifications furnished on request. # Shock-tested to 400G.

**G-E RECOMMENDED TYPES for Radio and TV receivers**

Classification	Heater Current in Milliampères							
	600	300	150	50	Other			
DIODES	TV High-Voltage Rectifiers				1B3-GT 1J3 3C2			
	Low-Current Rectifiers	3AL5	6AL5					
	Power Rectifiers	Half-Wave		35W4				
		Full-Wave	6X4 6X5-GT	12X4		5U4-GA 5AU4		
	TV Damping Diodes	12AX4-GTA 19AU4-GTA				6AU4-GTA 6AX4-GT 6W4-GT 6BJ7		
TRIODES	Single	$\mu < 40$	2AF4-A 2BN4 6S4-A 12B4-A	12B4-A	6C4	6AF4-A 6AH4-GT 6BN4		
		$\mu > 40$			6AB4			
	Twin	$\mu < 40$	4BC8 4BQ7-A 4BZ7, 4BS8 6CG7 6SN7-GTB 7AU7 12BH7-A	7AU7 12AU7-A 12BH7-A		12AU7-A	6BC8 6BQ7-A 6BS8 6BZ7 6J6	
		$\mu > 40$	5BK7-A	12AT7 12AX7	12AT7 12AX7		6BK7-B	
		With Diodes	2 Diodes 3 Diodes	6BV8 6CN7	6AV6 6CN7	12AV6		6T8 6CY7
	Dissimilar Double		5T8 6CM7		19T8			
	PENTODES	Voltage Amplifiers	Sharp-Cutoff	3AU6, 3CB6 3CE5/3BC5 3DT6	6AU6-A 6CE5/6BC5 6CB6, 6DT6	12AF6 12AU6	1U4 4DT6	
			Remote-Cutoff	3BZ6	6BA6 6BZ6	12BA6	1T4	
			With 1 Diode				1U5	
		Power Amplifiers	With Triode	5CG8, 5DH8 5U8 6AU8-A 6BH8, 8CX8				6CG8-A 6CX8 6U8 6X8-A
Output Amplifiers			12BY7-A 12C5 12CA5 12L6-GT 12W6-GT	12BY7-A 25C5 25L6-GT	35C5 50C5	3S4 3V4	6AQ5-A 6V6-GT 6W6-GT 12V6-GT	
Horizontal-Deflection Amplifiers			12AV5-GA 12DQ6 25CD6-GB				6AV5-GA 6CD6-GA 6DQ6 4BU8	
Twin			3BU8	6BU8				
HEPTODES			3BY6 3CS6	6BE6 6BY6 6CS6	12AG6 12BE6	1R5		
GATED-BEAM TUBES		3BN6	6BN6			4BN6		
TETRODES with Triodes		5CL8				6CL8		

Type designations of miniature tubes are shown in italics

See following pages for additional listings of G-E Electronic Tubes. All data subject to change without notice. The listing of any type does not necessarily imply immediate availability.

**Regional Sales Offices**

For further information on G-E tubes, please contact your nearest Regional Office.

**EASTERN REGION**

General Electric Company  
200 Main Avenue  
Clifton, New Jersey

Telephone—

Clifton, GRegory 3-6387

(N.Y.C. dial direct—

Wisconsin 7-4065-6-7-8)

**CENTRAL REGION**

General Electric Company  
3800 North Milwaukee Avenue  
Chicago 41, Illinois

Telephone—SPring 7-1600

**WESTERN REGION**

General Electric Company  
11840 West Olympic Boulevard  
Los Angeles 64, California

Telephones—BRadshaw 2-8566

GGranite 9-7765

GENERAL ELECTRIC



# GENERAL ELECTRIC

High-reliability Types for Critical FIVE-STAR COMPUTER TUBES



**6829**  
Five-Star  
Computer Tube  
for airborne  
computers



**6414**  
Five-Star  
Computer Tube  
for military  
ground equipments

Classification		Tube Type	Applicable MIL-E-1 Spec.	Heater		
				Volts	Amperes	
<b>Diodes</b>	Low Current Rectifiers	5726	5726/6AL5W	6.3	0.3	
		5896	5726/6AL5W/6097 5896	6.3	0.3	
	Full-wave Power Rectifiers	6087 #	None	5.0	2.0	
		6202	6X4WA	6.3	0.6	
6203		6203	6.3	0.9		
<b>Triodes</b>	Single	$\mu < 40$	5718	6.3	0.15	
		6135	6135	6.3	0.175	
	Twin	$\mu < 40$	5719	5719	6.3	0.15
			5670	5670	6.3	0.35
			5814-A	5670WA 5814-A 5814WA	6.3/12.6	0.35/0.175
			6021	6021	6.3	0.3
		$\mu > 40$	6111	6111	6.3	0.3
			6386	None	6.3	0.35
			6840	In Process	6.3/12.6	0.8/0.4
			5751	5751	6.3/12.6	0.35/0.175
	Power Amplifiers	$\mu < 40$	5751WA	5751 5751WA	6.3/12.6	0.35/0.175
			6072	6072	6.3	0.3
6112			6112	6.3	0.3	
12AT7WA			12AT7WA	6.3/12.6	0.3/0.15	
$\mu > 40$		In Process	In Process	6.3/12.6	0.45/0.225	
		6414	In Process	6.3/12.6	0.45/0.225	
		6829	In Process	6.3/12.6	0.45/0.225	
		5654	5654/6AK5W	6.3	0.175	
<b>Pentodes</b>	Voltage Amplifiers	Sharp-Cutoff	5840	5654/6AK5W 5654/6AK5W/6096	6.3	0.15
			6136	5840	6.3	0.3
			6205	6AU6WA	6.3	0.15
		Remote-Cutoff	6205	6205	6.3	0.15
			6265	In Process	6.3	0.175
			5749	5749/6BA6W	6.3	0.3
	Power Amplifiers	Dual-Control	5899	5899	6.3	0.15
			5636	5636	6.3	0.15
		Power Amplifiers	5725	5725/6AS6W 5725/6AS6W/6187	6.3	0.175
			5686	5686	6.3	0.35
			5902	5902	6.3	0.45
			6005	6005/6AQ5W 6005/6AQ5W/6095	6.3	0.45
<b>Heptodes</b>		5750	5750/6BE6W	6.3	0.3	
<b>Thyratrons</b>		5727	5727/2D21W	6.3	0.6	

The ratings and characteristics of all twin-section types are given for each section.

# GENERAL ELECTRIC



**5965**  
Standard  
Computer Tube  
for commercial  
equipments

Classification		Tube Type	Applicable Mil-E-1 Spec.	Heater	
				Volts	Amps
<b>Diodes</b>	Low Current Rectifiers	6919	None	6.3	0.2
		5844	In Process	6.3	0.3
<b>Triodes</b>	Twin $\mu < 40$	6211	None	6.3/12.6	0.3/0.15
		6463	None	6.3/12.6	0.6/0.3
	Twin $\mu > 40$	5965	None	6.3/12.6	0.45/0.225
		5915-A	None	6.3	0.3
<b>Heptodes</b>	Dual Control	5915-A	None	6.3	0.3
<b>Thyratrons</b>		6525	None	6.3	0.15

Note: Bold-face listings in top chart indicate Five-Star Computer types for critical military and industrial applications.

All data subject to change without notice. The listing of any tube type does not necessarily imply immediate availability.

When ordering or seeking information please mention Electronics Buyers' Guide.

June, 1957 — MID-MONTH — ELECTRONICS BUYERS' GUIDE



QUICK-SELECTION CHART

# FIVE-STAR TUBES

Military and Industrial Applications  
SHOWN IN BOLD FACE

Average Characteristics							Publication Number for Technical Data ##
Plate Volts	Screen Volts	Grid Volts	Plate ma	Screen ma	Gm μmhos	μ	
Voltage drop = 10 V @ 60 ma; max d-c current = 9.0 ma Voltage drop = 10 V @ 50 ma; abs max d-c current = 10.0 ma							ET-T 1088A ET-T 1097
Voltage drop = 50 V @ 125 ma; max d-c current = 125 ma Voltage drop = 22 V @ 50 ma; max d-c current = 50 ma Voltage drop = 22 V @ 70 ma; max d-c current = 70 ma							ET-T 1103 ET-T 1111 ET-T 1112
100 250	—	R <sub>k</sub> = 150 -8.5	8.5 10.5	—	5800 2200	27 17	ET-T 1085A ET-T 1107
100	—	R <sub>k</sub> = 1500	0.73	—	1700	70	ET-T 1086A
100 150	—	R <sub>k</sub> = 240	8.2	—	5500	35	ET-T 1083A
250	—	-8.5	10.5	—	2200	17	ET-T 1095A
100 100 100 250	—	R <sub>k</sub> = 150 R <sub>k</sub> = 220 R <sub>k</sub> = 200 R <sub>k</sub> = 620	6.5 8.5 9.6 14	—	5400 5000 4000 6700	35 20 17 20	ET-T 1101A ET-T 1104A ET-T 1113 ET-T 1412
250	—	-3	1.0	—	1200	70	ET-T 1092A
250 100 250 180 150	—	-4 R <sub>k</sub> = 1500 R <sub>k</sub> = 200 -2 R <sub>k</sub> = 220	3.0 0.8 10.0 8.0 8.5	—	1750 1800 5500 5550 6700	44 70 60 42.5 47	ET-T 1102 ET-T 1105A ET-T 1110 ET-T 1317 ET-T 1250
120	120	R <sub>k</sub> = 200	7.5	2.5	5000	—	ET-T 1082A
100 250 100 250	100 150 100 150	R <sub>k</sub> = 150 R <sub>k</sub> = 68 R <sub>k</sub> = 150 R <sub>k</sub> = 100	7.5 10.6 7.5 7.4	2.4 4.3 2.4 2.9	5000 5200 5000 4600	E <sub>cs</sub> = 0 E <sub>cs</sub> = 0 E <sub>cs</sub> = 0	ET-T 1096A ET-T 1108 ET-T 1235 ET-T 1063A
250 100	100 100	R <sub>k</sub> = 68 R <sub>k</sub> = 120	11.0 7.2	4.2 2.0	4400 4500	E <sub>cs</sub> = 0	ET-T 1090 ET-T 1098A
100 120	100 120	R <sub>k</sub> = 150 -2	5.3 5.2	3.6 3.5	3200 3200	E <sub>cs</sub> = 0 E <sub>cs</sub> = 0	ET-T 1241 ET-T 1087A
250 110 250	250 110 250	-12.5 R <sub>k</sub> = 270 -12.5	27 30 45	3.0 2.2 4.5	3100 4200 4100	P <sub>o</sub> = 2.7 P <sub>o</sub> = 1.0 P <sub>o</sub> = 4.3	ET-T 1084A ET-T 1099A ET-T 1100A
250	100	—	2.5	7.5	G <sub>e</sub> = 500		ET-T 1091
abs max PIV = 1300; abs max d-c current = 100 ma							ET-T 1089

⊙ Indicates subminiature type  
# Glass octal base

NOTE: All other types are miniatures

## Complete technical data on G-E tubes may be obtained by publication number from your nearest regional G-E Tube Office.

## COMPUTER TUBES FOR COMMERCIAL APPLICATIONS

Average Characteristics							Publication Number for Technical Data ##
Plate Volts	Screen Volts	Grid Volts	Plate ma	Screen ma	Gm μmhos	μ	
Voltage drop = 1.2 V @ 60 ma; max d-c current = 3.0 ma							ET-T 1392
100	—	R <sub>k</sub> = 470	4.8	—	3700	28	ET-T 1157
100	—	R <sub>k</sub> = 470	4.6	—	3600	27	ET-T 1160A
250	—	R <sub>k</sub> = 620	14.5	—	5200	20	ET-T 1124
150	—	R <sub>k</sub> = 220	8.5	—	6700	47	ET-T 1159
67.5	67.5	0	—	—	2400	—	ET-T 1158
Max PIV = 500; max d-c current = 20 ma							ET-T 1249

## Complete technical data on G-E tubes may be obtained by publication number from your nearest regional G-E Tube Office.

All data subject to change without notice. The listing of any tube type does not necessarily imply immediate availability.

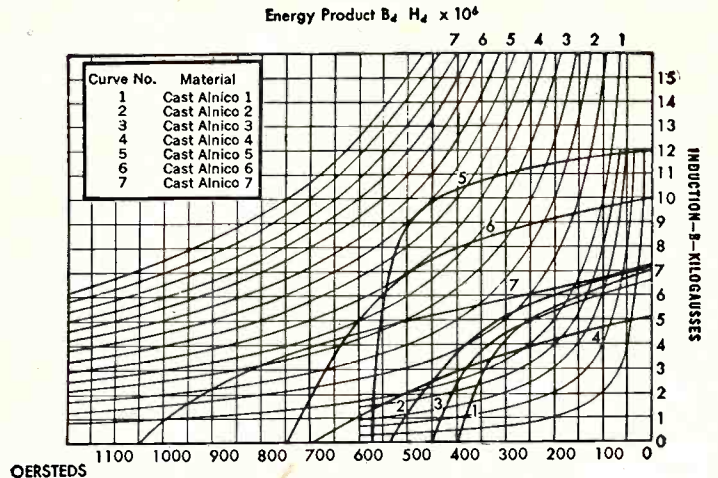
## ALNICO PERMANENT MAGNETS

Provide constant, powerful magnetic field energy in a given space . . . with a minimum of volume and weight

G-E Alnico Permanent Magnets can simplify design, reduce size and cost of meters, instruments, controls, motors, and communications equipment. Guaranteed minimum external energy product up to 6,000,000 gauss-oersteds.

Available cast or sintered; stocked in a wide range of sizes and shapes. Other styles can be made to your specifications. Magnets can be furnished with steel inserts, close tolerance holes, die-cast aluminum sheaths or other coatings.

Complete magnet design and product development service available to work on your problems. Write for price lists, specifications, or Design Manual PM-125.



Demagnetization and energy product curves for General Electric Alnico Permanent Magnets

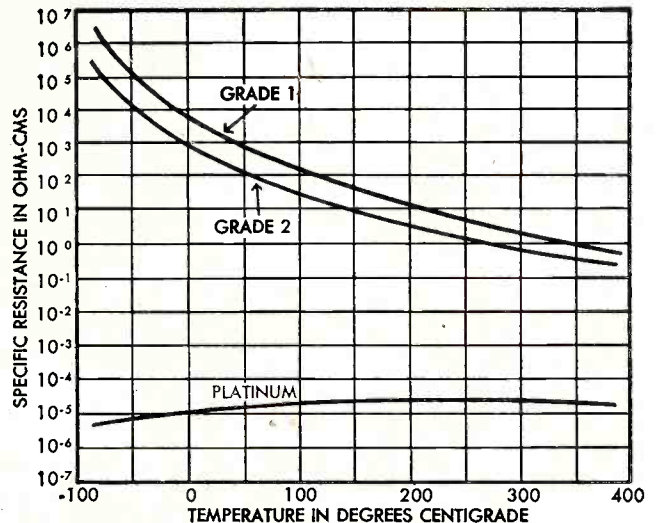
## THERMISTORS

Detect, measure, compensate for minute changes in temperature

G-E Thermistors have large *negative* temperature coefficients. As circuit elements, they provide highly sensitive responses to relatively minute temperature changes.

In addition to uses in thermometry, Thermistors can provide time delay, suppress surges, control warning circuits and sequence switching.

Two grades available; stocked in rods, disks, and washers, with or without leads. Write for design assistance or Thermistor Manual TH-13A.



Temperature resistance values of General Electric Thermistors compared to a representative metal

## THYRITE\* VARISTORS

Nonlinear resistance material provides current that varies as a power of applied voltage

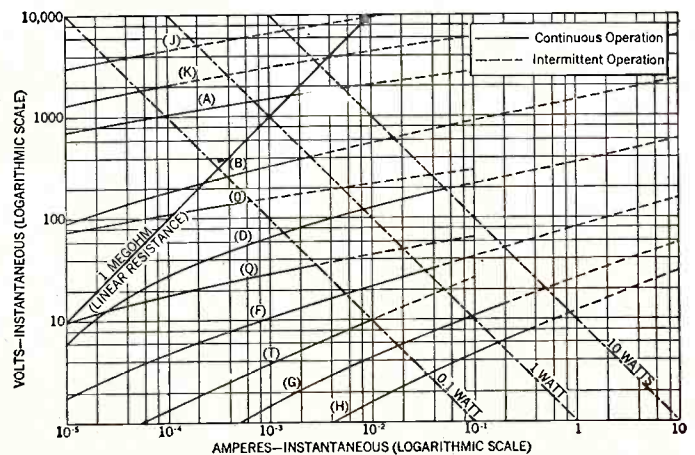
Because of their unique properties, G-E Thyrite Varistors can be used to limit voltage surges, to stabilize circuits supplied by rectifiers, to control voltage-sensitive circuits.

Also used as nonlinear resistance parameters, potentiometers, and frequency multipliers.

Thyrite Varistors are manufactured with a wide variety of volt-ampere characteristics. Stocked in disks and rods, with or without leads.

For help on your circuit-design problems, or for Thyrite Bulletin TY-101, write today.

\*Registered trademark of the General Electric Company.



Typical volt-ampere characteristics of representative General Electric Thyrite Varistors.

(Sizes range from 1/2" to 6" diameter disks and from 1" to 2" long, 1/4" diameter rods. Curves from Thyrite Bulletin TY-101.)

## ENGINEERING APPRAISAL KITS

for laboratory testing of Thermistors and Thyrite Varistors

### THYRITE VARISTOR KITS



Kit No. 1—Miniature disk-type varistors. Contains: two each in six ratings, color-coded with connecting leads. Price: \$5.00.\*



Kit No. 2—Rod-type varistors. Contains: two each in five ratings, color-coded with connecting leads. Price: \$5.00.\*

### THERMISTOR KITS



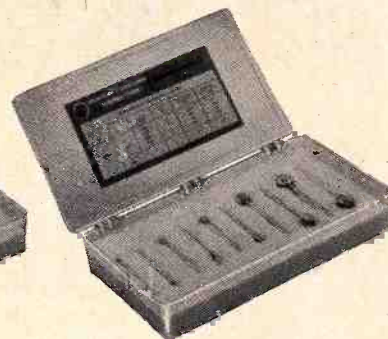
**Kit A contains:**  
12 low-resistance (10-500 ohms @ 25° C) disk thermistors; two of each in six sizes. Price: \$12.50.\*



**Kit B contains:**  
12 high-resistance (1,000-100,000 ohms @ 25° C) disk and rod thermistors; two of each in six sizes and two grades. Price \$12.50.\*



**Kit C contains:**  
12 washer thermistors (10-415 ohms @ 25° C); two of each in six sizes, two grades; 1 set of thermistor assembly hardware. Price: \$12.50.\*



**Kit D contains:**  
10 disk thermistors, 1,000-ohm resistance; two of each in five sizes (two grades). Price: \$12.50.\*

Order kits directly from:

Magnetic Materials Section of General Electric Co., 7780 N. Neff Road, Edmore, Michigan

\*Plus applicable sales and use taxes.

## SALES AND SERVICE OFFICES

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Free New

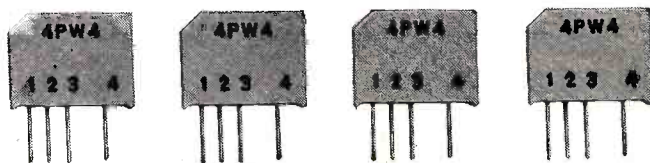


# three-part pack brings you three-way gains!

Output increases, costs drop, quality climbs—with these General Electric fast-assembly components!

WHETHER your domain is automobile dashboards, radio and TV receivers, temperature controls, or what-have-you, the three units in this free new Sample Test Kit can point the way to big advantages in product improvement and manufacturing economy!

Here's what you'll get...



### 1. ENCAPSULATED R-C Network...

This new G-E development is actually several components in one unit, with performance comparable to individual components. Its thin ceramic plate, with a variety of resistor and capacitor patterns and their leads applied to customer requirements, is encapsulated in a compact, uniform phenolic case. This unit thus cuts space and solder requirements under those for individual components, in such applications as coupling, pulse-forming, and R-C filter networks. The encapsulation feature provides excellent resistance to humidity and corrosive agents, and the uniform size and surface of the case is especially suited for mechanized placement.

### 2. "THRU-CON" Print Wire Board...

With this advanced print wire, you can design a compact wiring pattern on *both* sides of the board *without* the cost of further processing to connect them. You gain from the "Thru-Con" additive production technique, which plates *through* the holes at the same time it plates the wiring pattern on the board.

### 3. "WEJCAPS" Leadless Capacitors...

Besides eliminating bothersome lead problems, "Wejcaps" offer low cost, small size, high durability, and high moisture resistance for such applications as antenna coupling networks, AVC and AGC networks, screen by-pass, and other medium tolerance circuits. The "Wejcaps" are simply inserted in a slot in a print wire board and soldered directly to the connection point.

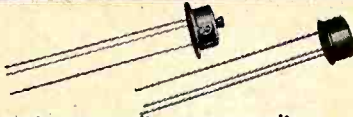
Try these components yourself! If you're after faster production, higher quality assemblies, and lower cost—for present or prospective equipment—send *today* for this free Sample Test Kit. Address, on your letterhead please, *General Electric Company, Specialty Electronic Components Department, Section 267, Auburn, N. Y.*

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# GENERAL ELECTRIC HAS A WIDE SELECTION OF SEMICONDUCTORS...CHECK BELOW FOR YOUR APPLICATION!

## HIGH & LOW FREQUENCY GERMANIUM PNP TRANSISTORS



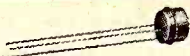
- High gain, medium power audio
- For USAF requirements
- Commercial equivalent to USAF requirements
- Computer switching
- Symmetrical switching
- Industrial & military linear amplifiers
- RF amplifiers
- Oscillator circuits
- Inexpensive audio amplifier types for the hobbyist

## HIGH FREQUENCY GERMANIUM NPN TRANSISTORS



- RF and IF amplifier types for broadcast receivers
- Converters
- Industrial & military linear amplifiers
- Computer switching
- Inexpensive high frequency types for hobbyists

## SILICON NPN HIGH FREQUENCY TRANSISTORS

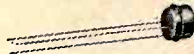


- Computer switching, 150° C operating temperature, 200° C storage temperature
- High frequency amplifiers, 150° C operating temperature, 200° C storage temperature

Recent developments in germanium and silicon semiconductors are opening new applications every day. The Semiconductor Products Department of General Electric is continually expanding its line to meet new applications with ratings designed for your needs.

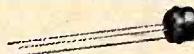
For more specific information on G-E semiconductor products which fill the applications you checked above, write the General Electric Company, Semiconductor Products, Section S2667, Electronics Park, Syracuse, New York.

## SILICON UNIUNCTION TRANSISTOR



- Operation up to 150° C, Replaces 2 junction transistors in computer circuits

## NPN TETRODE TRANSISTOR



- Up to 150 megacycle operation

## SILICON LEAD & STUD MOUNTED RECTIFIERS

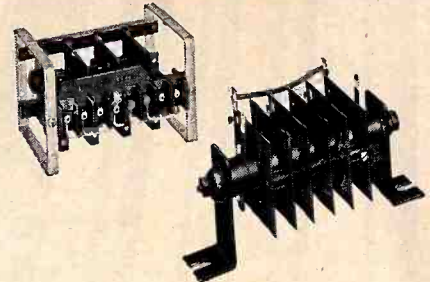


- 1N536 series silicon rectifiers, 750 ma @ 50° C, 250 ma @ 150° C, PIV ratings 50, 100, 200, 300, 400 and 500 volts
- 1N1115 series silicon, stud mounted rectifiers, 1.5 amps @ 85° C, 600 ma @ 150° C, PIV ratings 100, 200, 300 and 400 volts

## GERMANIUM RECTIFIERS

- 1N91 series germanium rectifiers rated from 75 to 150 ma, maximum operating temperature 55° C, PIV ratings 100, 200 and 300 volts
- 1N315, USAF 1N315 & 1N368 germanium rectifiers characterized by an operating temperature up to 85° and low leakage current

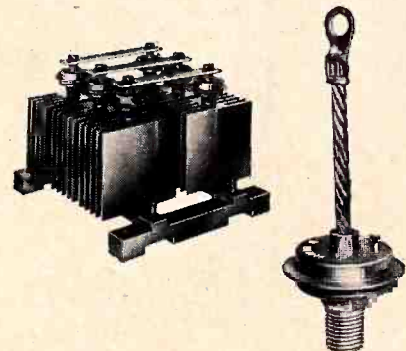
## GERMANIUM STACK RECTIFIERS



Germanium stack rectifiers are available in stacks up to 12 fins. PIV ratings are 100, 200 and 300 volts. Extremely low power dissipation and forward voltage drop provide excellent efficiency and regulation.

- 4JA211 series, up to 1½ amps per fin
- 4JA3011 series, up to 10 amps per fin

## SILICON HIGH CURRENT RECTIFIERS



- 4JA60 series silicon stud mounted rectifiers provide an operating current up to 85 amperes. Low forward voltage drop
- 4JA6011 series silicon stack rectifiers give an output up to 76.5 kilowatts, without forced air cooling, from less than 1/3 cubic foot

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ECG-230

# Since the Infancy of Radio

521 RG 59/U Plastic Coaxial Cable

1223 Plastic Insulated Cable

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1231

Shielded Intercommunication Cable

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Plastic Shielded Cable

## CORNISH

2152

Rubber Microphone Cable

501 TV Lead-In Cable

1243

Intercommunication Cable

As the fabulous Electronics industry advances, CORNISH Wires and Cables stride along in cadence. For superior electrical characteristics, brute stamina and all-around money's worth — be SURE — specify CORNISH.

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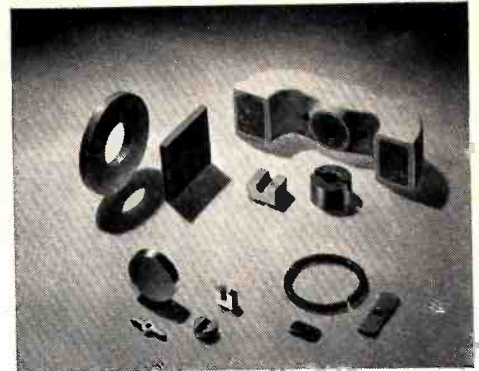
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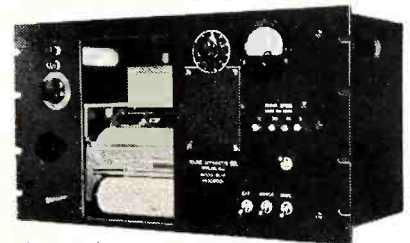
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### FREQUENCY RESPONSE Recorder - Model SL-4



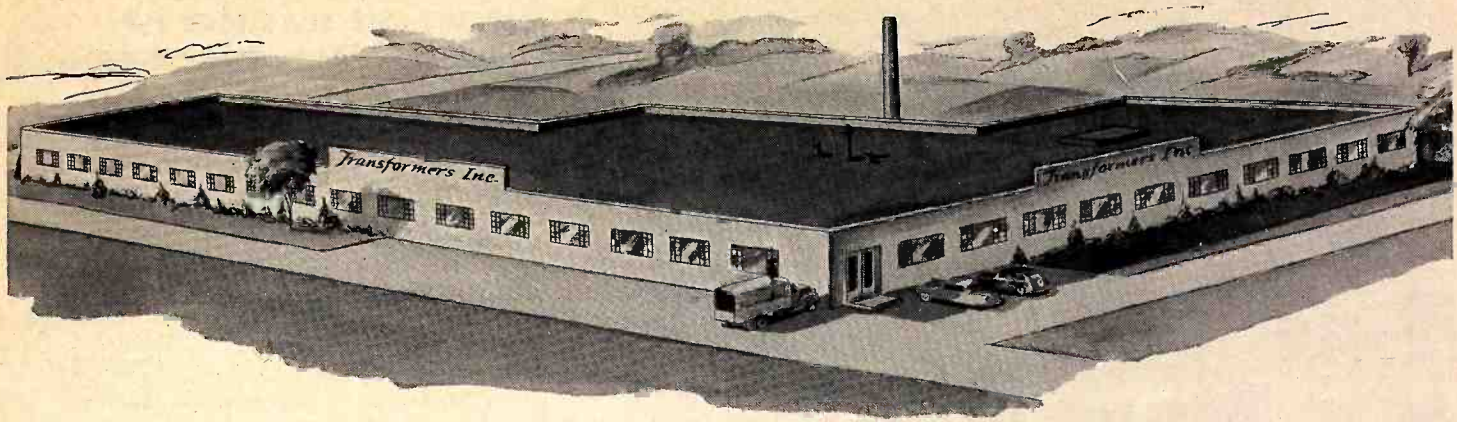
#### Featuring

- Convenient rack-mounting
- Easy linkage to auxiliary apparatus like beat frequency oscillators, analyzers
- Ink recording, 4" wide chart
- Lever arrangement for chart speed selection
- Electronically controlled pen speed
- Interchangeable input potentiometers available for a variety of scale functions (db, Linear, square root, phon).

MODEL SL-4 can be supplied as MARINE RECORDER, in water-tight enclosure—for rugged naval and tropical requirements.

Bulletin will be sent upon request

**Sound Apparatus Co.**  
STIRLING, NEW JERSEY



## *The New* **TRANSFORMERS, INC.** *Plant*

### **SPECIAL PURPOSE TRANSFORMERS**

*to meet today's critical  
requirements demands highly  
specialized skills and equipment*

**VOLTAGE REFERENCE  
COMPUTER EXCITATION**  
voltage ratio accuracy up to .001 %

**INSTRUMENT  
AUDIO  
PULSE  
HYBRID  
POWER**

and all the sub-classifications

**MAGNETIC AMPLIFIERS  
RATIOMETERS  
BRIDGES**

and special test equipment

The accuracy required in voltage reference transformers and computer excitation transformers demands exacting specifications, supervision and material control. In order that high precision transformers be acceptable they must have predictable performance for all temperature and load conditions. A specialized method has been developed at Transformers, Inc. to make this possible. The measurement of voltage ratio is not sufficient, data must be also obtained which will indicate in which manner the variables of a particular transformer is affected by temperature and changes in the load.

### **Functionally Designed for the Manufacture of Transformers**

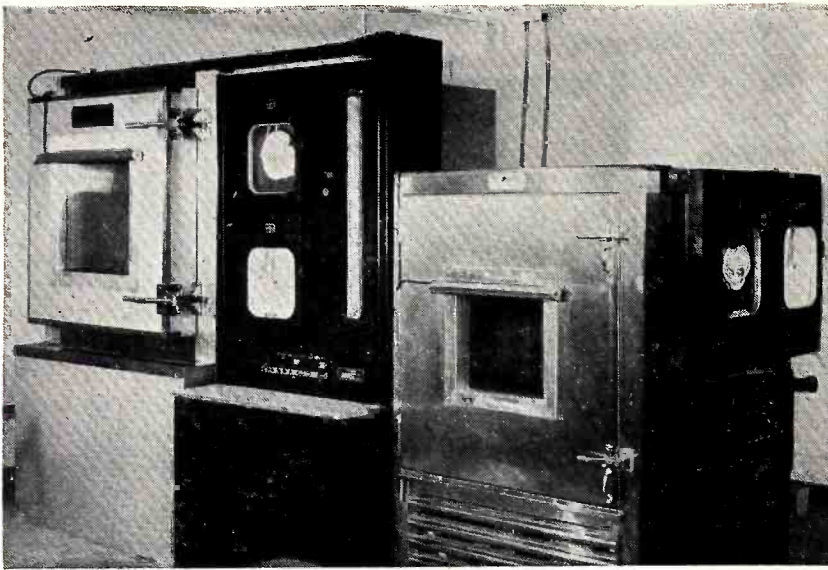
Manufacturing transformers requires special equipment which is unique in that it cannot be used for other purposes. In the layout of the plant of Transformers, Inc., three objectives have been closely aimed for: a laboratory capable, not only of measuring all the parameters of transformers, but making measurements on all types of electronic equipment in which transformers are to be used. The second objective was a Prototype plant or Sample Department complete and independent of the Production Department. The third objective was manufacturing space laid out in such a manner that complete control can be maintained on the quality of the transformer while it is in the various stages of manufacture.

## **MINIATURIZATION**

Airborne equipment may require the same accuracy as ground equipment with the additional requirement of miniaturization. Miniaturization can only be achieved by the use of higher operating temperatures with a resulting loss of efficiency. Thus highly accu-

rate transformers can be designed and manufactured which operate at very high temperatures and are extremely small. Methods of encapsulating transformers in order to reduce weight have been developed at Transformers, Inc.





## ENVIRONMENTAL TESTING

One chamber performs MIL-T-27 humidity cycling and Monmouth cold shock. Another chamber is a combination altitude and extreme cold chamber. Altitude up to 100,000 feet can be simulated. Temperatures as low as 100 degrees below zero Fahrenheit can be readily obtained. Another installation not yet completed will perform vibration testing up to 3,000 cycles at any simulated altitude up to 125,000 feet and at any temperature from 125 degrees below zero to 190 degrees above zero.

## PRETESTED PROTOTYPES

All operations necessary to the manufacture of a transformer can be performed independent of the Production Department. The personnel in the Prototype Department is specially trained to follow the design of new prototype transformers accurately. This highly specialized department is at your service to produce prototypes and samples at short notice.

## IMPORTANT FEATURES OF TRANSFORMERS, INC. PRODUCTS GREATER ACCURACY

Transformers, Inc. have developed special equipment to permit the measurements of ratio to a greater accuracy than heretofore possible. In our laboratory we can measure voltage ratio with an accuracy of 5 parts per million with a sensitivity of one part per million. In addition we have developed special equipment for the measurement of phase angles as low as .001 milliradian.

### RELIABILITY

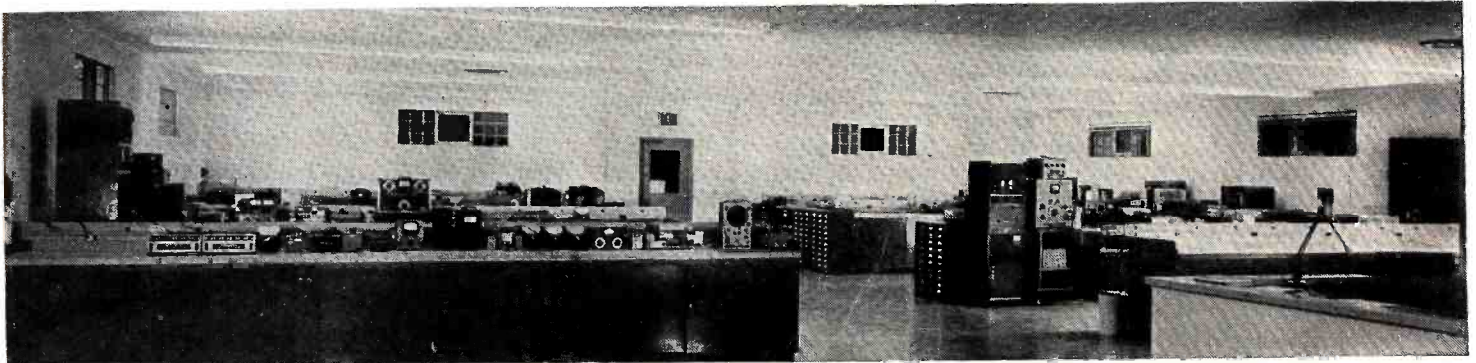
The manufacturing processes adhered to by Transformers, Inc. insure greater reliability. First by the specialized impregnating methods (vacuum and pressure). Secondly, by the standards adopted to insure maximum rigidity of assembly. Thirdly, by the careful inspection of raw material.

### MECHANICAL ACCURACY

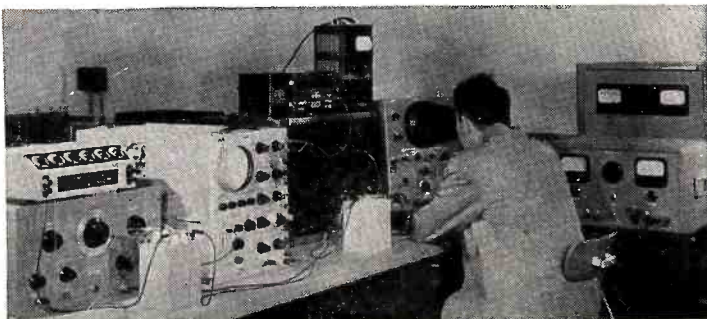
In order to insure the accuracies we require for the mechanical dimensions for transformers, Transformers, Inc. has incorporated a complete metal working department. Through these facilities we are assured of mechanical perfections to within 5 thousandths of an inch for can dimensions and to within 1 thousandth of an inch for studs and other transformer components.

### MINIMUM SIZE

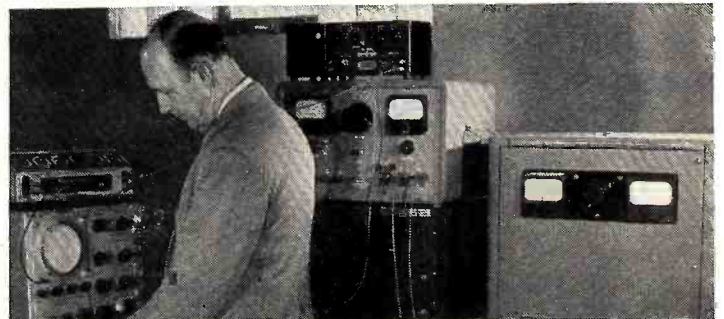
It is of increasing importance for Airborne equipment to obtain optimum performance for minimum weight and size. The use of specialized core material and especially coated wires such as silicone coated wire and teflon insulated wire has permitted the design of transformers by Transformers, Inc. to minimum sizes. In addition we have developed special molded bobbins of high temperature material to obtain transformers without paper margins (which represent a loss of space) with resultant decrease in size and weight.



General laboratory covers approximately 5,000 sq. ft., has the necessary equipment to make measurements from .01 cycles to 50 megacycles. There is sufficient equipment available that all the set-ups can be operated simultaneously without interference.



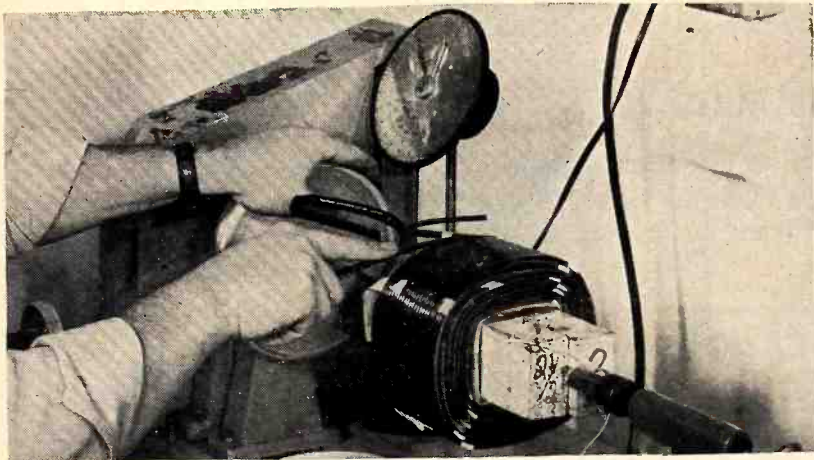
Equipment used in the design of pulse transformers to eliminate the "cut and try" method generally employed.



Testing pulse transformers. This set-up can simulate the operating conditions of pulse transformers up to one million volts.



A detailed view of the automatic winding machines.

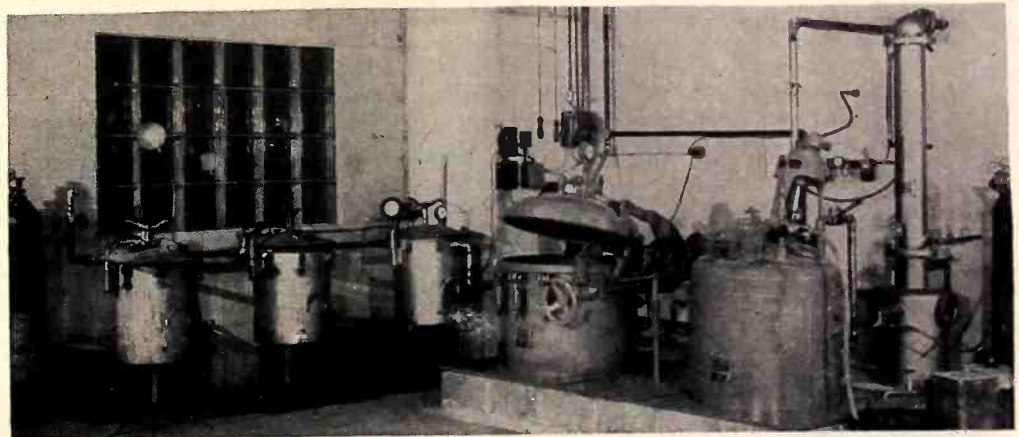


## MEASURED ACCURACY IN TRANSFORMER WINDING

**SEMI-AUTOMATIC WINDING MACHINE (PROTOTYPE WORK).** The Prototype and Sample Department covers approximately 2,500 square feet and is completely equipped to perform all operations from winding to finishing independently of the Production Department. The illustration shown is the hand winding of very heavy wire. The proper tension is obtained by a tension device behind the operator.

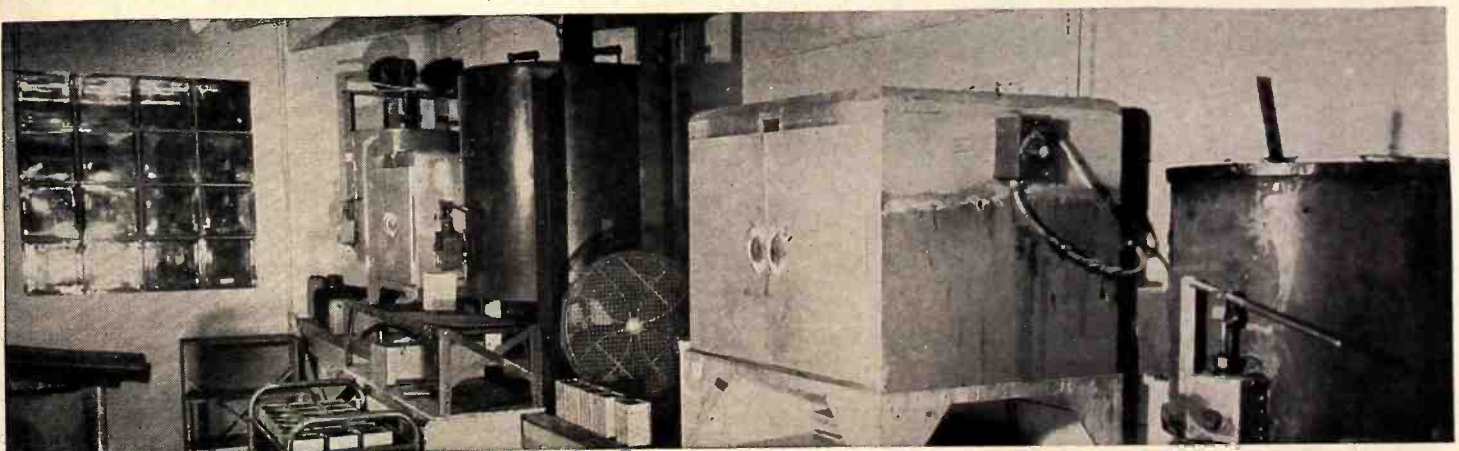
## VACUUM IMPREGNATION

Production vacuum impregnated in these tanks and then subjected to a pressure of 100 lbs. per square inch while they are still submerged in the varnish. This insures complete penetration of the varnish. The multiplicity of tanks permits simultaneous vacuum impregnation with different resins.



## TRANSFORMER POTTING

A section of the Production Potting Department. All transformers are pre-heated prior to potting to insure the removal of moisture and the absence of voids.



**T R A N S F O R M E R S   I N C O R P O R A T E D**  
200 STAGE ROAD • VESTAL • NEW YORK

# DESIGN ENGINEERING FACILITIES

Transformers, Inc. is equipped with the most complete laboratory of any transformer company in the United States. It is possible to make measurements of all parameters at all frequencies from .01 cycles per second to 50 megacycles. In addition Transformers, Inc. has complete environmental test chambers which permit testing of transformers at simulated altitudes up to 100,000 ft. and at temperatures from 100 degrees below zero to 200 degrees above zero fahrenheit. There is vibration equipment which permits the vibration testing from 5 cycles up to 3,000 cycles per second. Standard transformers are designed on the basis of the experience gathered from nomographs and our standard design specifications. We are constantly confronted with design of radically different transformers. Such transformers can only be acceptable in the field if they are subjected to complete tests for electrical specifications and under all environmental conditions. The final design is only acceptable when it is thoroughly tested.

## FOR ALL BRANCHES OF THE MILITARY

Transformers, Inc. have been specialists in designing transformers for special military applications. These transformers must meet the rigid MS and MIL-T-27A requirements. We have been suppliers to government contractors on transformers that meet these exacting requirements.

## FOR ALL INDUSTRIAL APPLICATIONS

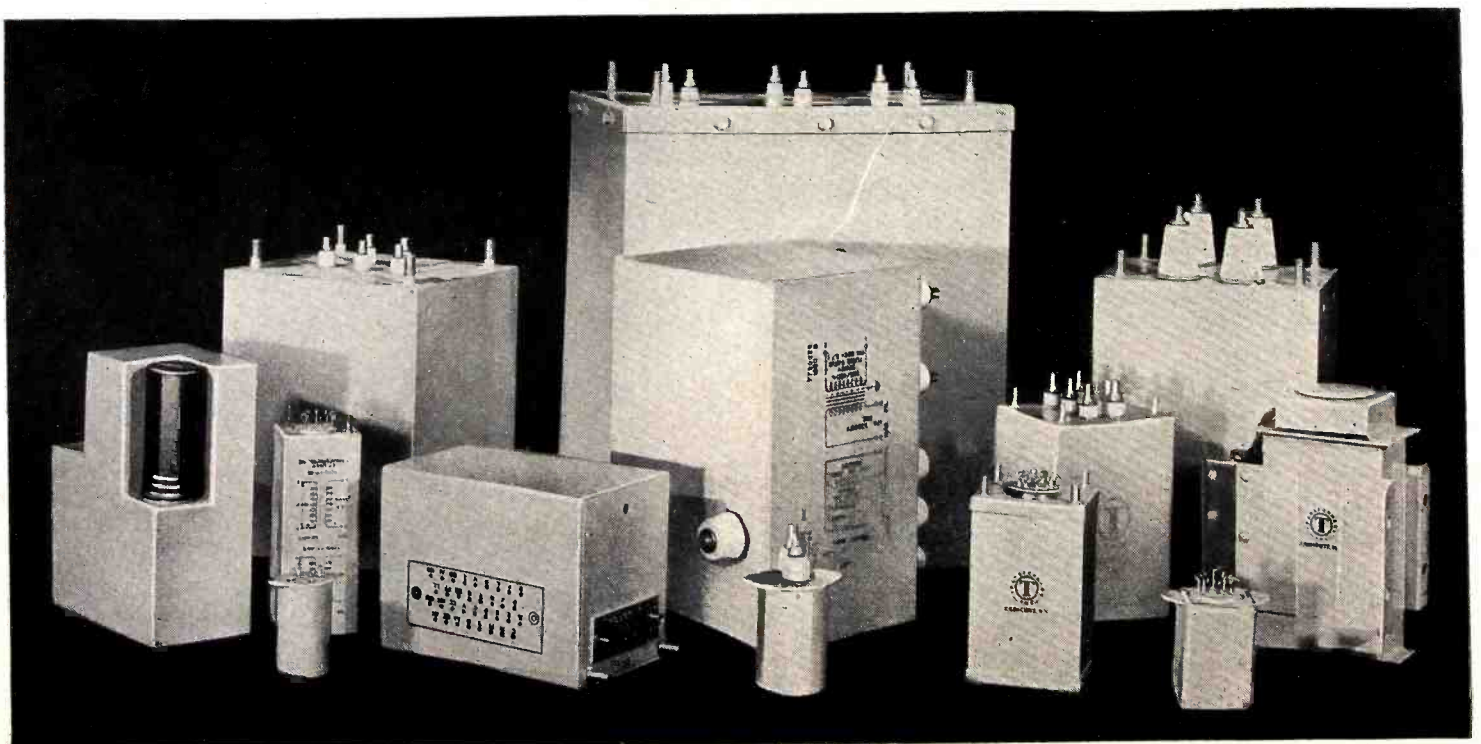
Computer transformers and magnetic amplifiers made by Transformers, Inc. have found wide application in industrial controls and automation equipment.

Transformers, Inc. has been a leading supplier for the highly specialized transformers required in computers. Transformers, Inc. is equipped to manufacture all types of magnetic memory equipment.

200 STAGE ROAD

**TRANSFORMERS**  
*Inc.*

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# SAVE VALUABLE DESIGN TIME

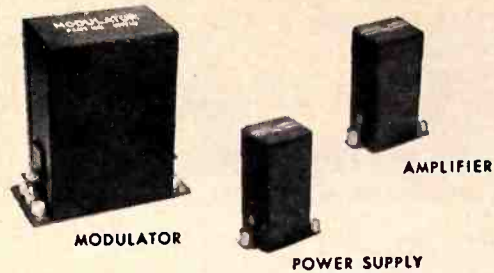
## in both development and production by using

# SERVOMECHANISMS' proven components.



**INSTRUMENT MOTORS**

**400 CYCLE COMPONENTS**

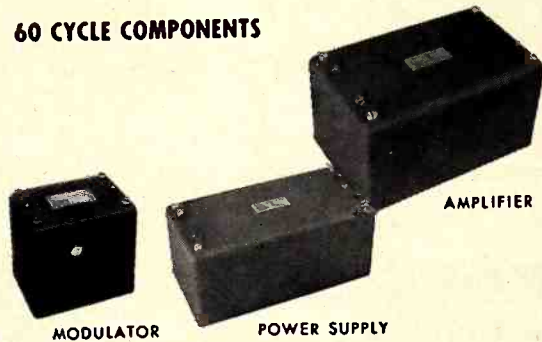


**MODULATOR**

**POWER SUPPLY**

**AMPLIFIER**

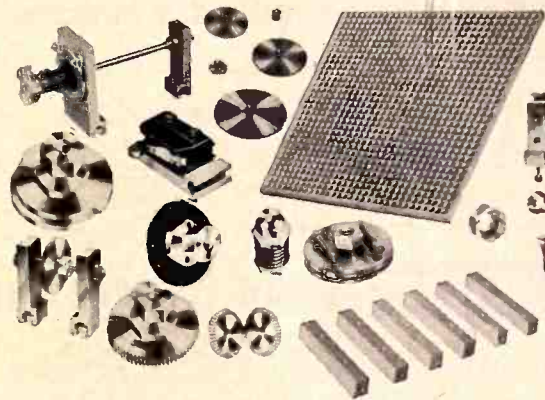
**60 CYCLE COMPONENTS**



**MODULATOR**

**POWER SUPPLY**

**AMPLIFIER**



**MECHANICAL DEVELOPMENT APPARATUS**

These proven components *are available now*. We've designed them—allowing you to concentrate your time on the application. The 60 and 400 cycle components, together with the companion instrument motors and the extensive line of Mechanical Development Apparatus, offer the Design Engineer an assortment of ready-made units that are ideally suited for closed loop control applications.

These packaged function components are plug-in units permitting quick and easy replacement *anywhere*.

Find out more about these quality units and how they can Save You Design Time. Write today for complete technical information.

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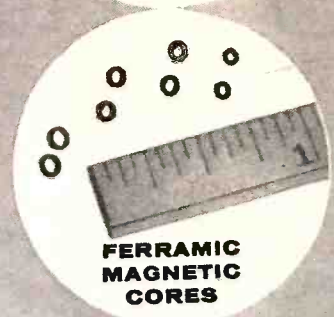
Servomechanisms, Inc. manufactures these units for use in its own analog computers and control systems. *Now*, they are available as individual units. All of the components meet applicable military specifications for both prototype and production deliveries.

The design philosophy of packaged functions; the years of manufacturing experience, and the constant improvement of the basic units, all add up to optimum adaptability, performance and reliability.





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CORES**



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**"ADVAC" HIGH  
TEMPERATURE  
SEALS**



**STEATITES**



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Manufacturers of FERRAMIC CORES, MAGNETIC MEMORY CORES, MEMORY PLANES, MICROWAVE FER-  
RITES, SOLDERSEAL TERMINALS, HIGH TEMPERATURE SEALS, STEATITE, ALUMINA & CHEMICAL STONEWARE

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# Industrial ceramics

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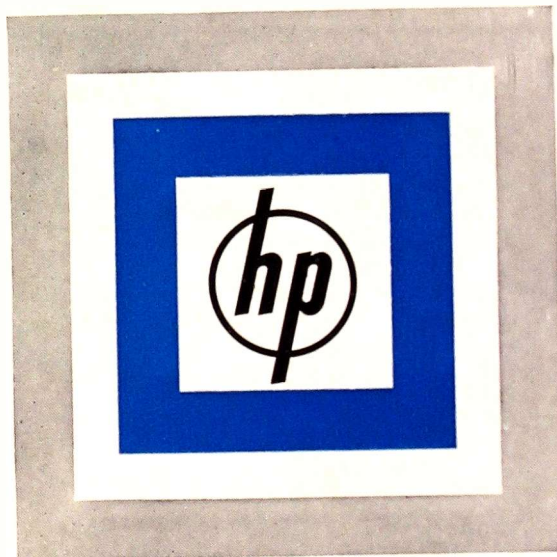
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General Ceramics design and production facilities are geared to today's electronic and electrical requirements. In many cases, standardized designs and production methods can reduce costs and facilitate delivery. When specifications call for new designs and engineering, General Ceramics' half century of ceramic manufacturing experience is available to help solve your problem quickly, and economically!

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# SHORT FORM CATALOG



1957

HEWLETT-PACKARD COMPANY • PALO ALTO, CALIFORNIA • U. S. A.

## -hp- Oscillators – 0.008 to 10,000,000 cps

Hewlett-Packard now offers 12 high quality, fast and accurate oscillators, each an exceptional value and each engineered to do a specific job best. Each incorporates the famous RC resistance capacity circuit pioneered by *-hp-*. This circuit makes possible instruments that are highly stable, wide range, compact and portable; instruments that are extremely simple to operate and require no tedious re-setting or adjustment during operation.

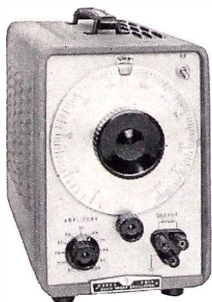
### -hp- 200 Series Audio Oscillators



For audio and ultrasonic measurements, *-hp-* offers popular Models 200AB and 200CD. Both have highest stability and accurate tuning circuits. Low impedance operating levels plus superior insulation guarantee long years of trouble-free dependability. Operation is simple; just three controls; no zero setting necessary. *-hp-*

200AB, 20 cps to 40 KC, \$130.00. *-hp-* 200CD, 5 cps to 600 KC, \$160.00.

### -hp- 207A Sweep Oscillator



This new audio oscillator provides continuous single-sweep frequency coverage from 20 cps to 20 KC. No band switching is needed; dial accuracy is 4%, and the instrument also provides a flexible 10 v/600 ohm output usable balanced or with one side grounded. Frequency response is  $\pm 1.0$  db full

range, distortion and hum are less than 1%. *-hp-* 207A may be swept by hand, motor driven, tuned remotely or coupled to a recorder. *-hp-* 207A, \$275.00.

Instrument	Primary Uses	Frequency Range	Output	Price
<i>-hp-</i> 200AB	Audio tests	20 cps to 40 KC	1 watt/24.5 v	\$130.00
<i>-hp-</i> 200CD	Subsonic through supersonic audio and ultrasonic tests	5 cps to 600 KC	160 mw or 10 v/600 ohms; 20 v open circuit	160.00
<i>-hp-</i> 200J	Interpolation, frequency measurements	6 cps to 6 KC	160 mw/10 v	275.00
<i>-hp-</i> 200T	Telemetry, carrier current tests	250 cps to 100 KC	160 mw or 10 v/600 ohms; 20 v open circuit	350.00
<i>-hp-</i> 201C	High quality audio tests	20 cps to 20 KC	3 w or 42.5 v/600 ohms	225.00
<i>-hp-</i> 202A	Low frequency measurements	0.008 to 1200 cps	28 mw or 30 v p-p/4000 ohms	465.00 $\Delta$
<i>-hp-</i> 202C	Servo equipment tests, measurements	1 cps to 100 KC	160 mw or 10 v/600 ohms	300.00
<i>-hp-</i> 205AG	High power audio tests, gain measurements	20 cps to 20 KC	5 watts	440.00 $\Delta$
<i>-hp-</i> 206A	High quality, high accuracy audio tests	20 cps to 20 KC	+ 15 dbm	565.00 $\Delta$
<i>-hp-</i> 207A	Audio sweep generation	20 cps to 20 KC	160 mw or 10 v/600 ohms	275.00
<i>-hp-</i> 233A	Carrier oscillator—current tests	50 cps to 500 KC	3 w/600 ohms	475.00
<i>-hp-</i> 650A	Wide range video tests	10 cps to 10 MC	15 mw/3 v	490.00 $\Delta$

$\Delta$  Rack mounted instruments available at \$15.00 less.

### -hp- 202A Function Generator



Compact, multi-purpose source of transient-free test voltages from 0.008 cps to 1,200 cps. Continuously variable through 5 bands; offers exceptional stability (within 1%) and distortion less than 1% to 100 cps. Sine, square or triangular waves may be selected by a front panel switch; the 30 volt output peak-to-peak is constant for all wave forms and over full frequency range. *-hp-* 202A, \$465.00.

### -hp- 650A Test Oscillator



Covering 10 cps to 10 MC, *-hp-* 650A is a highly stable, wide band instrument for audio, supersonic, video and rf measurements. Output is flat within 1 db full range; voltage range is 0.00003 to 3 v. In addition to 600 ohm impedance, voltage divider provides a 6 ohm impedance. Distortion less than 1% to 100 KC; stability  $\pm 2\%$  to 100 KC. \$490.00.

## -hp- Distortion, Wave Form Analyzers—20 cps to 20 KC

### -hp- 330B Distortion Analyzer



Measures distortion as low as 0.1% from 20 cps to 20 KC; also measures noise voltages down to 100  $\mu$ v. Sensitivity is high; distortions of 0.3% are measured full scale and levels of 0.1% are readable

accurately. Frequency calibration accurate within  $\pm 2\%$  full range. Includes a 20 db amplifier, oscilloscope terminals and precision 10 cps to 100 KC vacuum tube voltmeter usable separately. \$410.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
<i>-hp-</i> 300A	Wave form analyzer	30 cps to 16 KC	Variable selectivity; measuring range 1 mv to 500 v	\$775.00
<i>-hp-</i> 330B	Measures total audio distortion	20 cps to 20 KC	Includes input amplifier, VTVM	410.00 $\Delta$
<i>-hp-</i> 330C	For FM broadcast measurements	20 cps to 20 KC	Special VU meter to meet F.C.C. requirements	440.00 $\Delta$
<i>-hp-</i> 330D	For AM, FM broadcast measurements	20 cps to 20 KC	AM detector and VU meter to meet F.C.C. requirements	455.00 $\Delta$

$\Delta$  Rack mounted instruments available at \$15.00 less.

# -hp- Vacuum Tube Voltmeters - 10 to 700,000,000 cps

## -hp- 400D Vacuum Tube Voltmeter



Best *-hp-* voltmeter ever built! Covers all frequencies 10 cps to 4 MC. Extremely sensitive, wide range, accurate within 2% to 1 MC, measures 0.1 mv to 300 v. Direct reading in dbm. 10 megohm input impedance insures negligible loading on circuits under test. New amplifier circuit with mid-range feedback assures utmost stability, freedom from change due to external conditions. \$225.00.

under test. New amplifier circuit with mid-range feedback assures utmost stability, freedom from change due to external conditions. \$225.00.

Instrument	Primary Uses	Frequency Range	Voltage Range	Input Impedance	Price
-hp- 400AB	General purpose ac measurements	10 cps to 600 KC	0.003 to 300 v 11 ranges	10 megohms 25 $\mu$ mf shunt	\$200.00
-hp- 400D	Wide range ac measurements High sensitivity	10 cps to 4 MC	0.001 to 300 v 12 ranges	10 megohms 15 $\mu$ mf shunt	225.00
-hp- 400H	High accuracy wide range ac measurements	10 cps to 4 MC	0.001 to 300 v 12 ranges	10 megohms 15 $\mu$ mf shunt	325.00
-hp- 410B	Audio, rf, VHF measurements; dc voltages; resistances	dc; ac—20 cps to 700 MC	0.1 to 300 v 7 ranges	dc—122 megohms; ac—10 megohms/ 1.5 $\mu$ mf	245.00

## -hp- 410B Vacuum Tube Voltmeter



All-purpose test instrument, range 20 cps to 700 MC. Also serves as dc VTVM with over 100 megohms impedance, or ohmmeter for measurements 0.2 to 500 megohms. Input capacity 1.5  $\mu$ mf, 10 megohms input impedance; employs radical diode probe

which virtually eliminates circuit loading. Industry's most versatile precision voltmeter. \$245.00.

## -hp- 400H Vacuum Tube Voltmeter



Need extreme accuracy of 1%? New *-hp-* 400H covers 10 cps to 4 MC, has 5" meter with mirror scale, measures voltages 0.1 mv to 300 v. 10 megohm resistance minimizes circuit loading, amplifier with 56 db feedback insures lasting stability. Direct reading in db or v. Extremely high quality throughout. \$325.00.

## -hp- 400AB Vacuum Tube Voltmeter



Utmost utility, dependability, dollar value. Covers 10 cps to 600 KC, measures from 0.3 mv to 300 v. High stability, sensitivity, accuracy  $\pm 2\%$  full scale from 20 cps to 100 KC. High input impedance; meter reads direct in volts and dbm. \$200.00.

Instrument	Features	Price
-hp- 452A Capacitive Voltage Divider	For all <i>-hp-</i> ac VTVM. 25 cps to 20 MC. Division 1000:1	\$100.00
-hp- 452-95A Adapter	Connects <i>-hp-</i> 452A to <i>-hp-</i> 410B VTVM probe	10.00
-hp- 453A Capacitive Voltage Divider	For <i>-hp-</i> 410B VTVM only. Division 100:1	25.00
-hp- 454A Capacitive Voltage Divider	For <i>-hp-</i> 400D and 400H only. Division 100:1	25.00
-hp- 455A Probe Coaxial "T" Connector	For <i>-hp-</i> 410B VTVM. Measures voltages between conductor and sheath of 50 ohm transmission line.	35.00
-hp- 458A Probe Coaxial "N" Connectors	For <i>-hp-</i> 410B VTVM. Measures volts at open end of 50 ohm transmission line.	25.00
-hp- 459A DC Resistive Voltage Multiplier	For <i>-hp-</i> 410B VTVM. For measuring high dc voltages safely. Multiplies 1:100	25.00
-hp- 470 A to F Shunt Resistors	For <i>-hp-</i> 400 series VTVM. For measurement of current.	470A - 15.00 470B-F - 7.50

## Cabinet, End Frame or Rack Mounting



Most *-hp-* equipment with standard 19" panels can be mounted in lightweight, streamlined all metal cabinets. The same instruments are normally also usable with end frames. Smaller *-hp-* instruments such as 200 CD, 400D, 410B, 715A, etc., are also delivered normally in lightweight metal cabinets. However, many such instruments can be twin-mounted in *-hp-* AC-2A/B Dual Rack Mounts. See your *-hp-* field representative or write direct for details.

Data subject to change without notice. Prices f. o. b. factory.

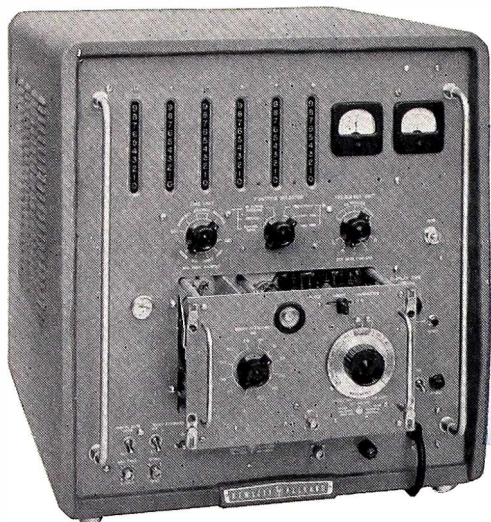


# Precision Electronic Counter

frequency 10 cps to 220 MC

time interval 1  $\mu$ sec to 100 days

period 0 cps to 10 KC



**-hp- 525A**  
Frequency Converter  
10 cps to 100 MC



**-hp- 526A**  
Video Amplifier  
10 cps to 10 MC



**-hp- 526B**  
Time Interval Unit  
1  $\mu$ sec to 10<sup>7</sup> sec



**-hp- 526C**  
Period Multiplier  
0 to 10 KC

Add plug-in units to fill future measuring needs

## -hp- 524B Counter with -hp- 525B Frequency Converter

Direct, instantaneous automatic readings, easy use by non-technical personnel, 0.1 microsecond resolution, accuracy 1/1,000,000  $\pm$  1 count, high sensitivity and high impedance—these are but a few of the unique quality and versatility features of -hp- 524B Counter and associated plug-in units.

With -hp- 524B, you buy only the counting facilities you need now; later add inexpensive plug-ins to triple or quadruple the usefulness of the instrument.

The basic -hp- 524B Counter reads frequency 10 cps to 10 MC over 5 selected periods. Display time is variable, counts are automatically reset, action is repetitive.

-hp- 525A Frequency Converter extends the 524B's direct-reading range to 100 MC with no loss in accuracy. -hp- 525B converts the 524B for direct readings 100 to 220 MC. -hp- 526A Video Amplifier increases sensitivity to 10 mv for low power frequency measurement.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 524B Frequency Counter	Frequency Period measurements	10 cps to 10 MC (Freq.) 0 cps to 10 KC (Period)	Direct reading, no interpolation, stability about 2/1,000,000/week	\$2,150.00 ■
-hp- 525A Frequency Converter	Extends 524B's range to 100 MC; increases basic sensitivity	10 cps to 100 MC	Accuracy $\pm$ 1 cps $\pm$ stability; 0.1 v rms min. input	250.00
-hp- 525B Frequency Converter	Extends 524B's range from 100 to 220 MC; high sensitivity	100 MC to 220 MC	Accuracy $\pm$ 1 cps $\pm$ stability; 0.2 v rms min. input	250.00
-hp- 526A Video Amplifier	Increases 524B's sensitivity to 10 millivolts	10 cps to 10 MC	Accuracy same as basic counter; 10 mv rms min. input	150.00
-hp- 526B Time Interval Unit	Measures interval 1 $\mu$ sec to 100 days	1 $\mu$ sec to 10 <sup>7</sup> sec	Accurate 0.1 $\mu$ sec $\pm$ 0.0001%	175.00
-hp- 526C Period Multiplier	Period measurement	Extends range of 524B to measure 10,000 periods	Greater accuracy in period measurement	225.00

■ Rack mounted instrument available for \$25.00 less.

-hp- 526B Time Interval Unit permits the 524B to measure interval 1.0  $\mu$ sec to 100 days with accuracy of 0.1  $\mu$ sec  $\pm$  0.001%; reads in seconds, msec or  $\mu$ sec. -hp- 526C

Period Multiplier allows period average measurements in steps of 10 to a 10,000 period average; thus insuring greater accuracy of midrange frequency measuring.

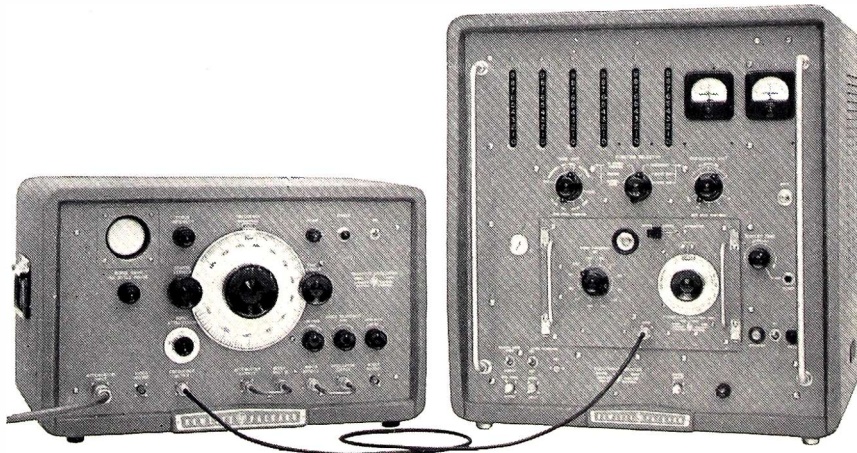
## -hp- 540A Transfer Oscillator

Measure frequency to 12 KMC on pulsed, AM, FM, CW and noisy signals!

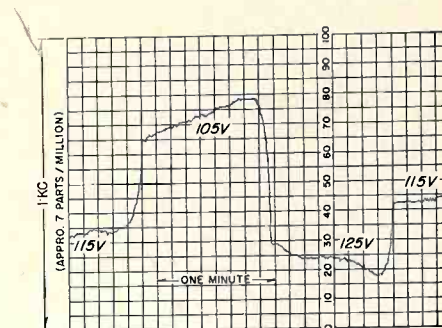
With just two instruments -hp- 540A Transfer Oscillator and 524B Counter (plus 525B converter) you measure to 12 KMC; get counter accuracy and amazing convenience. Complex instrument arrangements and tedious trial-and-error "guesstimates" are eliminated. Even when the approximate frequency of a test signal is unknown; a simple calculation employing two or more harmonics leads to swift and accurate measurement.

The 540A-524B system's accuracy approaches 1 part per 1,000,000 for stable CW signals. On pulsed signals, accuracy is governed by carrier frequency and pulse lengths. On noisy or intense AM signals, the transfer oscillator system with -hp- 540A often provides the only means of accurate measurement. Over-all system accuracy is better than 10 times that of the best microwave wavemeters. Model 540A, \$615.00 $\Delta$ .

$\Delta$  Rack mounted instrument available at \$15.00 less.



# New -hp- 560A Digital Recorder



Frequency stability vs. line voltage; 150 MC oscillator

New -hp- 560A provides a continuous digital record for your -hp- frequency counter. Since 560A is a slave to its counter, it delivers accuracy identical with counter. Printing rate is five, 11-digit lines per second. Secondary or coding data may be printed on the same line as primary data. Instrument may be controlled by electronic or electro-

mechanical devices; it includes an analog output for strip chart recorders; strip chart will never be driven off scale. Expanded scale recordings may be made with full scale sensitivity as great as  $1/10^7$ .  
 -hp- 560A, \$1,390.00 (11-digit lines)  
 -hp- 560A, \$1,265.00 (6-digit lines)

## Other -hp- Frequency Measuring and Monitoring Equipment

### -hp- 500B/C Frequency Meters



Directly measures frequency of voltages 3 cps to 100 KC; expanded scale allows any 10% or 30% of range to be measured full scale. Sensitivity 0.2 v rms (sine waves) 1 v peak for pulses. Input impedance 1 megohm with 40  $\mu$ f shunt; accuracy independent of line voltage changes. Also available as -hp- 500C, calibrated for direct reading in rpm. -hp- 500B/C, \$285.00.

### -hp- 521A/C Industrial Counters



Most useful, accurate, low cost industrial counter. Measures frequency, speed, rpm, random events, other phenomena. Direct readings 1 cps to 120 KC. Time of count 0.1 or 1.0 seconds; variable display time. Also offered as 521C, 5-place registration, three gate times, crystal-controlled time base. -hp- 521C, \$650.00. -hp- 521A, \$475.00.

### -hp- 522B Electronic Counter



Compact, low cost, versatile instrument for frequency, period or time measurements. Measures frequency 10 cps to 120 KC, time interval 10  $\mu$ sec to  $10^5$  sec.

Reads direct in cps, KC, seconds or milliseconds. Count automatically reset, action repetitive. Stability of time base 10/1,000,000 per week. Easily used by untrained personnel. \$915.00 $\Delta$ .

### -hp- 523B Electronic Counter



Revolutionary all-purpose counter measures frequency 10 cps to 1.1 MC, time interval 3  $\mu$ sec to 27.8 hours, period 0.00001 cps to 10 KC. Stability 2/1,000,000 per week. Results displayed in sec, msec,  $\mu$ sec or KC; automatic decimal. Display time variable 0.1 sec to 5 sec or indefinitely. Accuracy  $\pm 1$  count plus crystal stability. 5 gate times, usable with 100 KC primary standard. \$1,175.00.

definitely. Accuracy  $\pm 1$  count plus crystal stability. 5 gate times, usable with 100 KC primary standard. \$1,175.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 100D Secondary Standard	Frequency, time measurements	100 KC, 10 KC, 1 KC, 100 cps, 10 cps	Stability 1/1,000,000 (short-time). Sine or rectangular output. Marker pips	\$ 615.00 $\Delta$
-hp- 335E TV Monitor	Aural and visual carrier monitoring; black and white or color	Channels 2 to 83	Aural deviation $\pm 3$ KC; video deviation $\pm 3$ KC; accuracy $\pm 500$ cps approx.	2,050.00
-hp- 500B Electronic Frequency Meter	Rapid frequency measurements	3 cps to 100 KC	9 ranges $\pm 2\%$ accuracy. Input 0.2 to 250 volts	285.00
-hp- 500C Electronic Frequency Meter	Rpm measurements	180 to 6,000,000 rpm	Similar to 500B but calibrated in rpm	285.00
-hp- 506A Optical Tachometer Pickup	Rps and rpm measurement	300 to 300,000 rpm	Phototube and light source; output 1 v rms	100.00
-hp- 508A Tachometer Generator	Shaft speed measurement	15 to 40,000 rpm	Output 60 cycles per revolution	100.00
-hp- 508B Tachometer Generator	Shaft speed measurement	15 to 40,000 rpm	Output 100 cycles per revolution	100.00
-hp- 508C Tachometer Generator	Shaft speed measurement	15 to 40,000 rpm	Output 120 cycles per revolution	100.00
-hp- 508D Tachometer Generator	Shaft speed measurement	15 to 5,000 rpm	Output 360 cycles per revolution	100.00
-hp- 520A Nuclear Scaler	For counting high-rate pulses	Capacity 100 counts in 2 decades. 10,000,000 pps counting rate	100:1 divider for operation of low speed scalars	615.00 $\Delta$
-hp- 521A Industrial Electronic Counter	Measure frequency, speed	1 cps to 120 KC	Direct reading, accurate within $\pm 1$ count $\pm 0.1\%$ . 4 place registration	475.00
-hp- 521C Industrial Electronic Counter	Measure frequency, speed	1 cps to 120 KC	Direct reading, accuracy within $\pm 1$ count $\pm 0.01\%$ . 5 place registration	650.00
-hp- 522B Electronic Counter	Frequency, period, time interval measurements	10 cps to 120 KC	Direct reading, accuracy $\pm 1$ count $\pm 0.001\%$	915.00 $\Delta$
-hp- 523B Electronic Counter	Frequency, period, time interval	10 cps to 1.1 MC	Direct reading, accuracy $\pm 1$ count $\pm 2/1,000,000$	1,175.00

$\Delta$ Rack mounted instrument available for \$15.00 less.

## -hp- Signal Generators - 10 to 21,000 MC

### -hp- 608D vhf Signal Generator



10 to 420 MC. Highest stability. No incidental FM or frequency drift. Calibrated output 0.1  $\mu$ v to 0.5 v throughout range. Built-in crystal calibrator provides frequency check accurate within 0.01% each 1 and 5 MC. Master-oscillator, intermediate and output amplifier circuit design. Premium quality

performance, direct calibration, ideal for aircraft communications equipment testing. \$1,050.00.

-hp- 608C vhf Signal Generator. High power (1 v max.) stable, accurate generator for lab or field use. 10 to 480 MC. Ideal for testing receivers, amplifiers, driving bridges, slotted lines, antennas, etc. \$950.00.

### -hp- 626/628A shf Signal Generators



New instruments, bringing high power, wide range, convenience and accuracy to 10 to 21 KMC range. Frequencies, output voltage directly set and read. Output 10 to 20 db better than previous spot-frequency sets

SWR better than 1.2 at 0 dbm and lower. Internal pulse, FM or square wave modulation; also external pulsing or FM'ing. -hp- 626A, 10 to 15.5 KMC, \$3,250.00. -hp- 628A, 15 to 21 KMC, \$3,000.00.

Instrument	Frequency Range	Characteristics	Price
-hp- 608C	10 to 480 MC	Output 0.1 $\mu$ v to 1 v into 50 ohm load. AM, pulse, or CW modulation. Direct calibration	\$ 950.00
-hp- 608D	10 to 420 MC	Output 0.1 $\mu$ v to 0.5 v. Incidental FM 0.001% entire range	1,050.00
-hp- 612A	450 to 1,230 MC	Output 0.1 $\mu$ v to 0.5 v into 50 ohm load. AM, pulse, CW or square wave modulation. Direct calibration	1,200.00
-hp- 614A	800 to 2,100 MC	Output 0.1 $\mu$ v to 0.223 v into 50 ohm load. Pulse, CW or FM modulation. Direct calibration	1,950.00
-hp- 616A	1,800 to 4,000 MC	Output 0.1 $\mu$ v to 0.223 v into 50 ohm load. Pulse, CW or FM modulation. Direct calibration	1,950.00
-hp- 618B	3,800 to 7,600 MC	Output 0.1 $\mu$ v to 0.223 v into 50 ohm load. Pulse, CW, FM or square wave modulation. Direct calibration	2,250.00
-hp- 620A	7,000 to 11,000 MC	Output 0.1 $\mu$ v to 0.223 v into 50 ohm load. Pulse, FM or square wave modulation. Direct calibration	2,250.00
-hp- 623B	5,925 to 7,725 MC	Output 70 $\mu$ v to 0.223 v into 50 ohm load. FM or square wave modulation. Separate power meter and wave meter section	1,750.00
-hp- 624C	8,500 to 10,000 MC	Output 3.0 $\mu$ v to 0.223 v into 50 ohm load. Pulse, FM or square wave modulation. Separate power meter and wave meter section	2,265.00 $\Delta$
-hp- 626A	10 to 15.5 KMC	Output 10 dbm to -90 dbm. Pulse, FM, or square wave modulation. Direct calibration	3,250.00
-hp- 628A	15 to 21 KMC	Output 10 dbm to -90 dbm. Pulse, FM, or square wave modulation. Direct calibration.	3,000.00

$\Delta$  Rack mounted instrument available for \$15.00 less.

## -hp- Swept Frequency Oscillators

### -hp- 686A Electronic Sweep Oscillator



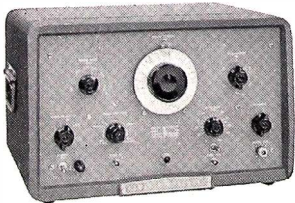
Totally new kind of backward-wave device eliminating sweep motors, tuning plungers, range limitations, etc. Covers all or part of X-band with flexible, quiet electronic sweep.

Simple to operate, direct reading, continuously adjustable sweep width and rate, 10 mw output minimum, frequency sweep linear with time. Has slow sweep for recorders; fast for oscilloscope; single sweep manually started or externally triggered, external FM, AM modulation. Ultimate in X-band sweep oscillators, \$2,250.00.

Instrument	Frequency Range	Characteristics	Price
-hp- 670SM	2.6 to 4 KMC	Automatic adjustable motor-driven sweep, full frequency band coverage, output 10 mw full range, full modulation capabilities, direct-reading frequency dial.	\$1,175.00 with motor
-hp- 670GM	4 to 6 KMC		1,175.00 with motor
-hp- 670JM	5.85 to 8.2 KMC		1,175.00 with motor
-hp- 670HM	7 to 10 KMC		1,175.00 with motor
-hp- 686A	8.2 to 12.4 KMC	Electronically swept; variable sweep width and rate. Output 10 mw to 0. Pulse, square wave, FM and AM modulation.	2,250.00

## -hp- Square Wave and Pulse Generators

### -hp- 212A Pulse Generator



Provides continuously variable, high power "fast pulses" of superior wave form. Combines broad general usefulness with 0.02  $\mu$ sec rise and decay time to meet requirements

of radar, TV and nuclear work. Pulse length variable 0.07 to 10  $\mu$ sec; minimum overshoot; 50 watt peak power (50 v to 50 ohms load). Low impedance means accurate pulses can be delivered at a distance from the instrument. Repetition rate variable 50 to 5,000 pps; controlled internally or externally. Synchronizing pulse available in advance of, or following output pulse. \$565.00 $\Delta$ .

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 211A	Square Wave Generator	1 cps to 1 MC	Output 7 v p-p across 75 ohms or 55 v p-p across 600 ohms	\$265.00
-hp- 212A	Pulse Generator	50 to 5,000 pps. 0.02 $\mu$ sec rise time	Pulse length 0.07 to 10 $\mu$ sec, output 50 v to 50 ohm load	565.00 $\Delta$

$\Delta$  Rack mounted instrument available for \$15.00 less.

# Microwave Impedance Measuring Equipment



## -hp- 416A Ratio Meter

Automatically combines forward and reverse signals and displays their ratio directly, irrespective of amplitude

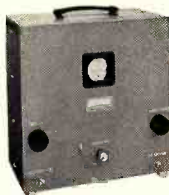
variations. Contains rf power monitor indicating proper power level. Rear terminal signal available to operate oscilloscope or recorder. Suitable for single and swept frequency operation. \$450.00△.



## -hp- 415B Standing Wave Indicator

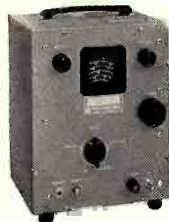
For all waveguide and coaxial slotted sections. Gives readings in SWR or db. Single frequency operation; 315 to 2,000 cps. Low noise level, 0.1 μv (full scale) sensitivity, 60 db. calib. attenuator. \$200.00.

## -hp- 803A VHF Bridge



Provides direct impedance measurements in vhf range, 2 to 2,000 ohms, -90° to +90° phase angle. Wide frequency range 52 to 500 MC; makes measurements down to 5 MC and up to 1,000 MC. Fast, simple to use. \$495.00.

## -hp- 417A VHF Detector



Super-regenerative (AM) receiver covering all frequencies from 10 to 500 MC in 5 bands. Designed for use with -hp- 803A Bridge. 5 μv sensitivity full range. Single frequency control, reads direct in MC. \$250.00.

## Microwave Power Measuring Equipment

### -hp- 430C Microwave Power Meter



No computations! Provides instantaneous, automatic power readings *direct* in dbm or mw at all frequencies for which there are suitable bolometer mounts. For CW measurements, uses either 1/100 amp. fuse or Sperry 821 barretter. Also measures CW or pulsed power with negative coefficient thermistor. Provides up to 16

ma bias current. Operates with all mounts in adjacent table. \$250.00.

### -hp- 764D-767D Dual Directional Couplers



New high directivity dual coaxial couplers make reflectometer measurements practical in vhf and uhf coax systems. Flat response, high power capacity, low insertion loss. Four models, covering

216 to 4,000 MC collectively. \$125.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 360A-D Low Pass Filters	Eliminates harmonic voltages from uhf systems	Cutoff frequencies A- 700 MC C-2,200 MC B-1,200 MC D-4,100 MC	50 db rejection at 1.25 cutoff freq.	\$ 40.00
-hp- 415B Standing Wave Indicator	SWR indicator or null indicator	315 to 2,000 cps. Normal freq. 1,000 cps	0 to 70 db attn. Max. sensitivity 0.3 μv	200.00
-hp- 416A Ratio Meter	Reflection coefficient measurements	1,000 cps ±40 cps	Continuous swept frequency presentation; accuracy ±3%	450.00△
-hp- 417A vhf Detector	vhf bridge detector (for -hp- 803A)	10 to 500 MC	Approx. 5 μv sensitivity	250.00
-hp- 803A vhf Bridge	Measurement of vhf impedance, SWR	52 to 500 MC	2 to 2,000 ohms impedance -90° to +90° phase angle	495.00
-hp- 805A Coaxial Slotted Section	Measurement of SWR	500 to 4,000 MC	For Type N Connectors flexible cables	475.00
-hp- 805B Coaxial Slotted Section	Same as above	Same as above	For rigid 7/8" RG44/U line	475.00
-hp- 806B Coaxial Slotted Section	Same as above (mounts in 809B)	3,000 to 12,000 MC	For Type N Connectors flexible cables	200.00
-hp- 809B Universal Probe Carriage	G, J, H, X and P 810 Waveguide Sections Supports 806B section, also		Accepts 442B, 444A probes	160.00
-hp- 814A Universal Probe Carriage	Supports P, K and R 815A Waveguide Slotted Sections		Accepts Untuned Probe 446A	225.00

△ Rack mounted instruments \$15.00 less.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 430C Microwave Power Meter	Measurement of rf power	Depends on Bolometer Mount	0.02 to 10 mw ±5% accuracy	\$250.00
-hp- 475B Tunable Bolometer Mount	Measurement of rf power (with 430B/C)	1,000 to 4,000 MC	Matches 50 ohm line to 100 or 200 ohms	200.00
-hp- 476A Universal Bolometer Mount	Measurement of rf power (with 430B/C)	10 to 1,000 MC	No tuning required SWR less than 1.25	85.00
-hp- 477B Coaxial Thermistor Mount	Measurement of rf power (with 430C)	10 MC to 10 KMC	No tuning required SWR less than 1.5	75.00
-hp- 485 Waveguide Detector Mount	Measurement of rf power	2,600 to 18,000 MC	Full coverage of waveguide band	See Table page 8
-hp- 487B Waveguide Thermistor Mount	Measurement of rf power	3,950 to 26,500 MC	Full coverage, no tuning, 1.5 SWR except K487B, 2.5	See Table page 8
-hp- 764D Dual Directional Coupler	Reflectometer and rf power measurements	216 to 450 MC	Coupling attenuation* 20 db, directivity 30 db	125.00
-hp- 765D Dual Directional Coupler	Reflectometer and rf power measurements	450 to 945 MC	Coupling attenuation* 20 db, directivity 30 db	125.00
-hp- 766D Dual Directional Coupler	Reflectometer and rf power measurements	940 to 1,975 MC	Coupling attenuation* 20 db, directivity 26 db	125.00
-hp- 767D Dual Directional Coupler	Reflectometer and rf power measurements	1,900 to 4,000 MC	Coupling attenuation* 20 db, directivity 26 db	125.00

\*Power handling capacity all 764/767 series couplers 50 watts CW, 10 Kw peak.

### -hp- 477B Coaxial Thermistor Mount



For frequency range 10 MC to 10 KMC. SWR less than 1.5. Thermistor element is 200 ohm negative. \$75.00 (including thermistor).

**More -hp-  
Microwave  
Equipment** →

# -hp- Waveguide Test Equipment—2.6 to 40.0 KMC

Basic, low-cost elements offer utmost flexibility for assembly of exact instrumentation required. Each unit covers entire range of its waveguide size. Careful engineering, simple, sturdy mechanical design, highest quality manufacture insures accurate, multi-purpose operation.

Instrument	Coaxial Type N Conn.	"S" 3" x 1 1/2" 2.6 - 3.95 KMC	"G" 2" x 1" 3.95 - 5.85 KMC	"J" 1 1/2" x 3/4" 5.2 - 8.2 KMC	"H" 1 1/4" x 5/8" 7.05 - 10.0 KMC	"X" 1" x 1/2" 8.2 - 12.4 KMC	"P" .702" x .391" 12.4 - 18.0 KMC	"K" .500" x .250" 18.0 - 26.5 KMC	"R" .360" x .220" 26.5 - 40.0 KMC	
Adapter, Waveguide to Coax		S281A \$50	G281A \$40	J281A \$35	H281A \$30	X281A \$25				
Cover to Choke Flange		S290A \$65	G290A \$50	J290A \$35	H290A \$25	X290A \$15	P290A \$20			
Attenuators, Fixed 3, 6, 10, 20 db		S370A \$75	G370A \$65	J370A \$65	H370A \$60	X370A \$55	P370A \$60			
Flap, 25 db max.		S375A \$120	G375A \$110	J375A \$100	H375A \$90	X375A \$65	P375A \$80	K375A \$60	R375A \$70	
Calibrated, precision		S380A \$260	G382A \$500	J382A \$350	H382A \$350	X382A \$250	P382A \$275			
Detector Mounts	420A \$50 420B \$75 440A† \$85				H421A \$85	X421A \$75	P421A \$85			
		S485D° \$145	G485D \$140	J485D° \$135						
		S485A‡ \$125	G485B‡ \$95	J485B‡ \$90	H485B‡ \$85	X485B‡ \$75	P485C■ \$110			
Isolators						X365A \$225				
Thermistor Mounts (Fixed tuned) ■	477B \$75		G487B \$95	J487B \$90	H487B \$80	X487B \$75		K487B \$85		
Frequency Meters, Reaction				J530A/B**	H530A \$120	X530A \$120	P530A \$150			
Waveguide						X532A \$150				
Directional Coupler, Cross Guide: 20, 30 db		S750 \$130	G750 \$120	J750 \$70	H750 \$60	X750 \$50				
Directional Couplers, Multi Hole: 3, 10, 20 db		S752 \$375	G752 \$250	J752 \$140	H752 \$120	X752 \$75	P752 \$100	K752 \$100	R752 \$120	
Slotted Sections, Waveguide		S810A* \$450	G810B§ \$110	J810B§ \$110	H810B§ \$110	X810B§ \$90	P810B§ \$110			
Slotted Sections, Waveguide							P815A \$200	K815A \$200	R815A \$200	
Tuners, Slide Screw		S870A \$225	G870A \$185	J870A \$150	H870A \$130	X870A \$125	P870A \$130	K870A \$140	R870A \$140	
E-H						X880A \$130	P880A \$135	K880A \$155	R880A \$170	
Waveguide Phase Shifter				J885A \$400		X885A \$300	P885A \$350			
Terminations, Low Power		S910A \$45	G910A \$35	J910A \$30	H910A \$25	X910A \$20	P910A \$25	K910A \$30	R910A \$35	
Terminations, High Power		S912A \$160				X912A \$50				
Moving Load		S914A \$100	G914A \$75	J914A \$70	H914A \$60	X914A \$50	P914A \$55	K914A \$65	R914A \$75	
Standard Reflections						X916A \$100				
Adjustable Shorts		S920A \$90	G920A \$70	J920A \$60	H920A \$50	X920A \$40	P920A \$55	K920A \$75	R920A \$85	
Waveguide Shorting Switch						X930 \$60				
Broad Band Probe	442B§ \$35	All frequencies								
Broad Band Probe, Untuned		444A \$35 2.6 to 12.4 KMC						446A \$145 12.4 to 40 KMC		
Waveguide Clamps, Stands										

†For use with barretter or crystal.

‡For use with barretter only.

\*Complete assembly including carriage.

§Mounts in 809B Carriage.

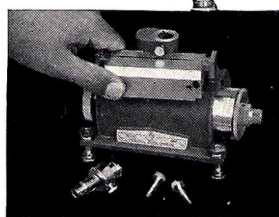
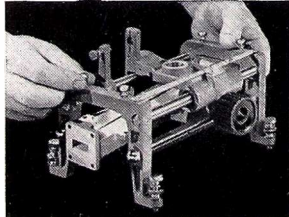
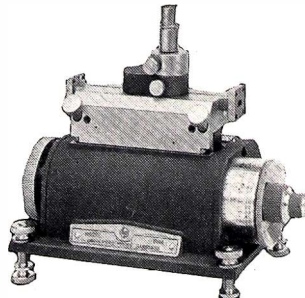
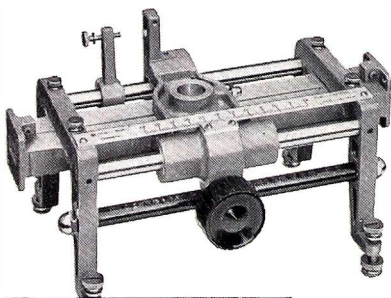
■ Includes Thermistor, installed.

\*\*J530A, 5.85 to 8.2 KMC, \$120; J530B, 5.20 to 7.05 KMC, \$150.

° Includes barretter; checked for square law characteristics.

## -hp- Offers World's Most Complete Array of Microwave Equipment

### -hp- 809B/814A Universal Probe Carriages



Models 809B and 814A are precision built mechanical assemblies operating, respectively, with -hp- 810B and 815A series slotted sections.

Combination of the 809B carriage and 810B slotted sections covers

2.6 to 18.0 KMC. Combination of 814A carriage and 815A series sections covers 12.4 to 40.0 KMC.

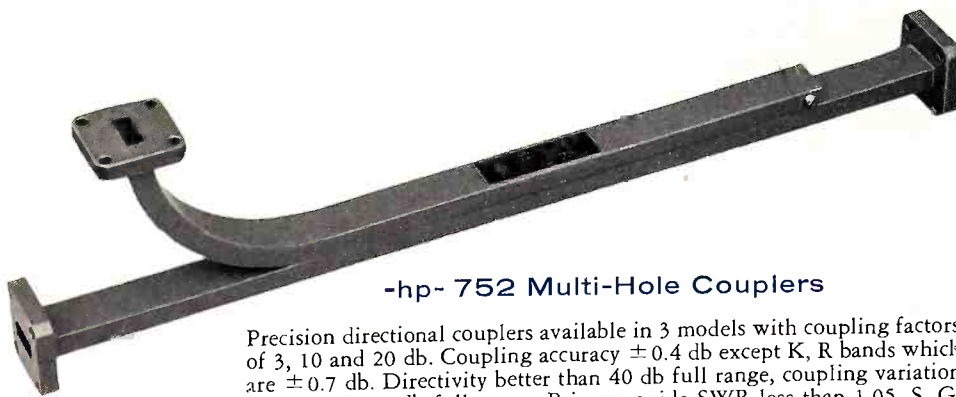
On either carriage, waveguides can be interchanged in seconds for real savings on engineering time. Only one probe is required for each carriage to cover full frequency range. Manufacture is of highest quality to assure positive mechanical positioning of interchangeable waveguides and precise installation of mating -hp- probes (see opposite page). -hp- 809B has a vernier scale reading to 0.1 mm and is equipped for dial gauge mounting. -hp- 814A has a cylindrical dial which may be read directly to 0.1 mm and interpolated at 0.01 mm.

-hp- 810B Slotted Sections. -hp- 810B, for mounting in 809B carriage, is a flanged, waveguide section with accurately machined slot. Slot is tapered at ends to minimize reflection. Available in 5 waveguide bands, 3.95 through 18.0 KMC.

-hp- S810A. Complete slotted section assembly including probe carriage. In 2.6 to 3.95 KMC (s-band) size only.

-hp- 815A Slotted Sections. For mounting in 814A carriage. Available P, K and R bands, 12.4 to 40.0 KMC. To insure positive positioning when mounting in carriage, these sections seat on two eccentric rods. Rods are factory-adjusted so longitudinal plane of guide is always parallel to probe travel.

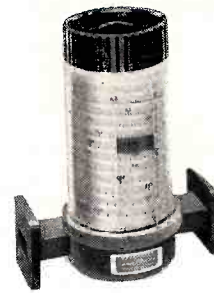
# Equipment below available for most waveguide frequencies



**-hp- 752 Multi-Hole Couplers**

Precision directional couplers available in 3 models with coupling factors of 3, 10 and 20 db. Coupling accuracy  $\pm 0.4$  db except K, R bands which are  $\pm 0.7$  db. Directivity better than 40 db full range, coupling variation not over  $\pm 0.5$  db full range. Primary guide SWR less than 1.05. S, G, J, H, X, P, K, R bands, 2.6 to 40.0 KMC. \$75.00 to \$375.00.

**-hp- X532A Frequency Meters**



5 MC. Resettability 0.01%. \$150.00.

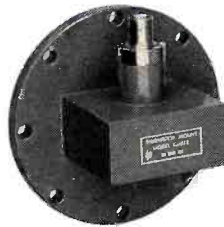
Direct reading, 8.2 to 12.4 KMC X-band wavemeter, highest quality at low cost. Reads direct in KMC, accuracy 0.08%. No interpolation or charts. No sliding contacts; approx. 1.5 db dip in transmitted power at resonance. Scale length approx. 77" calibrated every



**-hp- 382A Precision Attenuators**

Precision broadband attenuation to 50 db. Completely independent of frequency; phase shift constant at all attenuations. Calibrated range 0 to 50 db, maximum error  $\pm 2\%$  of db reading. G, J, H, X and P bands available covering 3.95 to 18.0 KMC. SWR less than 1.15 full range. \$250.00 to \$500.00.

**-hp- 487B Thermistor Mounts**



For fast, accurate waveguide power measurements. Each unit covers full range of its waveguide frequency. No tuning needed, SWR 1.5 max., except K487B, SWR 2.5 max. Max. power 10 mw. Rugged construction, high temperature coefficient thermistors virtually eliminate burnout. For G, J, H, X and K bands, 3.95 to 26.5 KMC. \$75.00 to \$95.00.

For fast, accurate waveguide power measurements. Each unit covers full range of its waveguide frequency. No tuning needed, SWR 1.5 max., except K487B, SWR 2.5 max. Max. power 10 mw. Rugged construction, high temperature coefficient thermistors virtually eliminate burnout. For G, J, H, X and K bands, 3.95 to 26.5 KMC. \$75.00 to \$95.00.



**-hp- 420A/B Crystal Detectors**

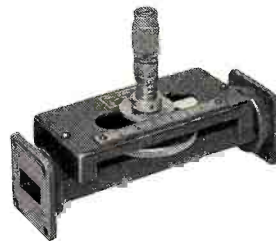
Employs a silicon crystal to detect rf signals in Type N coaxial lines. Covers frequencies 10 MC to 12.5 KMC, sensitivity approx. 0.01 v/0.1 mw, frequency response  $\pm 3$  db full range. Uses modified 1N26 crystal, max. SWR 3. \$50.00 each. Also available in matched pairs as -hp- 420B, \$150.00 pair.

**-hp- 281A Waveguide - Coax Adapters**



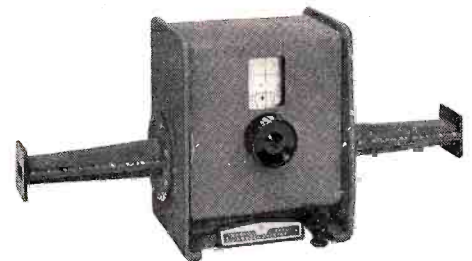
12.4 KMC. \$15.00 to \$65.00.

For convenient transition between waveguide and coax systems. Each unit covers a full waveguide range with SWR less than 1.25. Type N coax plug, AN waveguide flange. For S, G, J, X and P bands, 2.6 to



**-hp- 870A Slide Screw Tuners**

For flattening waveguide systems, matching, etc. Probe position and penetration adjusts to set up SWR cancelling existing SWR. Precision lead screw or micrometer varies probe insertion; vernier adjusts probe position. Corrects SWRs of 20 with accuracy of 1.02 SWR. For S, G, J, H, X, P, K, R bands, 2.6 to 40.0 KMC. \$125.00 to \$225.00.



**-hp- 885A Phase Shifters**

Provide accurate, controllable phase variation throughout frequency band. Ideal for microwave impedance, transmission measurements, antenna and system design. Direct reading, low power absorption, 360° electrical range. For J, X and P bands, 5.3 to 18.0 KMC. \$300.00 to \$400.00.

**-hp- 444A/446A Untuned Probes**



New -hp- 446A, for -hp- 814 Probe Carriage, similar but covers P, K and R bands, 12.4 to 40.0 KMC. -hp- 444A, \$35.00. -hp- 446A, \$145.00.

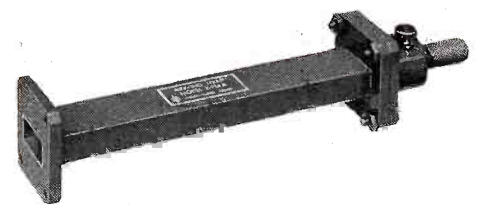
-hp- 444A is modified crystal (1N76 or 1N26) plus small antenna in convenient housing. Probe penetration easily variable; may be locked in position. No tuning needed; sensitivity superior to most elaborate single or double tuned probes. Range 2.4 to 18 KMC; fits  $\frac{3}{4}$ " bore.

**-hp- 485 Detector Mounts**



Three basic series offered; 5485A for S band (no tuning, 1.35 SWR, 821 element); 485B, for G, J, H, X bands (tunable, 1.25 SWR full range, 1N23, 1N21 or 821 element); 485D for S, G, J bands (factory-installed 821 barretter). Also P485C, like 485B but for P band only, has installed 200 ohm 3 mw thermistor. \$75.00 to \$145.00.

Three basic series offered; 5485A for S band (no tuning, 1.35 SWR, 821 element); 485B, for G, J, H, X bands (tunable, 1.25 SWR full range, 1N23, 1N21 or 821 element); 485D for S, G, J bands (factory-installed 821 barretter). Also P485C, like 485B but for P band only, has installed 200 ohm 3 mw thermistor. \$75.00 to \$145.00.



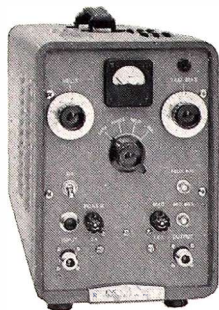
**-hp- 914A Moving Loads**

Waveguide section containing sliding, tapered low-reflection load. Plunger controls position of load; position is variable at least  $\frac{1}{2}$  wavelength at lowest frequency of given band. Residual reflection phase is thus reversed to separate from other minor reflection in the system. For S, G, J, H, X, P, K, R bands, 2.6 to 40.0 KMC. \$50.00 to \$100.00.

Data subject to change without notice. Prices f. o. b. factory.

# Amplifiers for General Use and Fast Circuit Work

## -hp- Travelling-Wave Tube Amplifiers



-hp- offers Traveling-Wave Tube Amplifiers for all frequencies 2 to 12.4 KMC. -hp- 490B, 492A and 494A are low level, high gain amplifiers with 30 and 25 db gain; they offer amplitude, pulse, phase or FM modulation. -hp- 491A is a high power traveling-wave tube amplifier

having a rated output of 1 watt, 2 to 4 KMC. All amplifiers have exclusive -hp- helical coupling system, and employ encapsulated traveling-wave tubes that can be readily replaced. -hp- 490B/491A, \$1,100.00. -hp- 492A/494A, \$1,500.00.

## -hp- 460A/B Fast Pulse Amplifiers

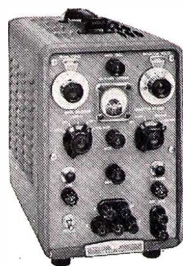


-hp- 460A Wide Band Amplifiers, in cascade with -hp- 460B Fast Pulse Amplifiers, provide up to 90 db gain, 125 v open circuit. This permits direct connection to oscilloscope deflection plates. Rise time 0.0026  $\mu$ sec. Will amplify millimicrosecond pulses. Over 100 MC band width for 'scopes. -hp- 460A, \$185.00. -hp- 460B, \$225.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 450A Amplifier, Stabilized	General purpose lab amplifier	10 cps to 1,000,000 cps	20 and 40 db gain, frequency response $\pm 1/2$ db	\$ 140.00
-hp- 460A Amplifier, Wide Band	Wide band, pulse amplification	100 KC to 140 MC	20 db gain, rise time 0.0026 $\mu$ sec	185.00
-hp- 460B Amplifier, Fast Pulse	Pulse amplification high output	100 KC to 140 MC	15 db gain, 125 peak volts	225.00
-hp- 490B Traveling-Wave Tube Amplifier	Amplification throughout "S" band	2 to 4 KMC	30 db gain; Millimicrosec rise time; 10 mw output	1,100.00
-hp- 491A Traveling-Wave Tube Amplifier	High power "S" band amplification	2 to 4 KMC	30 db gain; millimicrosec rise time; 1 watt output	1,100.00
-hp- 492A Traveling-Wave Tube Amplifier	Amplification through most of "G" and "J" bands	4 to 8 KMC	30 db gain; millimicrosec rise time; 10 mw output	1,500.00
-hp- 494A Traveling-Wave Tube Amplifier	Amplification throughout "X" band	7 to 12.4 KMC	25 db gain; millimicrosec rise time; 5 mw output	1,500.00

## -hp- Regulated and Klystron Power Supplies

### -hp- 715A Power Supply



-hp- 715A is a versatile source of regulated beam and reflector voltage for operating most test bench klystron tubes. Beam voltage 250 to 400 v; reflector voltage 0 to 900 v; 6.3 v filament. Internal, 1,000 cps square wave modulation, and 60 cps sine wave modulation of reflector voltage. \$300.00.

### -hp- 712B Power Supply

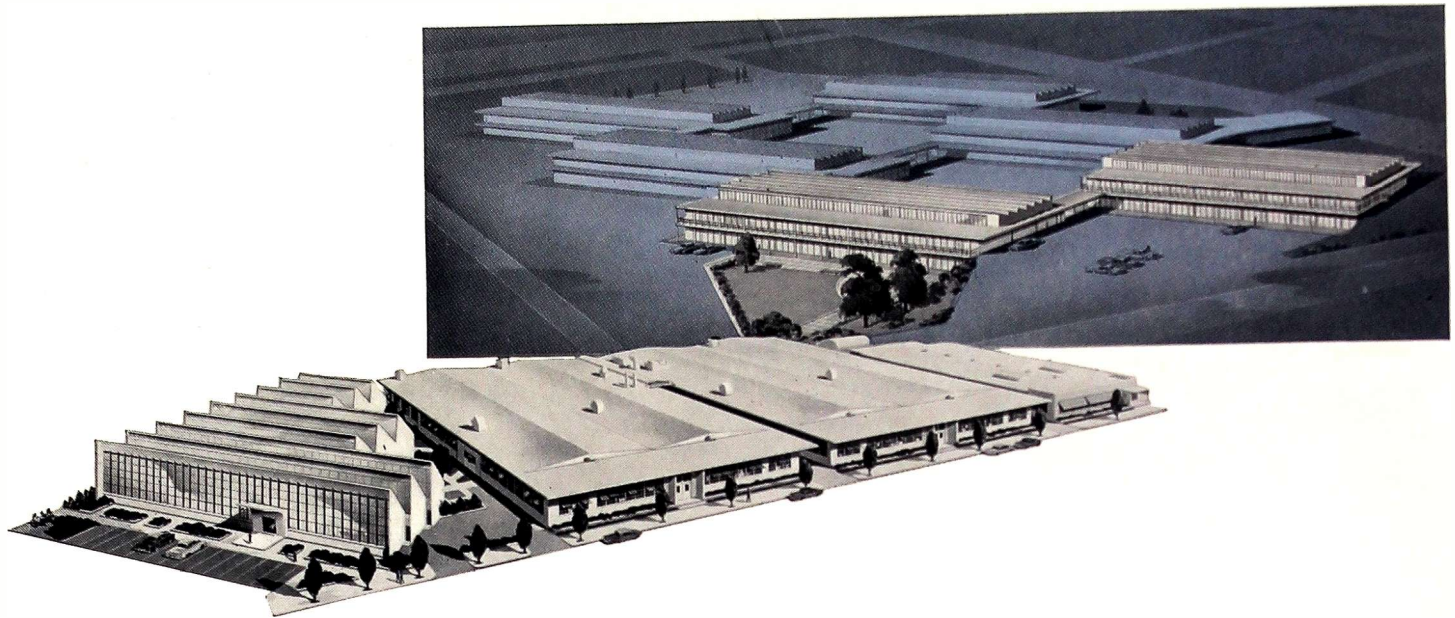


This -hp- instrument features high regulation of 50 mv no load to full load, 0.1 millisecond transient response, internal impedance 0.1 ohms in series with 25  $\mu$ H; full-load maximum

hum less than 500  $\mu$ v, sealed transformers, chokes and condensers. 0 to 500 v, 200 ma supply and fixed -300 v tap providing a 50 ma, 300 to 800 v variable supply for klystron operation. \$365.00 $\Delta$ .

Instrument	Primary Use	Characteristics	Price
-hp- 710B Power Supply	General Purpose regulated dc supply for lab and field use	100 to 360 volts @ 75 ma	\$100.00
-hp- 711A Laboratory Power Supply	Same as 710B	0 to 500 volts @ 100 ma	225.00
-hp- 712B Power Supply	Same as 710B	0 to 500 volts @ 200 ma	365.00 $\Delta$
-hp- 715A Klystron Power Supply	Regulated beam, reflector source for low power klystrons	250 to 400 volts @ 50 ma	300.00
-hp- 717A Klystron Power Supply	Powering Type 5721 klystrons	800 to 1,000 volts @ 25 ma	375.00

$\Delta$ Rack mounted instrument available for \$15.00 less.



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# -hp- Low Frequency, High Frequency Oscilloscopes

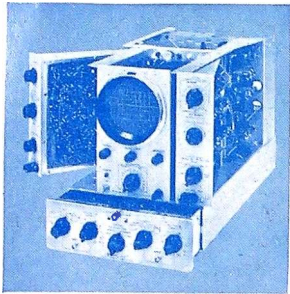
## ◀ -hp- 150A High Frequency Oscilloscope

Dc to 10 MC. Plug-in pre-amplifiers.  
Sweeps 0.02  $\mu\text{sec/cm}$  to 15 sec/cm



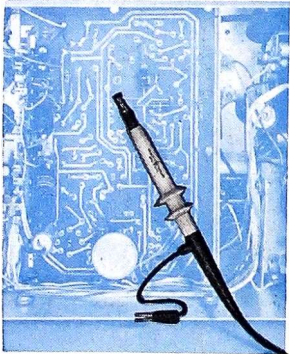
## -hp- 130A Low Frequency Oscilloscope

High sensitivity, dc to 300 KC.  
Sweeps 1  $\mu\text{sec/cm}$  to 12.5 sec/cm



Never before in *-hp-* history have two instruments gained such immediate and wide-spread usage as the all-new *-hp-* oscilloscopes.

Based on a completely fresh philosophy of oscilloscope design, new *-hp-* 130A and 150A establish new standards of oscilloscope usefulness, convenience, dependability. Important feature is universal automatic triggering arrangement where one preset adjustment provides optimum triggering for most conditions. Other appreciated features include direct-reading calibrated sweeps, brilliant, high resolution trace without halo or bloom, etched circuits with unitized construction, concentric, color-coded controls, highest quality components and ultra conservative design, twistoff bezel, easy CRT or filter interchange, tilt bail.



*-hp-* 150A, dc to 10 MC, has plug-in vertical amplifiers offering either high gain or dual trace. The instrument sweeps 0.02  $\mu\text{sec/cm}$  to 15 sec/cm; there are 24 direct reading calibrated sweep ranges. May be triggered internally, by line voltage, or externally. Horizontal amplifier's magnification feature expands horizontal sweep 5, 10, 50 or 100 times. Vertical amplifier has rise time of less than 0.035  $\mu\text{sec}$ ; signal delay permits leading edge of triggering signal to be viewed. For maximum flexibility; 18 calibrating voltages in 2, 5, 10 sequence, 0.2 mv to 100 v peak-to-peak, are available at the front panel.


zontal amplifiers with sensitivity 1 mv/cm to 50 v/cm. Instrument sweeps 1  $\mu\text{sec/cm}$  to 12.5 sec/cm, may be triggered internally by line voltage, or by a 0.5 volt or larger external source. 21 sweep times may be directly set; no interpolation required. Includes input attenuator with calibrated ranges in 1, 2, 5, 10 sequence; continuous adjustment vernier between ranges. Attenuator, plus instrument's high stability, permits use of 130A as millivoltmeter or voltmeter accurate to within 5%.

*-hp-* 130A, dc to 300 KC, has similar vertical and hori-

*-hp-* Model 130AR is similar to the 130A but is designed specifically for rack mounting. This instrument has a x5 magnifier for all internal sweeps increasing the fastest sweep time to 0.2  $\mu\text{sec/cm}$ .

Instrument	Primary Uses	Characteristics	Price
<i>-hp-</i> 130A	General laboratory and production testing	Dc to 300 KC—High sensitivity	\$ 650.00
<i>-hp-</i> 150A	General laboratory high frequency and TV work	Dc to 10 MC—Plug-in vertical amplifiers	1100.00
<i>-hp-</i> 151A	High sensitivity—Plug-in for 150A	Dc to 10 MC—High sensitivity	200.00
<i>-hp-</i> 152A	Dual Trace—Plug-in for 150A	Dc to 10 MC—Presents two phenomena for simultaneous viewing	250.00

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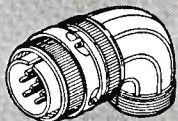
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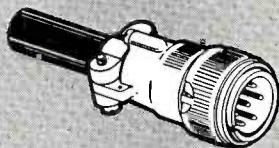
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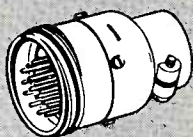


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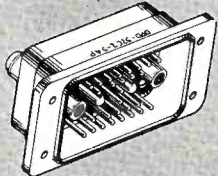
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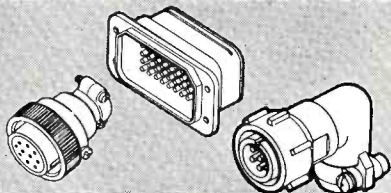
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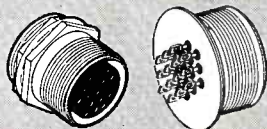


for **RADIO** and  
**SUB-MINIATURE**  
applications



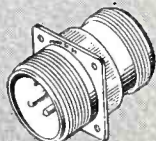
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### SERIES



MODEL KR-16MC

OUTPUT VOLTS DC	6.3V AC	Model	Rack Mount			Price
			W	H	D	
0-150	Each supply	KR16	19"	12 1/4"	17"	\$625
100-200	has two	KR17	19"	12 1/4"	17"	\$625
195-325	15 Amp.	KR18	19"	12 1/4"	17"	\$695
295-450	outputs	KR19	19"	12 1/4"	17"	\$695

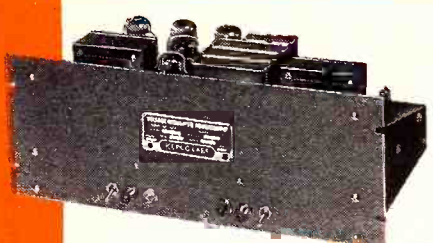
1.5 Amp.  
**KR**  
SERIES



MODEL KR-8M

OUTPUT VOLTS DC	6.3V AC	Model	Rack Mount			Price
			W	H	D	
0-150	Each supply	KR 8	19"	10 1/2"	13"	\$330
100-200	has two	KR 5	19"	10 1/2"	13"	\$240
195-325	10 Amp.	KR 6	19"	10 1/2"	13"	\$240
295-450	outputs	KR 7	19"	10 1/2"	13"	\$250

600 ma.  
**KR**  
SERIES



MODEL KR-4

OUTPUT VOLTS DC	6.3V AC	Model	Rack Mount			Price
			W	H	D	
0-150	Each supply	KR 12	19"	7"	11"	\$270
100-200	has two	KR 3	19"	7"	11"	\$180
195-325	5 Amp.	KR 4	19"	7"	11"	\$180
295-450	outputs	KR 10	19"	7"	11"	\$190

300 ma.  
**KR**  
SERIES



MODEL KR-1C

OUTPUT VOLTS DC	6.3V AC	Model	Rack Mount			Price
			W	H	D	
0-150	Each supply	KR 11	19"	7"	11"	\$180
100-200	has one	KR 1	19"	7"	7 1/2"	\$ 90
195-325	3 Amp.	KR 2	19"	7"	7 1/2"	\$ 90
295-450	output	KR 9	19"	7"	7 1/2"	\$ 97

125 ma.  
**KR**  
SERIES

To Include 3" Current and Voltage Meters, Add M to Model number (e.g. KR 16-M) and Add \$30.00 to the Price.  
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Kepeco **KR** Voltage Regulated Power Supplies are conservatively rated and are designed for continuous duty at 50°C ambient.

**REGULATION:** Less than 0.2 volts for line fluctuation from 105-125 volts and less than 0.2 volts for load variation from 0 to maximum current.

**RIPPLE:** Less than 3 mv. rms.

**STABILITY:** The output voltage variation is less than the regulation specification for a period of 8 hours.

**RECOVERY TIME:** Less than 50 microseconds. The excursion in the output voltage during the recovery period is less than the regulation specification.

**OUTPUT IMPEDANCE:** Less than 0.1 ohms from 20 cycles to 100KC. Less than 0.5 ohms from DC to 20 cycles. Many units have very much lower output impedance.

*featuring*

- Fast recovery time, suitable for square wave pulsed loading.
- Advanced vacuum tube regulator circuitry
- Terminations on rear of unit.
- Voltage range continuously variable without switching.
- Power requirements 105-125 volts, 50-65 cycles.
- Oil filled condensers.
- Either positive or negative may be grounded.
- Locking type voltage control AC, DC switches, fuses, and pilot lights.
- Color Grey Hammettone.
- Guarantee one year.

All models available for 400 cycle operation on special order.

FOR WIDE RANGE UNITS SEE LAST PAGE

# SEMI-CONDUCTOR REGULATED POWER SUPPLIES

- Transistorized (Tubeless) ● Fast Recovery Time ● Good Stability ● Low Output Impedance
- Suitable for Square Wave Pulsed Loading ● Voltage range continuously variable without switching
- Either positive or negative may be grounded
- Power requirements  
105-125 volts  
50-400 cycle
- Terminations on front and rear of unit



Model SC-32-2

## DC POWER SUPPLY SPECIFICATIONS

OUTPUT VOLTS	OUTPUT CURRENT	REGULATION		RIPPLE (RMS)	RACK MOUNT			MODEL
		LOAD 0-MAX.	LINE 105-125		W	H	D	
0-32	0-1 Amp.	10 mv.	10 mv.	1 mv.	19"	3½"	11"	SC-32-1
0-32	0-2.5 Amp.	10 mv.	10 mv.	1 mv.	19"	3½"	11"	SC-32-2
2-32	0-5 Amp.	½%	½%	10 mv.	19"	5¼"	13"	SC-32-5
2-32	0-10 Amp.	½%	½%	10 mv.	19"	8¾"	13"	SC-32-10
2-32	0-15 Amp.	½%	½%	10 mv.	19"	10½"	13"	SC-32-15
15-150	0-1 Amp.	½%	½%	10 mv.	19"	5¼"	13"	SC-150-1
150-300	0-1 Amp.	½%	½%	10 mv.	19"	8¾"	13"	SC-300-1

- Controls on front panel
- Color grey hammertone
- Semiconductor Diode Reference
- High efficiency
- Low heat dissipation
- Compact, light weight
- Short circuit protection

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and Quality

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## SEMI-CONDUCTOR DC to DC CONVERTERS

ARE USED IN CONVERTING LOW VOLTAGE DC TO HIGH VOLTAGE DC FOR OPERATING MOBILE AND AIRCRAFT ELECTRONIC EQUIPMENT.

### Features:

- No moving parts
- High efficiency
- Long trouble-free operating life
- Overload protection
- Compact, light weight

OTHER UNREGULATED AND REGULATED UNITS BUILT TO ORDER

Specifications subject to change without notice

DC OUTPUT VOLTS	DC OUTPUT CURRENT	DC INPUT VOLTS	RIPPLE	SIZE			MODEL
				W	D	H	
325	100 ma.	6	1%	3¾"	3¾"	3¾"	SC325-100-6
325	100 ma.	12	1%	3¾"	3¾"	3¾"	SC325-100-12
325	100 ma.	28	1%	3¾"	3¾"	3¾"	SC325-100-28
325	200 ma.	6	1%	3¾"	3¾"	3¾"	SC325-200-6
325	200 ma.	12	1%	3¾"	3¾"	3¾"	SC325-200-12
325	200 ma.	28	1%	3¾"	3¾"	3¾"	SC325-200-28



KEPCO LABORATORIES, INC.

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# Kepeco

*introduces  
the first in  
a series of*

## **NEW MAGNETIC TUBELESS**

### **VOLTAGE REGULATED POWER SUPPLIES**



**MODEL  
KM 236-15**

## **2-36 VOLTS 15 AMPS.**

*featuring*

**Output voltage within 0.5% during recovery time for line transients 105-125 volts.**

**Short circuit will not damage supply.**

**Full current may be drawn at any voltage from 2-36 volts.**

**OUTPUT VOLTAGE DC:** 2-36 volts continuously variable.

**OUTPUT CURRENT DC:** 0-15 amperes continuous duty.

**REGULATION:** In the range 2-36 volts the output voltage variation is less than 0.5% for line fluctuation from 105-125 volts, and less than 0.5% or 25 millivolts, whichever is greater, for load variations from minimum to maximum current.

**RIPPLE VOLTAGE:** Less than 0.5% or 25 millivolts RMS, whichever is greater.

**FUSE PROTECTION:** Input fuses on front panel.

**OVERLOAD PROTECTION:** An automatic current limiting device allows direct shorting of the output terminals without damage to the supply.

**POWER REQUIREMENTS:** 105-125 volts, 57-63 cycles.

**OUTPUT TERMINATIONS:** DC terminals are clearly marked on the front panel. Either positive or negative terminal of the supply may be grounded. DC terminals are isolated from the chassis. A binding post is available for connecting to the chassis. All terminals are also brought out at the rear of the chassis. Two terminals are mounted at the rear of the chassis to provide for picking up the error signal directly at the load. This connection compensates for the voltage drop in the wires connecting the power supply to the load.

**METERS:** Ammeter: 0-15 amperes, 4" rectangular  
Voltmeter: 0-50 volts, 4" rectangular.

**CONTROLS:** Power on-off switch, DC on-off switch, remote error signal on-off switch, coarse and fine voltage controls.

**PHYSICAL SPECIFICATIONS:** Rack panel construction. Panel height 12¼", width 19", depth 17". Color Kepeco standard gray hammertone. This unit is designed for relay rack mounting or bench use. Carry handles are provided.

**OPERATIONAL CHARACTERISTICS:** This regulated unit consists of a ferro-resonant line regulator followed by a magnetic amplifier regulator. The ferro-resonant line regulator furnishes well regulated transient free AC power. The high gain magnetic amplifier is used to regulate the DC output voltage to compensate for voltage changes in the power unit for varying load currents. The response time for pulse loads is less than 0.2 seconds.

**WRITE FOR SPECIFICATIONS ON 30 and 50 AMP. MAGNETIC SUPPLIES**

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Performance  
Reliability  
and Quality*

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Performance  
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# Kepeco

## VOLTAGE REGULATED WIDE RANGE POWER SUPPLIES

### DC POWER SUPPLY SPECIFICATIONS

OUTPUT VOLTS	OUTPUT CURRENT	REGULATION LOAD 0-MAX.	LINE 105-125	RIPPLE (RMS)	6.3V † AC CT	RACK MOUNT			MODEL
						W	H	D	
0-2500	0.50 ma.	0.1 V	0.2 V	5 mv.		19"	12 1/4"	17"	2500
0-1500	0.200 ma.	0.1 V	0.2 V	3 mv.		19"	21"	13"	1520B ◇
0-1200	0.20 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	10 1/2"	13"	1220B
0-1000	0.500 ma.	0.1 V	0.2 V	3 mv.		19"	26 1/4"	13"	1250B ◇
0-1000	0.50 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	10 1/2"	13"	1020B
0-600	0.3 Amp.	0.1 V	0.2 V	3 mv.		19"	45 1/2"	17"	780B ◇
0-600	0.2.25 Amp.	0.1 V	0.2 V	3 mv.		19"	31 1/2"	17"	770B ◇
0-600	0.1.5 Amp.	0.1 V	0.2 V	3 mv.		19"	31 1/2"	17"	760B ◇
0-600	0.750 ma.	0.1 V	0.2 V	3 mv.		19"	26 1/4"	13"	750B ◇
0-600	0.500 ma.	0.1 V	0.2 V	3 mv.	20 Amp.	19"	10 1/2"	17"	605
0-150 Bias	0.5 ma.	*	10 mv.	1 mv.					
0-600	0.300 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	10 1/2"	13"	615B
0-150 Bias	0.5 ma.	*	10 mv.	1 mv.					
0-600	0.300 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	10 1/2"	13"	500RB
#1 0-600	0.200 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	12 1/4"	17"	800B
#2 0-600	0.200 ma.	0.1 V	0.2 V	3 mv.	10 Amp.				
Parallel #1 & #2	0-600	0.400 ma.	0.1 V	0.2 V	3 mv.				
Series #1 & #2	0-1200	0.200 ma.	0.1 V	0.3 V	5 mv.				
0-600	0.200 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	10 1/2"	13"	815B
0-150 Bias	0.5 ma.	*	10 mv.	1 mv.					
#1 200-500	0.200 ma.	0.2 V	0.2 V	3 mv.	10 Amp.	19"	12 1/4"	17"	510B
#2 200-500	0.200 ma.	0.2 V	0.2 V	3 mv.	10 Amp.				
Parallel #1 & #2	200-500	0.400 ma.	0.2 V	0.2 V	3 mv.				
Series #1 & #2	400-1000	0.200 ma.	0.3 V	0.3 V	5 mv.				
200-500	0.200 ma.	0.2 V	0.2 V	3 mv.	10 Amp.	19"	7"	7 1/2"	245B

OUTPUT VOLTS	OUTPUT CURRENT	REGULATION LOAD 0-MAX.	LINE 105-125	RIPPLE (RMS)	6.3V † AC CT	RACK MOUNT			MODEL
						W	H	D	
#1 0-450	0.300 ma.	0.1 V	0.2 V	3 mv.		19"	12 1/4"	17"	430D
#2 0-450	0.300 ma.	0.1 V	0.2 V	3 mv.					
Parallel #1 & #2	0-450	0.600 ma.	0.1 V	0.2 V	3 mv.				
Series #1 & #2	0-900	0.300 ma.	0.1 V	0.3 V	5 mv.				
#1 0-400	0.150 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	10 1/2"	17"	2400B
#2 0-400	0.150 ma.	0.1 V	0.2 V	3 mv.	10 Amp.				
#3 0-150 Bias	0.5 ma.	*	10 mv.	1 mv.					
Parallel #1 & #2	0-400	0.300 ma.	0.1 V	0.2 V	3 mv.				
Series #1 & #2	0-800	0.150 ma.	0.1 V	0.3 V	5 mv.				
0-400	0.150 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	7"	11"	400B
0-150 Bias	0.5 ma.	*	10 mv.	1 mv.					
0-400	0.150 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	7"	11"	315B
0-150 Bias	0.5 ma.	*	10 mv.	1 mv.					
0-400	0.150 ma.	0.1 V	0.2 V	3 mv.	10 Amp.	19"	7"	11"	141B
0-400	0.150 ma.	10 mv.	10 mv.	1 mv.		19"	10 1/2"	13"	2000B
0-350	0.3 Amp.	0.1 V	0.2 V	3 mv.		19"	26 1/4"	17"	730B
0-350	0.2.25 Amp.	0.1 V	0.2 V	3 mv.		19"	26 1/4"	17"	720B
0-350	0.1.5 Amp.	0.1 V	0.2 V	3 mv.		19"	12 1/4"	17"	710B
0-350	0.750 ma.	0.1 V	0.2 V	3 mv.		19"	10 1/2"	13"	700B
#1 0-300	0.75 ma.	Unregulated	30 mv.	5 Amp.	16"	8"	8"	103 ◇	
#2 0-300	0.75 ma.	Unregulated	30 mv.						
#3 -50 to +50	0.5 ma.	Unregulated	30 mv.						
Parallel #1 & #2	0-300	0.150 ma.	Unregulated	30 mv.					
#1 0-150	0.75 ma.	0.02V	0.1 V	2 mv.	10 Amp.	19"	8 3/4"	17"	450D
#2 0-150	0.75 ma.	0.02V	0.1 V	2 mv.					
Series #1 & #2	0-300	0.75 ma.	0.02V	0.2 V	4 mv.				
0-150	0.50 ma.	0.1 V	0.2 V	3 mv.		19"	7"	7 1/2"	150B
0-60	0.2 Amp.	5 mv.	5 mv.	1 mv.		19"	10 1/2"	17"	2600
0-60	0.5 Amp.	5 mv.	5 mv.	1 mv.		19"	26 1/4"	17"	2650 ◇
0-30	0.500 ma.	10 mv.	10 mv.	3 mv.		19"	10 1/2"	13"	3100B
1-13	0.10 Amp.	1/2%	1/2%	10 mv.		19"	21"	13"	3200B ◇

**REGULATION:** In the output voltage range the output voltage variation is less than the figure shown in the table for line fluctuations from 105 to 125 volts and load variations from 0 to maximum current.

**RIPPLE:** Less than the value shown in the table.

**STABILITY:** The output voltage variation is less than the regulation specification for a period of 8 hours.

**RECOVERY TIME:** Less than 50 microseconds. The excursion in the output voltage during the recovery period is less than the regulation specification for line fluctuations from 105 to 125 volts and load variations from 0 to maximum current. For Models 2000B, 2600, 2650 and 3100B the excursion in output voltage during the recovery time is less than 50 millivolts.

For Model 3200B the recovery time is less than 100 microseconds for line fluctuations and less than 0.1 seconds for load variations, with an output voltage excursion of less than 1 volt during the recovery period.

**OUTPUT IMPEDANCE:** Less than 0.1 ohms from 20 cycles to 100K. Less than 0.5 ohms from DC to 100K. Many units have very much lower output impedance. Write for exact data specifying model.

**\*REGULATION FOR BIAS VOLTAGE:** In the range 0 to 150 volts the output voltage variation is less than 10 millivolts for line fluctuation from 105 to 125 volts. At 150 volts the output voltage variation is less than 1/2% for load variation from 0 to 5 ma. At settings below 150 volts the internal resistance of the supply will increase to a maximum of 25,000 ohms.

† All AC Voltages are unregulated.

◇ These units are supplied in cabinets. The chassis, when removed from their cabinets, will mount directly in to a standard 19" wide relay rack. All units are designed for relay rack mounting or bench use.

All units contain voltage and current meters except Models 103, 315B, 450D, and 2500. The Model 150 contains a voltmeter only.

- Fast recovery time. Suitable for square wave pulsed loading.
- Voltage Range continuously variable without switching.
- Either positive or negative may be grounded.
- Advanced vacuum tube regulator circuitry.
- Oil filled condensers.
- Wire harness and resistor board construction.
- Power requirements 105-125 volts, 60 cycles.
- Terminations on front and rear of unit.
- Voltage controls, AC, DC switches, fuses and pilot lights on front panel.
- Color Grey Hammertone.
- Guarantee one year.

Most models available for 400 cycle operation on special order.

ALL  
MODELS  
FEATURE



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## ALL-ANGL MOUNTS — for jets and missiles

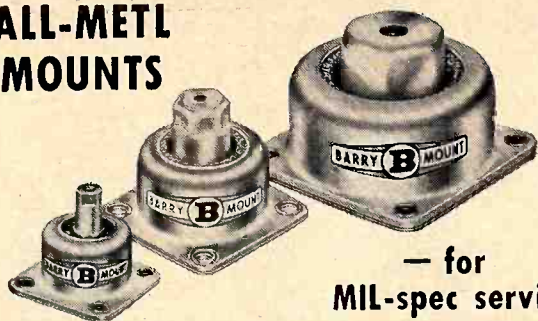
The practical solution to mounting problems in jets and missiles; work at any angle, in maneuvers through every position; have high damping in all directions, low transmissibility at resonance. Built to handle the new jobs that are too tough for MIL-standard mounts. Available in all MIL sizes.

Type	MIL size	Max. load rating
B22	0	3 lbs.
B44	1	10 lbs.
B64	2	40 lbs.

ASK FOR BULLETIN 56-01.



## ALL-METL MOUNTS



— for MIL-spec service

Types M24, M44, and M64. Have non-packing wire-mesh damper; meet latest Government specifications for air-borne electronic equipment; ruggedized; lightweight; operate over wide temperature range; load ratings 0.1 to 40 pounds.

ASK FOR BULLETINS 534, 536, and 542.

## RACKS and MOUNTING BASES



### Standard MIL-C-172B Units

Meet dimensional and material requirements of MIL-C-172B; in special sizes to fit customers' needs. With ALL-METL mounts, ask for Bulletins 534 & 536; with AIR-DAMPED mounts, ask for Bulletin 523-B.

## CUP-MOUNTS



for shipboard, vehicular, and industrial use

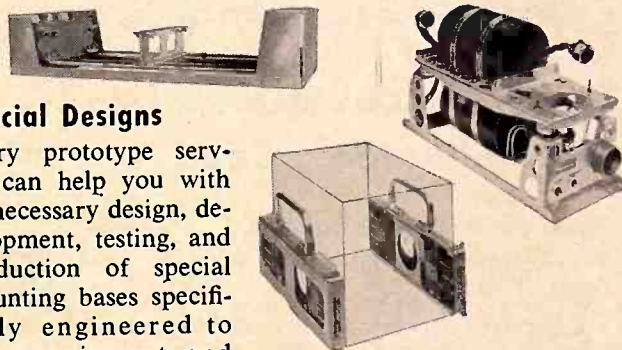
Barry cup-mounts, Series 1000, 2000, 4000, and 3000; protect sensitive equipment against shock and vibration in shipboard, vehicular, railway, and industrial service; load ratings up to 1800 pounds.

ASK FOR BULLETIN 56-02.

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Barry prototype service can help you with all necessary design, development, testing, and production of special mounting bases specifically engineered to your equipment and service requirements. Typical Barrymount® specials using standard isolators, or new integral isolation systems, are shown here. To learn all about this service,

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**AIR-DAMPED MOUNTS**  
for air-borne equipment.  
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for very light loads.  
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**TYPE 5200**  
for shock and vibration isolation.  
Ask for Bul. 541.

  
**TYPE 262**  
for motors and rotary equipment.  
Ask for Bul. 537.

  
**TYPE 670**  
for impact, rotary & reciprocating machines.  
Ask for Bul. 538.



**PRODUCT DIGEST**  
Condensed catalog of Barry mounts; gives sizes, load ranges, basic data, and lists technical articles.

Barry's New Western Division in Burbank, Calif. offers engineering prototypes & short-run production of "specials".

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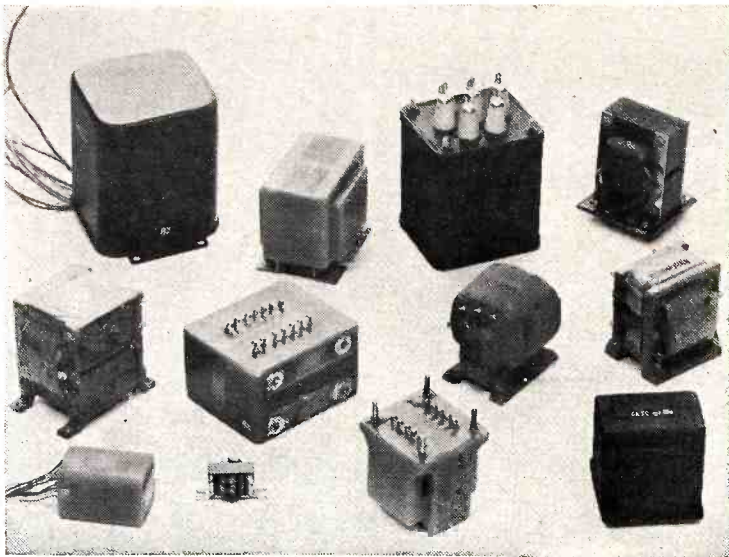
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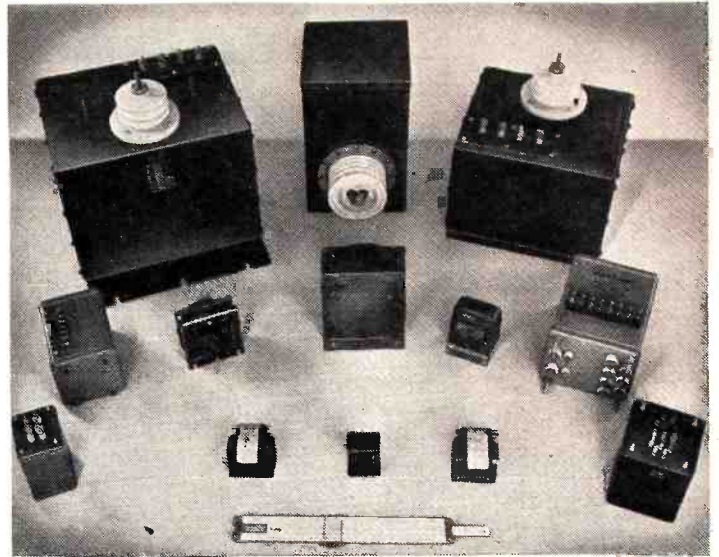
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AUDIO



POWER

# Transformers and Inductors

miniatures

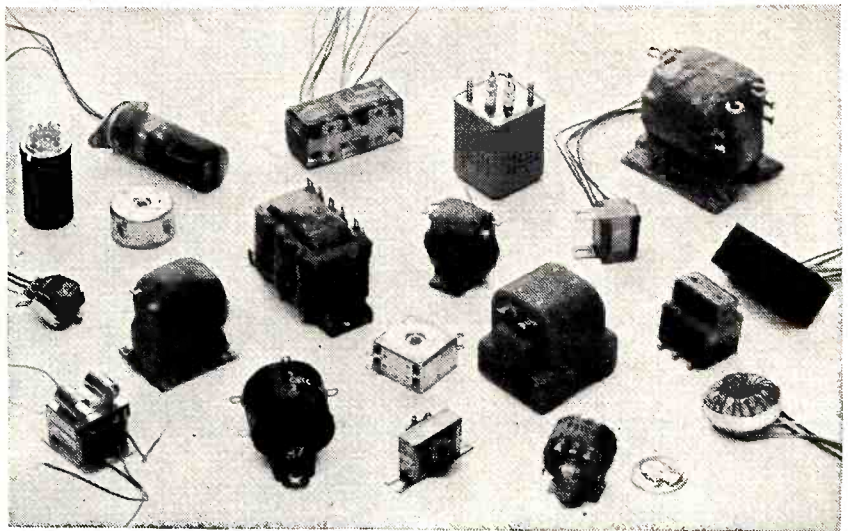
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electronic assemblies

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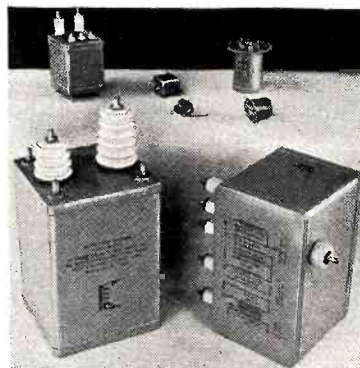
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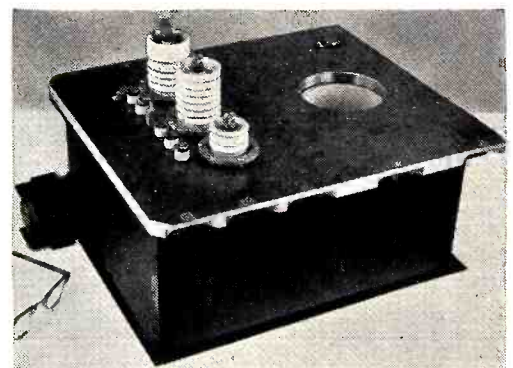
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When you need transformers or other electronic assemblies for special purposes, Caledonia offers:

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2. A streamlined plant, equipped to *produce* your specialty in the quantity you want.
3. Strict standards of quality control, with complete facilities to *test* the product in our plant, including facilities for qualification tests in accordance with MIL-T-27A.



PULSE



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**For Reliable Performance... Stability of Operation... Long Life!**



ACTUAL  
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**MINIATURE LOW LEVEL AUDIO TRANSISTORS (25 mw)**  
**2N207** general purpose micro-miniature low level transistor, typical beta of 100, 15 db maximum noise figure  
**2N207A** 10 db maximum noise figure version of 2N207  
**2N207B** 5 db maximum noise figure version of 2N207  
**T0031** 50 volt version of 2N207  
Special versions of the 2N207 to selected beta ranges are available.

**HIGH FREQUENCY, HIGH GAIN (MICRO ALLOY) TRANSISTOR**  
**T1166** combines high frequency response with high gain for general purpose high frequency applications and switching circuits, typical  $f_{max}$  60 mc

**HIGH FREQUENCY SILICON TRANSISTORS (150 mw)**  
**T1025** general purpose, 10 mc silicon transistor  
**T1159** high speed silicon switch for speeds up to 5 mc characterized by extremely low switch resistance

**HIGH FREQUENCY SURFACE BARRIER TRANSISTORS**  
**SB100** general purpose, minimum  $f_{max} = 30$  mc, beta over 10.5  
**2N344/SB101** general purpose, good beta control (11-33)  
**2N345/SB102** general purpose, higher beta (25-110)  
**2N346/SB103** general purpose, higher minimum  $f_{max}$  (60 mc)  
**2N128** general purpose, with military specifications, beta 19-66, minimum  $f_{max}$  45 mc  
**2N129** general purpose, with military specifications, beta over 11.5  
**2N240** switching transistor,  $f_{\alpha b} > 30$  mc  
**2N299** for tuned amplifiers, military specifications, 20 db minimum power gain at 10 mc, minimum  $f_{max}$  90 mc  
**2N300** for video amplifiers, 50 mc minimum current gain bandwidth product,  $f_{max}$  over 85 mc  
**T1050** high frequency transistor for 50 mc oscillator mixers and 10-15 mc bandpass amplifiers, 22 db typical power gain at 10 mc  
Other types with special parameter controls are available.



ACTUAL  
SIZE

**MEDIUM POWER ALLOY JUNCTION AUDIO TRANSISTORS (100 mw)**  
**2N223** 39-120 beta driver transistor  
**T1000** 45-85 beta version of 2N223  
**T1001** 70-120 beta version of 2N223  
**2N224** high gain output transistor, 2N225 is a matched pair  
**2N226** medium gain version of 2N224, 2N227 is a matched pair  
Versions of the 2N224 with various beta ranges and higher betas are available singly or in matched pairs.



ACTUAL  
SIZE

**AUDIO POWER TRANSISTORS**  
**T1040** 40 volt, 7 watt power transistor, thermal drop  $3^{\circ}\text{C}/\text{w}$  maximum  
**T1041** 40 volt, 10 watt power transistor, thermal drop  $2.5^{\circ}\text{C}/\text{w}$  maximum  
**T1167** 60 volt, 12.5 watt power transistor  
**T1168** 80 volt, 12.5 watt power transistor



Proven performance of Philco Hermetically Sealed Transistors has made them the basis for design in commercial and military applications where reliability is the major consideration. Philco transistors range from the world's smallest germanium transistors now in production to silicon transistors with excellent performance at temperatures from  $-60^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$ .

Philco produces a wide range of transistors designed for special applications in accordance with customer requirements. The Philco Micro-Alloy Transistor is in production. Specifications and design quantities are available. New and exciting transistor types, such as the Philco Micro-Alloy Graded Base Transistor, are now in development. In keeping with our policy, specifications will be made available as soon as these units reach pilot production and are available in design quantities.

**Make Philco your prime source for complete transistor application information... write to Lansdale Tube Company, Dept. 1-2, Lansdale, Penna.**

Regional offices—Merchandise Mart Plaza, Chicago 54, Ill.—10589 Santa Monica Blvd., Los Angeles 25, Calif.

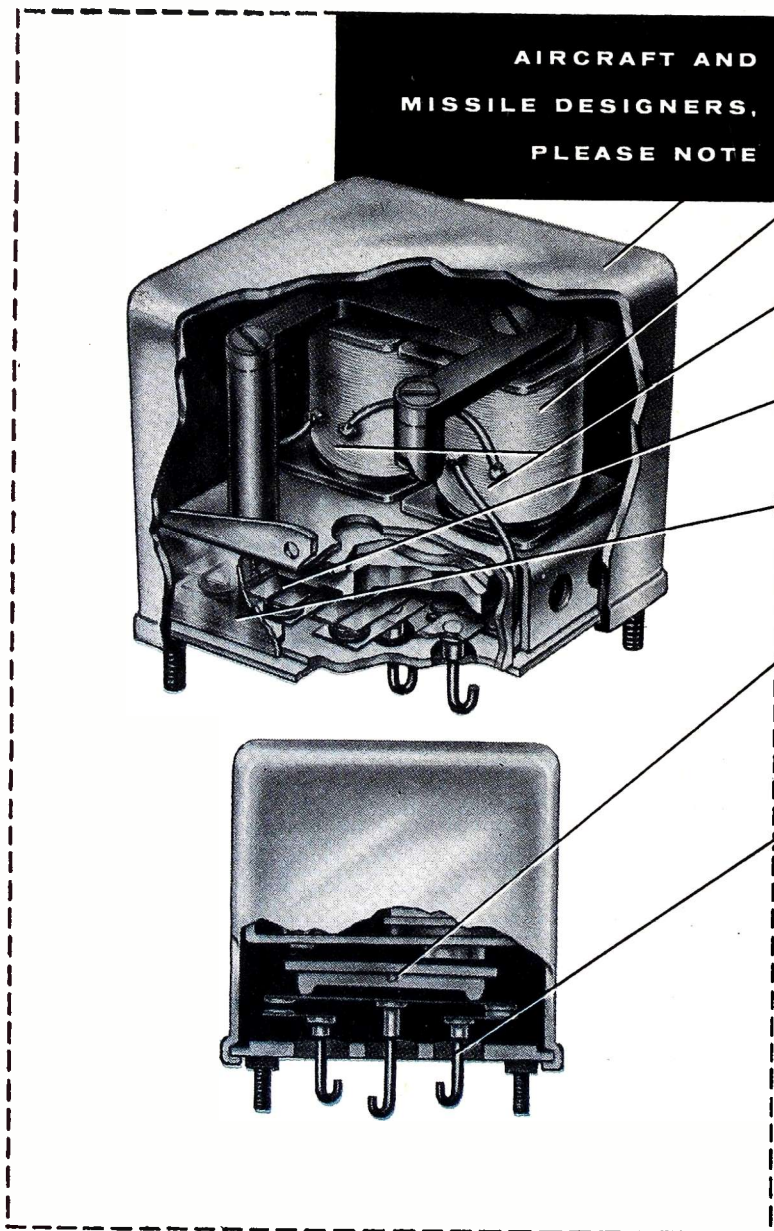
# **PHILCO CORPORATION**

## **LANSDALE TUBE COMPANY DIVISION**

LANSDALE, PENNSYLVANIA

Get unprecedented performance —

See for yourself why the new  
**LEACH BALANCED-ARMATURE RELAYS**  
outperform all other types in resistance  
to shock, acceleration and vibration



AIRCRAFT AND  
MISSILE DESIGNERS,  
PLEASE NOTE

**ONE-PIECE DIE CAST ALUMINUM HOUSING** for maximum strength and vibration resistance with minimum weight.

**MAGNET COIL** wound with Teflon insulated magnet wire on one-piece Kel F bobbin assures reliability at elevated ambients.

**DUAL COIL** construction is the most efficient magnetic circuit for minimum height and maximum resistance to vibration and shock.

**BIFURCATED CONTACTS** assure high reliability in contact making circuits. Overtravel and high contact pressures produced by the pivoted armature result in immunity to shock and vibration.

**ARC BARRIER** of Kel F molded construction provides long arc path for use on 3 phase ac circuits, prevents phase-to-phase flashover.

**BALANCED-ARMATURE DESIGN.** In a *Balanced-Armature* construction, shock and vibration forces cannot cause the relay armature to move. This eliminates faulty operation of contacts due to vibration and shock forces.

**HEADER AND CONTACT ASSEMBLY** features simplified construction which eliminates internal wiring, lowers lead resistance, provides maximum resistance to vibration. Contacts and working parts are readily accessible throughout assembly, so that Leach is able to measure contact gap, contact pressure and overtravel, prior to sealing, on 100 per cent of production. Customers are assured of maximum performance from every production relay. Patent Pending.

**MEETS ALL REQUIREMENTS OF THE MOST EXACTING OPERATING ENVIRONMENTS**

The Leach Balanced-Armature Relays meet or exceed requirements of MIL-R-5757, MIL-R-6106, MIL-E-5272. Typical ratings include: vibration, 20 G's to 500 cps (higher ratings available); shock and acceleration, more than 50 G's; temperature,  $-50^{\circ}$  to  $+125^{\circ}$ C; life, 50,000 continuous operations minimum at rated load; coils, any resistance to 10,000 ohms — also available for 115 vac, 400 cps operation.

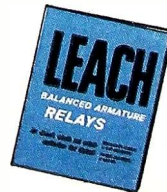
Write today for your copy of the Leach Balanced-Armature Relay Catalog.

**LEACH** CORPORATION

LEACH RELAY DIVISION

5915 AVALON BOULEVARD, LOS ANGELES 3, CALIFORNIA

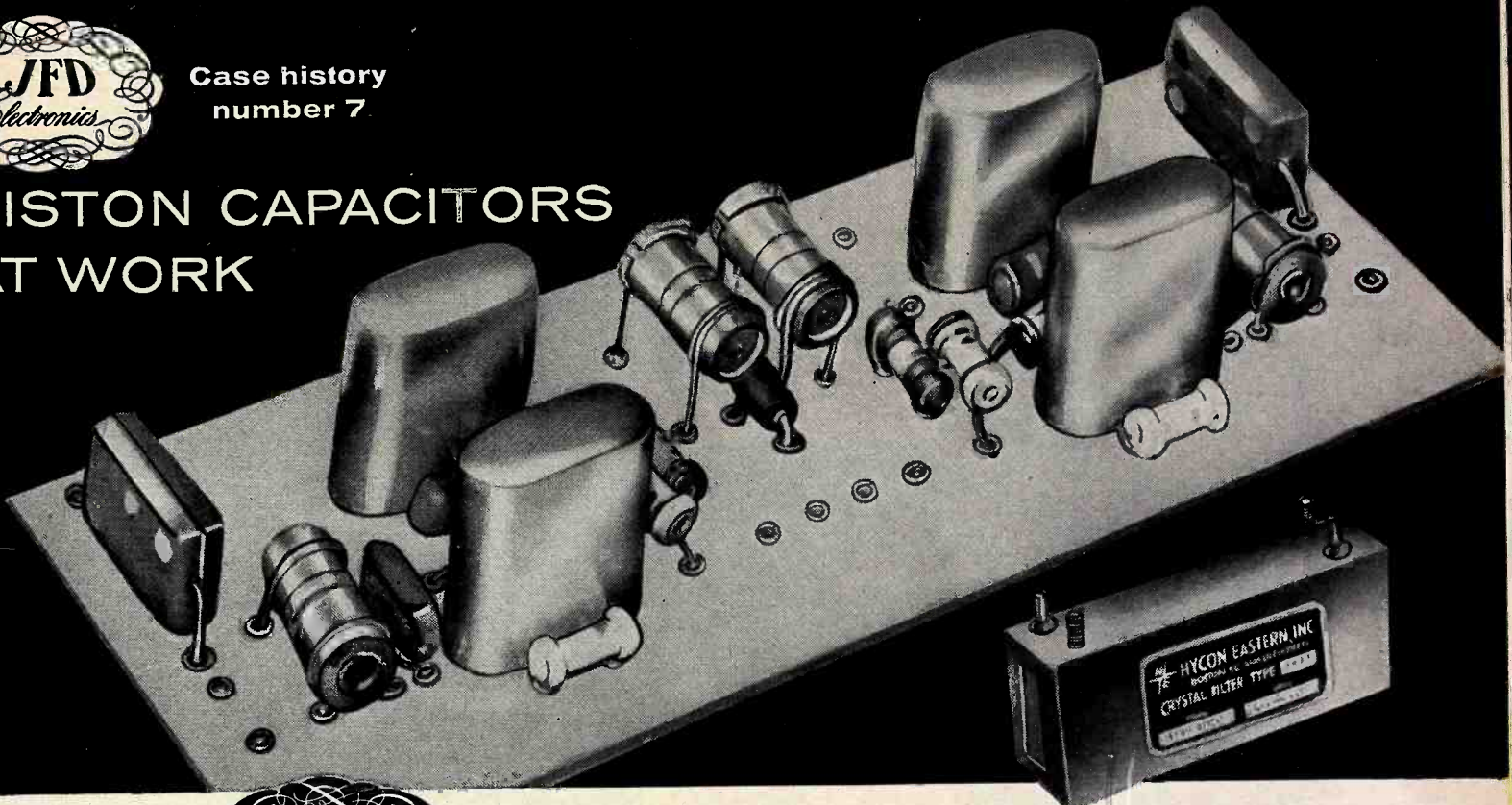
DISTRICT OFFICES AND REPRESENTATIVES IN PRINCIPAL CITIES OF U. S. AND CANADA





Case history  
number 7

# PISTON CAPACITORS AT WORK



**TRIMMERS PROVIDE QUICKER,  
MORE ACCURATE ALIGNMENT,  
GREATER STABILITY IN**

Shown  $\frac{1}{2}$  size  
Crystal Filter Model 13MA

## **HYCON CRYSTAL FILTERS**

HYCON EASTERN, Inc., Cambridge, Mass., elected to use JFD Variable Trimmer Piston Capacitors because of the following advantages:

1. Convenient, smooth tuning adjustment.
2. Stability with temperature variation.
3. Stability under conditions of vibration and shock.
4. Ease of mounting on printed wiring boards.

These are some of the reasons why JFD VC9GW Trimmers are specified in Hycon Eastern Crystal Filters noted for their high stability, extremely sharp cut off and linear transfer characteristic. Used in single side band communication systems, Hycon Eastern Crystal Filters are available to select either the lower or upper side band. In VHF and UHF receivers Hycon filters provide all the required selectivity at the first intermediate frequency, thereby eliminating the complexity of multiple conversions.

JFD Trimmer VC9GW is one of many precision capacitors available to provide the stability, shock resistance, ultra linear tuning and wide operating temperature range necessary in your critical circuits.

Its sub-miniature size is also a welcome asset where space saving is a must in printed or chassis circuits.

Why don't you take advantage of JFD Variable Trimmer Piston Capacitors in solving your circuit tuning problems?

*Write for literature*



actual size

**MODEL VC9GW\***  
(0.8 to 8.5 mmf-glass  
dielectric-invar rotor)  
patent pending



TELE METERING



COMMUNICATIONS

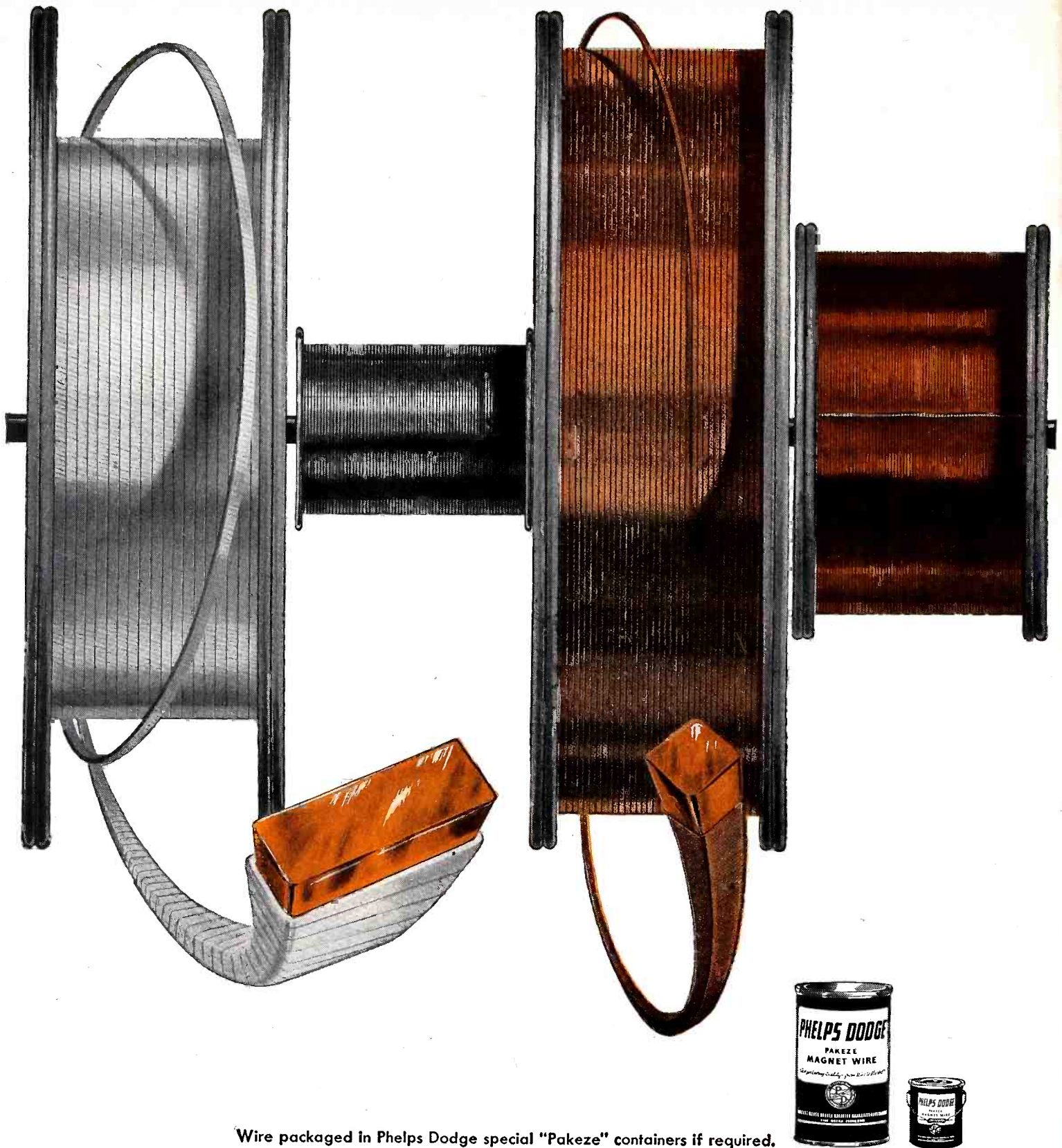


**ELECTRONICS CORPORATION,**

1462-62 STREET.

BROOKLYN, N.Y.

GO FORWARD WITH JFD ENGINEERING!



Wire packaged in Phelps Dodge special "Pakeze" containers if required.

*First for Lasting Quality—from Mine to Market!*



*If it Calls for* **MAGNET WIRE**—*Call on* **PHELPS DODGE** *for*  
**INDUSTRY'S MOST COMPLETE,**  
**MOST UP-TO-DATE LINE!**



Every type of insulation to meet design requirements.

Enamel • Formvar • Sodereze® • Bondeze® • Thermaleze®  
 Grip-eze® • Silicone Enamel • Daglas®  
 Daglas® Silicone • Paper • Cotton • Multiple Combinations



Available in all sizes and shapes—round, square, rectangular.  
 Over 400 different types!



Special emphasis on research and development—your assurance  
 of the latest advances in magnet wire.



Vast background of application engineering experience to help  
 solve your problems.



***PHELPS DODGE COPPER PRODUCTS***  
**CORPORATION**

**INCA MANUFACTURING DIVISION**  
 FORT WAYNE, INDIANA



Sierra 121A Wave Analyzer

### LINE BRIDGING TRANSFORMER

Converts voltmeter and wave analyzer inputs from single-ended to balanced operation. Model 130D bridges both 135 and 600 ohm balanced lines. Frequency range 3 KC to 500 KC. Write for details.

### LINE FAULT ANALYZER



Sierra 124A Line Fault Analyzer

Operates on most open wire power, communications lines. Instantly pinpoints shorts, opens, grounds. Direct reading, easy to use, range 1/2 to 200 miles. Sweep marker continuously adjustable from 5 to 100 miles; locates faults with accuracy of 1/4 mile. Request Bulletin 102.

(Sierra now offers Model 169 Line Coupling Network rated at 5 KV. Ideal for coupling Model 124A to "dead" power lines. Affords protection to personnel and equipment.)

### REFLECTION COEFFICIENT METER

Compact, moderately-priced instrument giving great speed, convenience for measuring coaxial transmission line reflection coefficient, VSWR, or matching loads to line. High accuracy. Sensitivity permits operation with any standard CW signal generator. Provides continuous monitoring at any frequency over the range 32 MC to 1125 MC. Employs Sierra wideband directional couplers to sample incident and reflected voltage. Attenuator calibrated in reflection coefficient and VSWR. Request Bulletin 106.

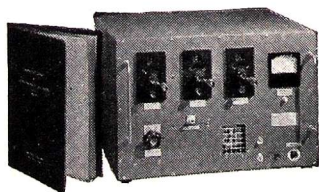
### COAXIAL READOUT DEVICES

Insure sensitive readout for Sierra vhf-uhf Directional Couplers. Model 148 Crystal Detector, low VSWR, higher sensitivity to 1200 MC. Incorporates 50 ohm input impedance and filtered output. Type N input, BNC output connectors. Request Bulletin 113.

### DOUBLE STUB TUNERS

New tuners match to a 50 ohm line any load having a 2:1 VSWR. Three models: 151 (155 MC to 300 MC); 152 (380 MC to 825 MC); 153 (900 MC to 1750 MC). Operates up to 1.5 KW peak power. Request Bulletin 110.

### CALIBRATED RF LOAD



Sierra 141 Calibrated RF Load

Model 141 Variable Impedance Calibrated RF Load provides for direct power measurements from 25 to 250 watts at 2 MC to 30 MC. Load impedance resistance and reactance adjustable over wide range. High accuracy instrument with comprehensive individual impedance calibration charts for all frequencies, or typical charts for general purpose use. Accuracy:  $\pm 5\%$  (impedance magnitude),  $\pm 10\%$  (power). Request Bulletin 105.

## WAVE ANALYZERS

Model	Frequency Range	Selectivity		Accuracy		Direct Reading in dbm	
		Down 3db	Down 45db	Frequency	Measuring	Balanced	Unbalanced
I21A	15 KC-500 KC	$\pm 100$ cps	$\pm 1000$ cps	$\pm 3$ KC	$\pm 2$ db	Note D	600 ohms
I58A	500 KC- 10 MC	$\pm 2000$ cps	$\pm 5000$ cps	$\pm 0.08$ MC	$\pm 2$ db	—	600 ohms

### CARRIER FREQUENCY VOLTMETERS

I01C	20 KC-500 KC	$\pm 550$ cps	$\pm 2900$ cps	Note A	$\pm 3$ db	Note D	600 ohms
I03B†	3 KC- 40 KC	$\pm 400$ cps	$\pm 3000$ cps	$\pm 0.5$ KC	$\pm 3$ db	Note D	600 ohms
I04A	5 KC-150 KC	$\pm 300$ cps	$\pm 1500$ cps	$\pm 1$ KC	$\pm 3$ db	Note D	600 ohms
I08B	15 KC-500 KC	$\pm 550$ cps	$\pm 2900$ cps	$\pm 3$ KC Note B	$\pm 2$ db Note C	I35 ohms Note D	600 ohms
I14A	100 KC-800 KC	$\pm 550$ cps	$\pm 2900$ cps	Note A	$\pm 3$ db	Note D	600 ohms

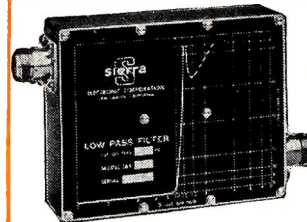
All Models feature built-in calibration oscillators and circuits for level calibration have aural monitoring jacks, and (except I03B) are furnished with Sierra Model I49A Precision Spiral Scale Dials.

†Contains carrier re-insertion oscillator for monitoring suppressed carrier systems. Furnished with planetary drive dial. Note A. Ranges from  $\pm 2$  KC at low end of dial to  $\pm 3$  KC at upper end. Note B.  $\pm 1$  KC in the 48 KC to 256 KC region. Note C.  $\pm 1$  db for + 30 db to -40 db attenuator steps on I35 ohm balanced measurements. Note D. All models may be converted for 135 and 600 ohm balanced line measurements by convenient plug-in bridging transformer, Model 130D.

### IMPEDANCE METER

Sierra Model 166 Carrier Systems Impedance Meter is specifically designed for the measurement of impedances on circuits with high noise levels at any frequency over the range 30 KC to 300 KC. Either high or low power signal sources may be used. Measurements may be made on "hot" power lines through a series carrier coupling capacitor. Request Bulletin 112.

### LOW PASS FILTERS



Model 184 Series Low Pass Filters have an insertion loss of not more than 0.4 db in pass band, sharp cut-off, 1.5 VSWR or less, and rejection greater than 60 db from 1.25 to 10 times cut-off frequency. Five models: for cut-off frequencies of 44, 76, 135, 230, 400 MC.

Power range 250 watts in pass band, 25 watts in rejection band. Request Bulletin 115.

### WIDEBAND DIRECTIONAL COUPLERS

Coupling Factor: (in db  $\pm 1$  db)

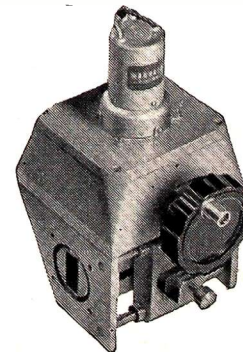
Model	10 KC	3 MC	10 MC	30 MC	100 MC	300 MC	1000 MC	2000 MC
I37, I37A				73	63	53	43	37
I38, I38A				59	49	39	29	
I45		52	42	32	22	12		
I50				53	43	33	23	
I39	50	50						

Directivity: 12 db  $\pm 3$  db greater than coupling factor at each frequency.

Impedance: Models I37 and I38 are 51.5 ohms. Models I37A, I38A, I45 and I50 are 50.0 ohms. Model I39 may be matched to most impedances.

Power: Usable to 1000 watts throughout frequency range.

### PHASE CHANGER



Model 191 Phase Changers, ideal for life-testing tubes, are offered with ac or dc motor for 1 1/4" x 3/8" or 1" x 1/2" waveguides. VSWR preset at 1.5 but adjustable from 1.02 to 1.6. For powers to 200 Kw peak, average power rating 500 watts. Request Bulletin 117.

# SIERRA ELECTRONIC CORPORATION

A Subsidiary of Philco Corporation

# FIELD, LAB POWER MEASURING INSTRUMENTS

## TERMINATION WATTMETERS



Sierra 195A-Z  
Termination Wattmeter

Sierra 185A Series Average Reading Termination Wattmeters and Sierra 195A Series Peak-Reading Termination Wattmeters are broadly useful, dependable new instruments for terminating rf coaxial transmission systems and measuring rf powers. All models are ruggedly built, conservatively rated, and ideal as dummy loads for testing and adjusting transmitters and oscillators. Request Bulletins 120 (average reading) and 121 (peak-reading).

### Model 185A Average-Reading and 195A Peak-Reading Wattmeters

Model Number	Connector	Frequency Range, MC	Power Range, Watts	Accuracy % of F. S.	Max. Power Dissipation	Max. VSWR
185A-15FN	N	20-1000	0-5/15	± 5%	15 watts	1.2
185A-100FN	N	20-1000	0-30/100	± 5%	100 watts	1.2
185A-500FN	N	20-1000	0-150/500	± 5%	500 watts	1.2
Model Number	Connector	Frequency Range, MC	Peak Power Range, KW	Max. Average Power	Pulse Width, $\mu$ sec	Repetition Rate, PPS
195A-Z	N	250-1000	0-1/3/10	15 watts	1.0 minimum	400 minimum
195A-X	LC	250-1000	0-10/30/100	100 watts	1.0 minimum	400 minimum
195A-Y	LC	250-1000	0-100/300/1000	500 watts	1.0 minimum	400 minimum
195A-W*	N	950-1250	0-1 and 0-3	15 watts	3.0 to 5.0	48 to 300
195A-V*	N	450-1250	0-3 and 0-10	100 watts	3.0 to 5.0	300 to 7200
195A-U*	HN	450-1250	0-5 and 0-15	500 watts	3.0 to 5.0	300 to 7200

NOTE: Female connectors are standard. \*Available on special order only.

## BI-DIRECTIONAL POWER MONITORS



Sierra 164  
Power Monitor

Model 164 Series. Two plug-in elements cover 25 MC to 1,000 MC, measure incident and reflected power of 10, 50, 100 and 500 watts full scale. Also four lower power elements covering same range at 1, 5, 10 and 50 watts full scale. Power is read direct on linear scale

accurate within  $\pm 5\%$ . Insertion VSWR less than 1.08 (Type N connectors) except on 1 watt ranges where VSWR is 1.15. 50 ohm impedance. Model 164 available with Type N, Type C or UHF connectors, male or female. Request Bulletin 111.

**Plug-In Elements for Model 164** (Note: Model 164 does not include plug-ins. Order separately as needed.)

**180 Series** — 1, 5, 10, 50 watts full scale

180-52: 25 MC to 52 MC  
180-148: 50 MC to 148 MC  
180-470: 144 MC to 470 MC  
180-1000: 460 MC to 1000 MC

**181 Series** — 10, 50, 100, 500 watts full scale

181-250: 25 MC to 250 MC  
181-1000: 200 MC to 1000 MC

**270 Series** — 50, 100, 500, 1000 watts full scale

270-75: 10 MC to 75 MC

**Accessories Available:** Model 164-LS Equivalent Transmission Line Section; Model 164-CC Carrying Case.

## THERMOPILE

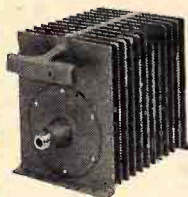


Model 189A Differential Thermopile converts differential temperatures in flowing liquids to electrical energy. Internal resistance approx. 5 ohms, output voltage approx. 1 mv per  $^{\circ}$ C, max. pressure 75 psi. Request Bulletin 119.

## 50 OHM COAXIAL TERMINATIONS

New compact, light weight Model 160 series coaxial terminations feature stable operation over a wide frequency range and up to high ambient temperatures. High surface to volume ratio provide a very low VSWR from dc to 3300 MC.

Model 160-5: 5 watts; Model 160-20: 20 watts; Model 160-100: 100 watts; Model 160-500: 500 watts. Request Bulletin 114.



## CALORIMETER, X-BAND WATER LOAD

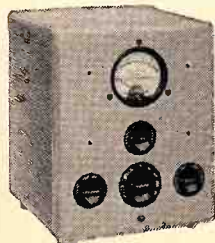


Model 190A Calorimeter and XB187A Water Load provide fast, accurate power measurement from a few watts to kilowatts. Accuracy  $\pm 2\%$ . Calorimeter ranges 300, 600, 1,500, 3,000 watts, max. 50 psi, sensitivity 1.5 mv. Water Load range 7 KMC to 10 KMC, VSWR less than 1.2, power 1 Kw CW, 300 Kw peak. Request Bulletin 116.

## MODEL 194A-A PEAK-READING POWER MONITOR

New bi-directional instrument for radar and other pulsed measurements. Quickly measures incident and reflected powers. Measures peak power directly, independently of duty cycle. Write for Bulletin 122.

## IONIZATION GAUGE AND AMPLIFIER



Model 193A Ionization Gauge and Model 192A Ionization Gauge Amplifier provide convenient, dependable and accurate monitoring of pressures during processing from  $10^{-1}$  to  $10^{-7}$  mm Hg. Monel-encased Phillips type ion gauges operate for months without attention; amplifier includes high voltage rf power supply, VTVM, heater transformer and low voltage supply. Request Bulletin 118.

Data subject to change without notice.

**MENLO PARK, CALIFORNIA, U. S. A.**

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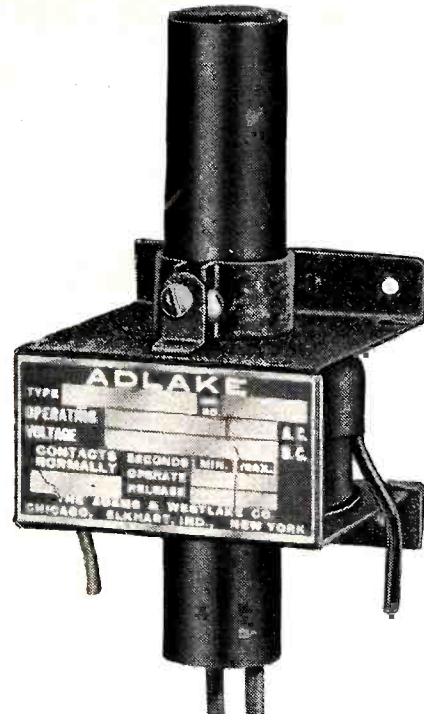
Typical advanced relays

from the complete

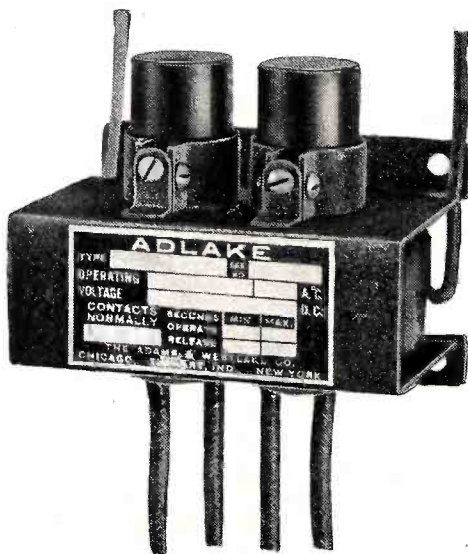
# Adlake



1040 MODEL



1101 MODEL



1123 MODEL



1140 MODEL

# line of mercury plunger-type relays

## 1040 MODEL

Contact arrangement: Normally open or Normally closed. Single pole—Single throw

Available in:

Time delay types of    Slow operate—Quick release  
                                   Slow operate—Slow release  
                                   Quick operate—Slow release

Maximum time delay: 20 minutes

Contact rating: Time delay relays to 15 amps.

Load type: Quick operate—Quick release

Load relays to 50 amps. Non-inductive, 115 v, 60 cy.

Voltage Coil: Up to 440 volts A.C. (25-50-60 cy.)

Maximum size: Height 5<sup>5</sup>/<sub>8</sub>"—width 2<sup>1</sup>/<sub>2</sub>"—projection 2-19/32"

Also available in quick acting, contact normally open or contact normally closed.

## 1101 MODEL

Available with same features as Companion 1040 Model. Complete information on all relays illustrated available on request. Height is 5<sup>1</sup>/<sub>2</sub>".

## 1123 MODEL

Double Pole Load Relay

(Also available with time delay contacts)

Contact Arrangement: 2 contacts Normally open or  
                                   2 contacts Normally closed  
                                   Double pole—Single throw

Contact rating: Time delay contacts up to 15 amperes. Load relays to 50 amperes. Non-inductive 115 v, 60 cy.

Voltage Coil: Up to 440 v., 50/60 cy. or 220 v. d.c.

Maximum size: Height, 3<sup>3</sup>/<sub>4</sub>"—width, 3<sup>3</sup>/<sub>4</sub>"—projection, 2<sup>5</sup>/<sub>8</sub>"

## 1140 MODEL "MIGHTY MIDGET"

Contact Arrangement: Normally open or normally closed—Single pole—Single throw.

Available in: Quick acting load type only.

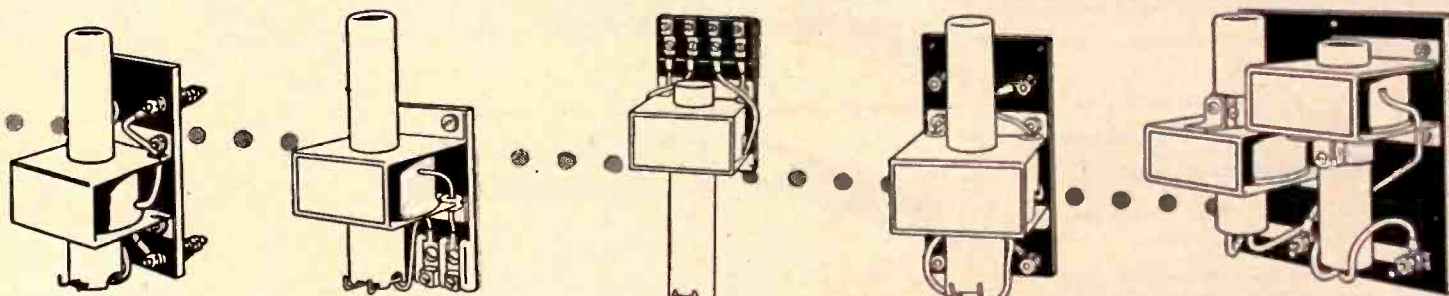
Contact rating: 30 amperes non-inductive 115 volts, 60 cy.

Voltage Coil: Up to 440 v, 60 cy. and 220 v. d.c.

Maximum size: Height, contact normally closed, 3<sup>7</sup>/<sub>8</sub>"; contact normally open, 4<sup>1</sup>/<sub>4</sub>"—width 2-17/32"—projection 2<sup>3</sup>/<sub>8</sub>".

Equipped with compression type terminals to simplify installation.

### Special mounting arrangements for Adlake mercury plunger type relays



(A) Type No. 1040

(B) Type No. 1040

(C) Type No. 1040

(D) Type No. 1040

(E) Type No. 1101

(A) Type No. 1040—Normally open relay with back panel equipped with screw terminals for back connecting. (No. 1040-83 series)

(B) Type No. 1040—Normally open time delay or quick-acting relay with back panel equipped with compression type terminals. (No. 1040-44 series)

(C) Type No. 1040—Normally closed time delay or quick-acting relay with back panel equipped with compression type terminals. (No. 1040-45 series)

(D) Type No. 1040—Normally open time delay relay with back panel equipped with screw terminals for front connecting. (No. 1040-85 series)

(E) Type No. 1101—Double unit relay assembly. Can be made with two-time delays, or time delay and load relay, or two-load relays. (No. 1101-53 series)

These are but a few of the possible mounting arrangements. Our engineering department is at your disposal to assist in developing any ideas to fit your requirements.

For complete details of the broad ADLAKE Relay line, send for your copy of the new ADLAKE Relay Catalog. Address: The Adams & Westlake Company, 1953 N. Michigan, Elkhart, Indiana. In Canada, write Powerlite Devices Limited, of Toronto.

## The Adams & Westlake Company

Established 1857 • ELKHART, INDIANA • New York • Chicago

the original and largest manufacturers of mercury plunger-type relays



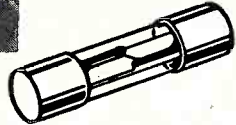
# You'll find the Type and Size Fuse you need

## • • • IN THE COMPLETE LINE OF BUSS AND FUSETRON FUSES

The following is a representative selection of the complete BUSS line of fuses that includes standard, dual-element (slow blowing), renewable and one-time types — in sizes from 1/500 ampere up . . . plus a companion line of fuse clips, blocks and holders.

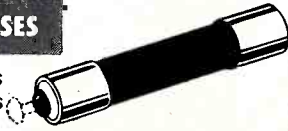
### BUSS AGX FAST ACTING FUSES

1/4 x 1 in. Glass tube 1/500 to 2 amp.



### BUSS IBM SIGNAL ACTIVATING FUSES

1/4 x 1 1/4 inch. Silverplated pin pops out when fuse is blown and activates signal or alarm.



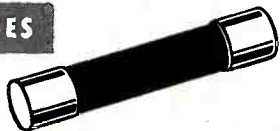
### FUSETRON MDL FUSES

1/4 x 1 1/4 inch. Dual-element — slow blowing type 1/100 to 30 amp.



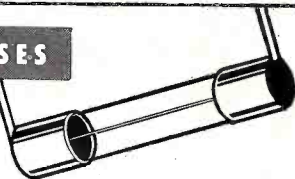
### BUSS ABC CERAMIC TUBE FUSES

1/4 x 1 1/4 inch. High interrupting capacity fuses 1/4 to 30 amp.



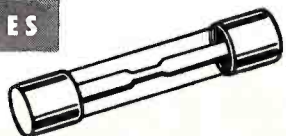
### BUSS GJV PIG TAIL FUSES

1/8 to 6 amp. Solder into circuit wires.



### BUSS SFE STANDARD FUSES

Fuses of different amperages are different lengths — to make it impossible to insert too large a size.



### FUSETRON FNM FIBRE TUBE FUSES

1 3/32 x 1 1/2 inch. Dual-element — slow blowing type.



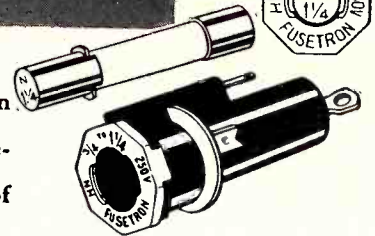
### FUSETRON TYPE N and TYPE C FUSES and FUSEHOLDERS

Especially suitable for protection of TV

Ears on fuses match slots in holder.

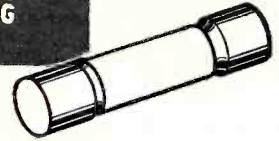
Marking on fuse and fuseholder in direct view.

Safeguard against use of wrong size and type of fuse.



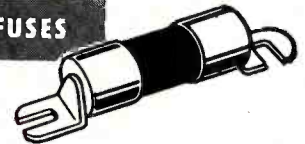
### BUSS KLM HIGH INTERRUPTING CAPACITY FUSES

1 3/32 x 1 1/2 inch. Capable of safely interrupting 68,000 amps.



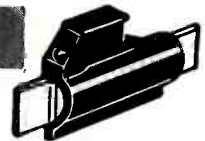
### FUSETRON ACK CLAMP TYPE FUSES

20 to 300 amp., Dual-element type.



### BUSS ACO AIRCRAFT FUSES

Mechanical Indicating — Limiter type 1 to 75 amp.



### BUSS Series HJ and HK Non-Indicating FUSEHOLDERS

Panel mounted for 1/4 x 1 inch and 1/4 x 1 1/4 inch fuses.



### BUSS Series HJ and HK Lamp Indicating FUSEHOLDERS

Panel mounted for 1/4 x 1 inch and 1/4 x 1 1/4 in. fuses.



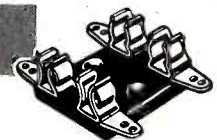
### BUSS No. 4051 ONE-PIECE CLIP and TERMINAL

Solder type terminal for 1/4 inch fuses.



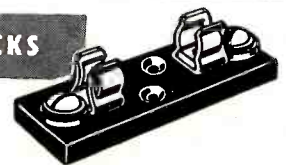
### BUSS No. 4409 FUSE BLOCKS

Small Base, solder type Side Terminals.



### BUSS No. 4512 FUSE BLOCKS

Full Base, Screw type Terminals.



For more detailed information to help you select fuses and fuseholders to meet your electrical protection needs . . . Write for bulletin SFB.

Or tell us your problem and let our Fuse Engineers assist you in getting the protection you require.

**BUSSMANN MFG. CO.**  
(Div. of McGraw-Edison Co.)  
University at Jefferson  
St. Louis 7, Mo.



Makers of a complete line of fuses for home, farm, commercial, electronic and industrial use.

# NEED A *Special* REGULATED POWER SUPPLY ?

**MERCURY** can supply any input voltage — output voltage — current — regulation — ripple — size — finish — quantity.

For a long time the MERCURY organization has been designing and producing reliable REGULATED POWER SUPPLIES for general use. These units were considered catalog items although frequently modifications were made to suit customers requirements.

In recent years we have received many inquiries for SPECIAL POWER SUPPLIES. Now we have established a new department to handle these special requirements of our customers. You are invited to submit inquiries relative to your special problems. All inquiries will receive a prompt reply.

Some typical units designed and manufactured by **MERCURY**



**Electronic Inverter**  
 Input: 220 V. D.C.  
 Output: 115 V. A. C. 60 Cycles  
 1000 Watts  
 Regulation: 5%  
 Special Features included  
 Size, weight, shape, finish  
 and application



**Model 508-A**  
 Input: 117 volts AC  
 50/60 cycles  
 Output: 0-600 volts DC at  
 1 amp.  
 Regulation: .25% from  
 10-600 volts



**Model 721-A**  
 Input: 117 volts AC  
 50/60 cycles  
 Output: 0-500 volts DC at  
 300 Ma.  
 Regulation: .25% from  
 10-500 volts



**Model E-1A Converter**  
 400 cycle Regulated Power  
 Supply  
 Input: 110 volts AC  
 380/1000 cycles  
 Output: 300 volts DC at  
 400 Ma.  
 Regulation: 1% at 300 volts  
 300 volts  
 Ripple: 80 millivolts



**Model E-1B Converter**  
 400 cycle Regulated Power  
 Supply  
 Input: 117 volts AC  
 380/1000 cycles  
 Output: 150 volts DC at  
 100 Ma.  
 Regulation: .1% at  
 150 volts  
 Ripple: Less than 3 millivolts

DEVELOPMENT

DESIGN

PRODUCTION

**Model 610-A**  
 Regulated Power Supply  
 Input: 117 volts AC  
 50/60 cycles  
 Output: 0-600 volts DC at  
 600 Ma.  
 Regulation: .25% from  
 10-600 volts  
 Ripple: 5 millivolts



## STANDARD ITEMS TOO!

MERCURY, long a recognized leader in the Continuously Variable Regulated D. C. Power Supply field, would like to send you their latest catalog of Standard Regulated Power Supplies and related items.

May we have your name and address?

# MERCURY

electronic company

Designers — Developers — Producers of Electronic Equipment

RED BANK, NEW JERSEY

We'll prove **ART WIRE'S**  
 highspeed automatic production  
 means **UNIFORM PRECISION...**  
**LOWER UNIT COSTS!**

SEND BLUEPRINT  
 OR SAMPLES  
 FOR ESTIMATE

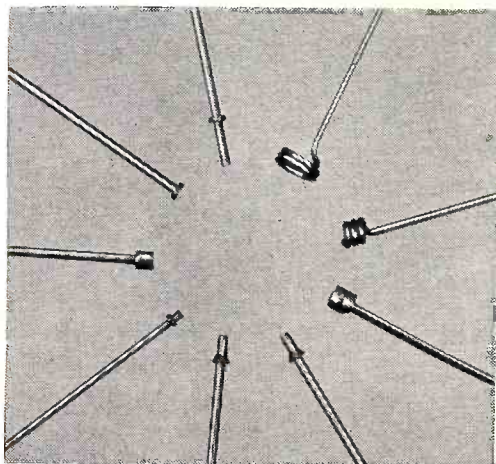
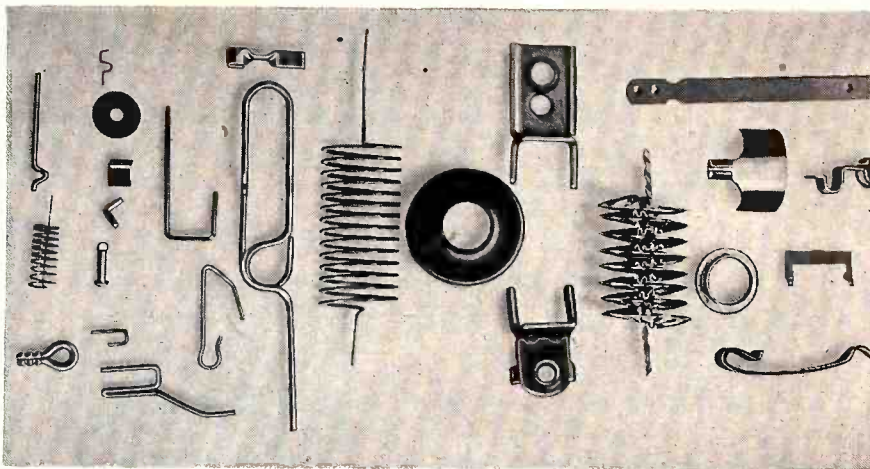
## WIRE FORMS AND METAL STAMPINGS

**Straightening and Cutting:** Perfect straight lengths to 12 ft. Diameters: .0015 to .125.

**Wire Forms:** .0015 to .125 diameter.

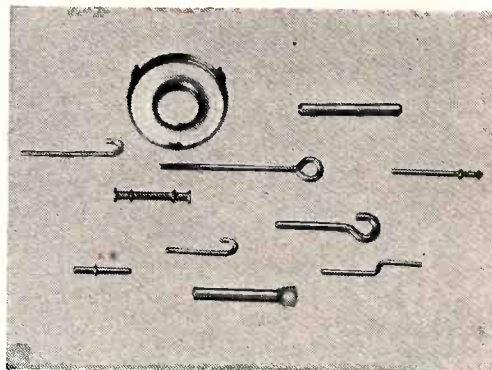
**Small Metal Stampings:** .0025 to .035 thickness, .062 to 3 inches wide.

We specialize in production of parts for electronic, cathode ray tubes and transistors.



### TERMINAL LEADS FOR RESISTORS, TRANSISTORS, CAPACITORS, ETC.

These components can be supplied with coiled heads, flatted heads, wound heads, heads upset and flanged—with wide possibilities for variation in size and length.

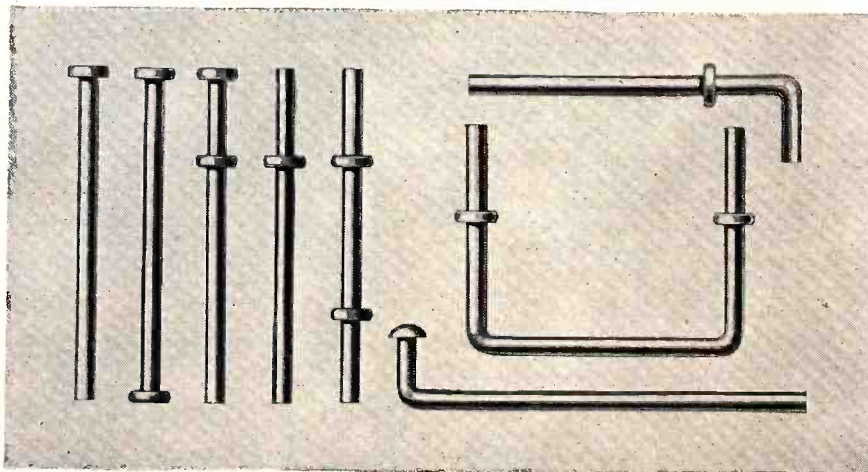


### FOR THE HERMETIC SEAL INDUSTRY

Headed pins, flanged pins, base pins. Straight wires with rounded ends. Parts made of Kovar, Rodar, Therlo and other glass seal alloys.

## UPSET PINS

Continuous uniformity from the first to the millionth unit. In a wide variety of metals and alloys, diameters from .010 to .090. Thickness of upset flange on head can vary from .010 inch on fine wire to .062 inch on heaviest wire. Flanges precision-positioned to your specifications. Flanges and heads with rounded edges.



Send for literature  
 with complete information.

**art wire and stamping co.**

18 Boyden Place, Newark, New Jersey

Important Question No. 3



Which company offers maximum savings on custom-built delay lines?



In delay lines you waste money if "over-specification" of custom engineering service and lab facilities is the field. ESC specializes in fixed and variable delay lines with realistic and economical well-stocked equipment backlogs.

- 1st in sales!
- 1st company devoted to manufacture of delay lines
- 1st in research, design and development of custom-built delay lines
- 1st to submit the most complete laboratory reports with all custom-built delay line prototypes

Exceptional employment opportunities for engineers experienced in pulse techniques  
ESC CORPORATION 534 BERGEN BOULEVARD

Important Question No. 2



Who submits the most complete laboratory reports with all custom-built delay line prototypes?



It is a known fact that ESC Corporation submits the most complete laboratory reports. Each report includes submitted electrical input and output pulse shape and output characteristics of the electrical characteristics.

- 1st in sales!
- 1st company devoted to manufacture of delay lines
- 1st in research, design and development of custom-built delay lines

Exceptional employment opportunities for engineers experienced in pulse techniques  
ESC CORPORATION 534 BERGEN BOULEVARD

Important Question No. 1



Who produces more custom-built delay lines than any other company in America?



- 1st in sales!
- 1st company devoted exclusively to the manufacture of delay lines!
- 1st in research, design and development of custom-built delay lines!

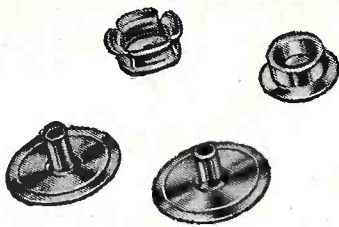
Exceptional employment opportunities for engineers experienced in pulse techniques  
ESC CORPORATION 540 BERGEN BOULEVARD • PALISADES PARK • NEW JERSEY

MANUFACTURERS OF CUSTOM-BUILT AND STANDARD-CATALOGED...

- LUMPED-CONSTANT DELAY LINES
- DISTRIBUTED CONSTANT DELAY LINES
- VARIABLE DELAY NETWORKS
- PULSE TRANSFORMERS

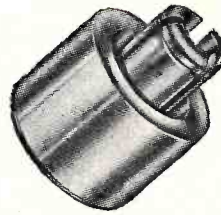
ESC CORPORATION 534 BERGEN BOULEVARD • PALISADES PARK • NEW JERSEY

# Tailor-Made Fasteners in Volume Quantities



## MINIATURE BATTERY CONNECTORS

For use with small "B" batteries; afford quick and positive polarized electrical connections and worthwhile space savings on small electronic equipment.

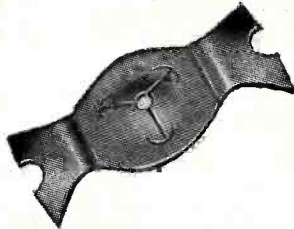


## POLYETHYLENE MOUNTING FOOT

No mar no scratch glide for use on TV receivers, record changers and small appliances. Assembles into round hole in either wood or metal cabinets.

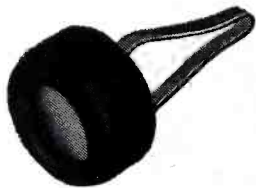
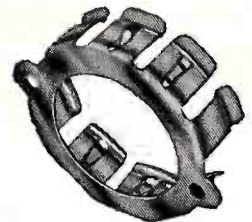
## FISHTAIL RATCHET PLATE

Made in a wide range of sizes to hold on smooth metal, die-cast or plastic studs. For use on refrigerators, radio cabinets, washing machines and other products to hold medallions, name plates, etc.



## VIBRATOR GROUNDING FASTENERS

Holds 1 1/2" dia. beaded or non-beaded vibrator. Vibrator Can grounded to chassis. Holding prongs designed to hold several types of Cans.



## RUBBER FOOT

Snap-in Rubber Foot for Record Changers and Phonograph Mountings eliminates threaded member, lock washer and nut thereby speeding assembly time and reducing costs.

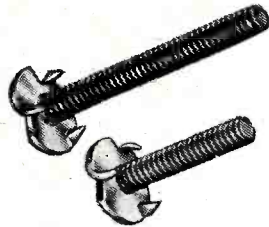


## NYLON COIL NUT

Designed to snap into a TV tuner and receive a 4-40 or 4-48 coil adjusting screw. No coil form or coil form fastener required.

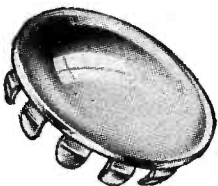
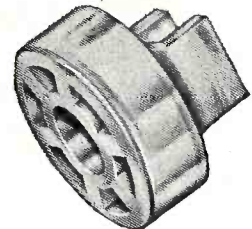
## SPEAKER MOUNTING BOLT

Pronged head prevents bolt from turning in speaker panel during application of nut and lock washer, permits one-side attachment providing production-line savings.



## NYLON SNAP-IN NUT

Serves as insulator between "hot TV chassis" and cabinet. Snaps into square chassis hole and secures to cabinet with sheet metal screw.



## PLUG BUTTONS

Made to snap into hole sizes 1/8" to 3". Can be embossed with ornamental or functional designs. Removable. Supplied with various finishes, in a variety of shapes and sizes.

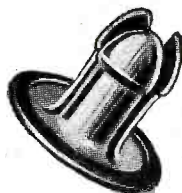


## QUICKEY FASTENER

Eliminates need for welding or swaging studs to sheet metal stampings, facilitates nesting, eliminates damage in transit because Quickey snaps in just before final assembly.

## TRIMOUNT STUDS

Designed to hold two or more thicknesses of material together. Easily installed by hand. Insure vibration proof attachment. Permanent or removable attachment. Wide variety of shapes and sizes.

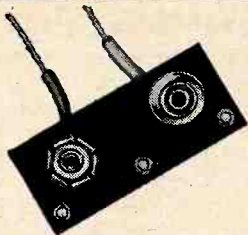


**DOT**

Parts illustrated are representative of the thousands of different specialized fasteners and allied devices designed and manufactured in volume by United-Carr and its subsidiaries for leading manufacturers of electronic equipment. United-Carr's wide and varied experience with special fastening problems in the automotive, aviation and appliance fields provides an unequalled background of technical knowledge which may well be applicable to your special needs.

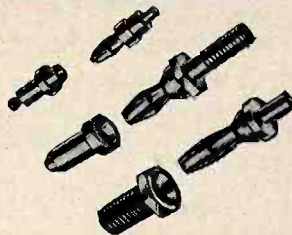
**UNITED-CARR**  
FASTENER CORP.  
CAMBRIDGE 42, MASSACHUSETTS

# Ucinite Electrical Assemblies



## BATTERY CONNECTORS

Wired snap-on units for use with batteries equipped with United-Carr electrical snap fasteners. Wiring to customer's specifications.

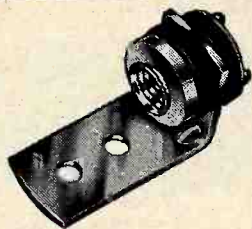


## BANANA PINS

Four sizes of plugs with one-piece beryllium copper springs. Adaptable mounting ends in threaded, staking, or solder lug types. Similar Mating Jacks also available.

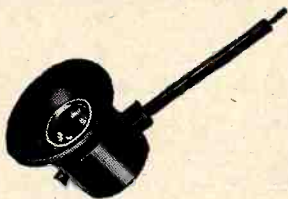
## SHOCK MOUNTS

Offered in several sizes — brackets and durometer of rubber bushings can be varied. With threaded Teenuts or plain bushings. Insulated versions if needed.



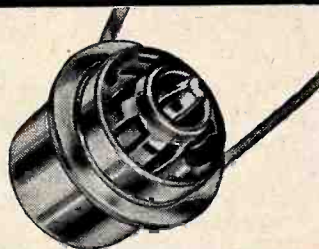
## ANODE CONNECTORS

Plug button contacts for positive firm connections. Corona resistant neoprene or silicon shields in straight or right angle types. Wiring to customer's specifications.



## TUBE CAPS

Positive gripping, heat treated steel springs in corona resistant metal housing. Insulated or non-insulated. Wired to specifications. Type shown has silicon shield for special application.

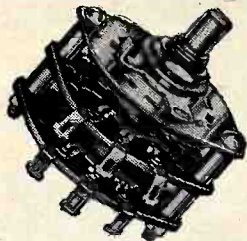


## MAGNETRON CONNECTORS

For heater and heater cathode terminals of magnetrons. Available in many variations to answer specific needs.

## SWITCHES

Oak type switches manufactured as a licensee. Variety of rotary and push-button assemblies to specifications.



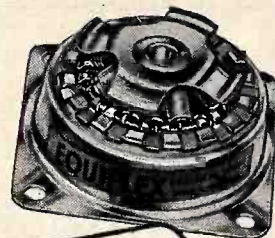
## SNAP SWITCHES

Precision, momentary contact push-button switches. Small and dependable. Several circuit arrangements. Water tight version shown.



## TEST JACK

Ucinite's quality jack for .080 probes. Beryllium copper contacts. Nylon insulation in colors. Metal shell for firm dependable mounting.

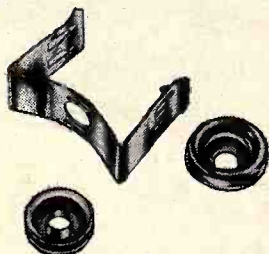


## VIBRATION ISOLATORS

Equiflex (1 to 1 ratio) metal mounts ensure long life, fit small spaces, can be used in any direction. Three sizes, cup or plate mountings.

## METAL STAMPINGS

Volume production in Metal stampings. Years of engineering and tooling skill available to solve your particular problem.



With years of specialized experience in the electronics field and complete facilities for the volume production of small metal stampings as well as the assembly of metal to plastic and ceramic components, Ucinite is fully equipped to supply you with special electrical parts and assemblies...designed, assembled, wired and marked to your specifications. For complete design, engineering and production service, call your nearest Ucinite field engineer.

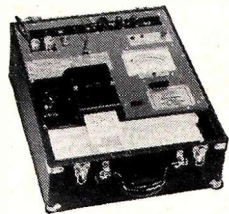
## The UCINITE Company

DIVISION OF UNITED-CARR FASTENER CORP.

Newtonville 60, Massachusetts



### 9 TUBE TESTERS FILL ALL REQUIREMENTS

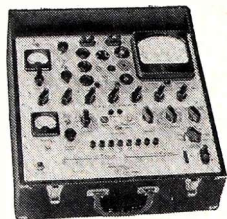


MODEL 123A

#### CARDMATIC TUBE TESTER

##### Automatic Tube Testing Machine

Model 123A: An automatic tube test to laboratory accuracy that instantly selects any tube to meet the exact requirements of your specific circuit application. Ideal for production line use by factory personnel, or for TV service companies.



MODEL 539B

#### PORTABLE TUBE TESTER

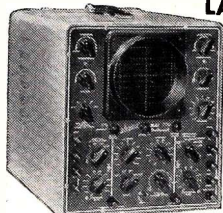
##### Most Accurate

Model 539B: Features simplicity of operation in providing a complete and accurate evaluation of electron tubes. Has Mutual Conductance circuits, 6 micromho ranges, 4 AC Signal voltages, metered line voltage, metered grid voltage and other important features.

### 7 OSCILLOSCOPES MEET SPECIALIZED REQUIREMENTS

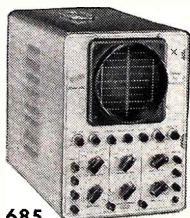
#### LABORATORY CATHODE RAY OSCILLOSCOPE

##### Wide Range . . . Versatile



MODEL 770

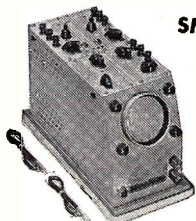
Model 770: Provides unusually wide range of DC to 5 MC. 10 M.V. RMS per inch sensitivity. Built-in calibrating voltages. New flat-faced tube. Illuminated calibrated screen. Mu-metal shield. Shock mounted. This highly stable 'Scope is laboratory quality throughout.



MODEL 685

#### INDUSTRIALS' 5-INCH PORTABLE

Model 685: DC amplifiers and DC to 750KC response. Sensitivity is 20 MV RMS per inch. Shock mounted amplifiers and good circuit design provide excellent stability for use in all phases of electronic work. The illuminated calibrated screen and ideal design features will please many an industrial who would expect to pay much more for this quality and completeness.

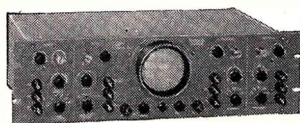


MODEL 385

#### SMALLER SIZE LABORATORY OSCILLOSCOPE

##### 3-Inch Portable

Model 385: DC to 4 MC, within 3 db, 0.75 RMS volts per inch sensitivity. Sweep circuit oscillator; 3 cycles to 50 KC. Input impedance; vertical and horizontal amplifiers; 2.2 megohms—25 mmf. Features replaceable circuit sections. High quality throughout. Also available in portable, moisture-proof, weather-proof aluminum carrying case as preferred by field engineers.



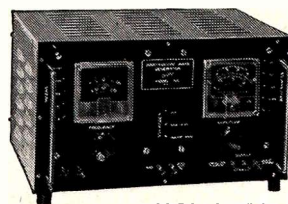
MODEL 387R

#### INDUSTRIAL LABORATORY OSCILLOSCOPE

##### 3-Inch Rack Mount

Model 387R: Popular rack-mount style in an accurate 3-inch oscilloscope. Features identical vertical and horizontal amplifiers. DC to 500 KC response. 10 MV RMS sensitivity. Designed to permit versatile use in all phases of electronic work.

### 11 GENERATORS WITH SPECIALIZED FUNCTIONS

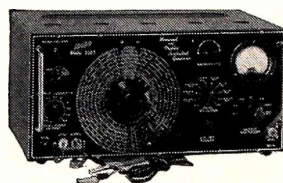


MODEL 710

#### SINE-SQUARE WAVE GENERATOR

##### For Laboratory & Industrial Use

Model 710: Provides an accurately calibrated source of sine wave and square wave functions over a wide frequency range. Sine wave total harmonic distortion below 1%. Hum level better than 90 db down. Square wave rise time less than .1 Microsecond. 20 cycles to 1 MC in five ranges on both sine and square waves.



MODEL 295X

#### MICROVOLT SIGNAL GENERATOR

##### 125 KC to 175 MC on Fundamentals

Model 295X: Ideal for mobile radio and other communication equipment design and maintenance. Output 0.1 microvolt to 100,000 microvolts. 125 KC to 175 MC continuous on fundamentals. 400 cycle modulation—approximately 30%. Attenuation down to 0.1 microvolt—no external attenuator pad required. Vernier Control permits hairline settings. Silverplated copper cage shielding. Test leads are furnished.

### 5 VTVM and VOM INSTRUMENTS

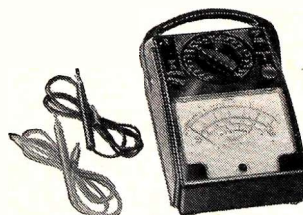


MODEL 209A

#### TRUE VACUUM TUBE

##### Laboratory Size and Accuracy

Model 209A: Contains large 9" meter with zero-center scale. Highly accurate for servicing industrial electronic equipment. DC Volts: 0-1200 in 6 ranges. AC Peak-to-Peak Voltage: 0-1200 V. in 6 ranges. Capacitance 0.1 to 10,000 MMF in 2 ranges, 0-1000 MF in 5 ranges. 50 MH to 100 henries. 0.1 ohm to 10,000 megohms in 7 ranges.



MODEL 455

#### NEW VOLT-OHM-MILLIAMMETER

##### You Can't Burn It Out!

Model 455: New design portable VOM. Includes all practical ranges. Features patented protection system which protects both the meter and associated circuits from damage due to accidental overload. Quality designed for utility and attractiveness. Neoprene carrying case available.

### HIGHLY ACCURATE DC and AC PORTABLE INSTRUMENTS



MODEL 14

Accuracy to 0.2%. Also available is a complete line of pocket portables.

### METERS

The many special movements developed by HICKOK are: electro-dynamometers, self-contained frequency meters, galvanometers, true logarithmic deflections, special curves for special purposes and ruggedized designs for highest shock tests. Full technical information on the complete line of HICKOK instruments and test equipment is available on request. Kindly list details of your requirements and ask for Catalog No. 32 and 33.

## THE HICKOK ELECTRICAL INSTRUMENT COMPANY

10514 DUPONT AVENUE

CLEVELAND 8, OHIO

HIGHEST QUALITY ELECTRICAL AND ELECTRONIC TEST INSTRUMENTS

There's a  
standard  
**PERKIN**  
model for  
your every  
need!

In addition to the 28 volt models featured at the right, the following units are also available:

#### OTHER 28 VOLT MODELS

Model	Volts	Amps	Reg.	AC Input (60 cps)	Ripple rms
28-5VFM	0-32 V	5	20% (24-32 V range)	115 V 1 phase	2%
28-10WX	24-32 V	10	± 1/2%	100-125 V 1 phase	1%
28-15VFM	0-32 V	15	20% (24-32 V range)	115 V 1 phase	5%
28-50WX	24-32 V	50	± 1/2%	230 V* 3 phase	1%
MR2432-200	24-32 V	200	± 1/2%	230 V* 3 phase	1%
MR2432-300	24-32 V	300	± 1/2%	230 V* 3 phase	1%
MR2432-500	24-32 V	500	± 1/2%	230 V* 3 phase	1%

\* ± 10%. Also available in 460 V ± 10% AC input. Will be supplied with 230 V input unless otherwise specified.

#### 6, 12, 115 VOLT (NOMINAL) MODELS

Model	Volts	Amps	Reg.	AC Input (60 cps)	Ripple rms
6 Volt	6-5WX	± 10% 6	± 1%	95-130 V 1 phase	1%
	6-15WX	± 10% 6	± 1%	95-130 V 1 phase	1%
	6-40WX	± 10% 6	± 1%	95-130 V 1 phase	1%
12 Volt	12-15WX	± 10% 12	± 1%	95-130 V 1 phase	1%
	115-5WX	± 10% 115	± 1/2%	95-130 V 1 phase	1%
115 Volt	MR15125-S	15-125 5	± 1% †	95-130 V 1 phase	1% †
	6125-25**	115-125 25	1 1/2-4%	230/460 V 3 phase	5%

\*\*Germanium Rectifier Unit †Increases to 2% @ 15 V.

#### PERKIN SALES OFFICES

New York Area  
N. J.—MAkt 3-1454  
New England Area  
Mass.—MURdk 3-3252  
Philadelphia  
BR 5-2600  
Chicago  
PA 5-6824  
Seattle  
LA 9000  
St. Paul  
MI 6-2621  
Atlanta  
TR 6-3020  
Winston-Salem  
4-0750  
Charlotte  
ED 2-7356

Redwood City, Cal.  
EM 9-3354  
Albuquerque  
5-9897  
Denver  
AL 5-1196  
Phoenix  
AM 5-0274  
Euclid, O  
RE 2-7444  
Dayton  
WA 5426  
Canada  
Agincourt,  
Ontario  
AX 3-7011  
Foreign  
N. Y. BR 9-1296

# PERKIN...THE LEADER

in tubeless magnetic  
amplifier regulated

## DC POWER SUPPLIES

No Moving Parts • No Vibrating Contacts

IMMEDIATE  
DELIVERY  
FROM STOCK



Model MR532-15A

#### 2-36 VOLTS @ 15 AMPS SPECIFICATIONS

Regulation: 5-32 Volt Range: ± 1/2%  
2-5 Volt and 32-36 Volt Range: ± 2%  
AC Input: 105-125 Volts, (for 2-32 V.DC), 110-125 V, (for 32-36 V.DC), 1 phase, 60 cps (8 amps)  
Ripple: 1% rms max. (@ 36 volts and full load. Increases to 2% @ 2 volts and full load).

Remote Sensing • Vernier Control



Model M60V

#### 0-32 VOLTS @ 25 AMPS SPECIFICATIONS

Regulation: ± 1% @ 28 Volts (Regulation increases to 2% over range of 24-32 volts; does not exceed 2 volts over 4-24 volt range. Not stabilized for AC line changes.)  
AC Input: 115 Volts, 1 phase, 60 cps (12 amps).  
Ripple: 1% rms (@ 32 volts and full load—2% rms max. @ any voltage above 4 volts).



Model MR1040-30A

#### 5-40 VOLTS @ 30 AMPS SPECIFICATIONS

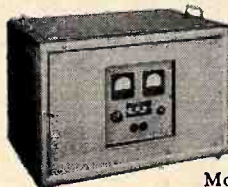
Regulation: ± 1% (over entire 5-40 volt range)  
AC Input: 100-130 Volts, 1 phase, 60 cps  
Ripple: 1% rms



Model 28-30 WXM

#### 24-32 VOLTS @ 30 AMPS SPECIFICATIONS

Regulation: ± 1/2%  
AC Input: 100-125 Volts, 1 phase, 60 cps (20 amps). (Unit rated for DC output of 28 volts ± 10% for 95-130 volt input.)  
Ripple: 1% rms



Model MR2432-100XA

#### 24-32 VOLTS @ 100 AMPS SPECIFICATIONS

Regulation: ± 1/2%  
AC Input: 208, 230 or 460 Volts, ± 10%, 3 phase, 60 cps (14, 12 and 6 amps respectively). 230 volt input will be supplied unless otherwise specified.  
Ripple: 1% rms



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# PERKIN

LEADER IN TUBELESS MAGNETIC AMPLIFIER REGULATION

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# RADIO RECEPTOR

**GOLD BONDED**

# GERMANIUM DIODES

### DIMENSIONS

Diameter: .105" max.  
Length: .270" max.  
Lead diameter: .020"  
Lead length: 1.25"



Actual Size

## GERMANIUM GOLD BONDED GLASS DIODE CHARACTERISTICS

All ratings and characteristics listed are at 25°C unless otherwise specified

### GENERAL PURPOSE TYPES

Code No.	Minimum Forward DC Current @ +1V (MA)	Maximum Inverse Operating Voltage	Peak Inverse Voltage	Max. Reverse DC Current in UA & Corresponding Resistance (Ohms) at Indicated Voltages	Max. Continuous DC Forward Current (MA)
IN67A	4	80	100	5 (1 meg) @ 5V; 50 (1 meg) @ 50V	
IN68A	3	100	130	625 (160K) @ 100V	
IN89	3.5	80	100	8 (625K) @ 5V; 100 (500K) @ 50V	
IN90	5	60	75	500 (100K) @ 50V	
IN95	10	60	75	500 (100K) @ 50V	
IN96	20	60	75	500 (100K) @ 50V	
IN97A	20	80	100	8 (625K) @ 5V; 100 (500K) @ 50V	
IN98A	40	80	100	8 (625K) @ 5V; 100 (500K) @ 50V	
IN99A	20	80	100	5 (1 meg) @ 5V; 50 (1 meg) @ 50V	
IN100A	40	80	100	5 (1 meg) @ 5V; 50 (1 meg) @ 50V	
IN116A	10	60	75	100 (500K) @ 50V	
IN117A	20	60	75	100 (500K) @ 50V	
IN118A	40	60	75	100 (500K) @ 50V	
IN126*	5	60	75	50 (200K) @ 10V; 850 (59K) @ 50V	
IN127*	3	100	125	25 (400K) @ 10V; 300 (167K) @ 50V	
IN128*	3	40	50	10 (1 meg) @ 10V	
IN198*	4	80	100	75 (133K) @ 10V; 250 (200K) @ 50V; at 75°C	
DR315	50	120	150	50 (2 meg) @ 100V	
DR316	50	100	125	100 (1 meg) @ 100V	
DR317	50	80	100	50 (1 meg) @ 50V	
DR318	50	60	75	2 (5 meg) @ 10V	
DR319	50	60	75	5 (2 meg) @ 10V	

### HIGH TEMPERATURE TYPES (rated at 75°C)

IN198*	5	50		75 (133K) @ 10V; 250 (200K) @ 50V	—
DR321	200	50		125 (400K) @ 50V	45
DR323	100	50		200 (250K) @ 50V	40
DR324	100	50		500 (100K) @ 50V	40
DR325	100	50		75 (133K) @ 10V; 250 (200K) @ 50V	40

### HIGH CONDUCTANCE TYPES

DR301	400	100	125	100 (500K) @ 50V	100
DR302	400	80	100	100 (500K) @ 50V	100
DR303	400	60	75	50 (400K) @ 20V	100
DR309	400	80	100	10 (1 meg) @ 10V; 50 (1 meg) @ 50V	100
DR327	300	100	125	100 (500K) @ 50V	100
DR328	300	60	75	100 (500K) @ 50V	100
DR329	300	60	75	50 (400K) @ 20V	100
DR330	300	80	100	10 (1 meg) @ 10V; 50 (1 meg) @ 50V	100
DR305	200	100	125	100 (500K) @ 50V	100
DR306	200	80	100	100 (500K) @ 50V	100
DR307	200	60	75	50 (400K) @ 20V	100
DR308	200	80	100	10 (1 meg) @ 10V; 50 (1 meg) @ 50V	100
IN281	100	60	75	30 (333K) @ 10V; 500 (100K) @ 50V	80
DR310	100	120	150	50 (2 meg) @ 100V	80
DR311	100	120	150	100 (1 meg) @ 100V	80
DR312	100	100	125	5 (125) @ 10V; 20 (5 meg) @ 100V	80
DR313	100	80	100	2 (5 meg) @ 10V; 20 (2.5 meg) @ 50V	80
DR314	100	80	100	50 (1 meg) @ 50V	80
DR326	100	60	75	250 (200K) @ 50V	80

### COMPUTER TYPES

Code No.	Min. Forward DC Current at Specified Voltage (MA)	Maximum Inverse Operating Voltage	Reverse Resistance Characteristics (Min)†	Reverse Recovery Characteristics (Min)
DR401	20 @ 0.5V	60	400K between 10 & 50V @ 55°C	50K in 0.5 usec; 400K in 2.0 usec‡
IN191	5 @ 1.0V	60	400K between 10 & 50V @ 55°C	50K in 0.5 usec; 400K in 3.5 usec‡
DR402	20 @ 0.5V	60	200K between 10 & 50V @ 55°C	50K in 0.5 usec; 200K in 2 usec‡
IN192	5 @ 1.0V	60	200K between 10 & 50V @ 55°C	50K in 0.5 usec; 200K in 3.5 usec‡
DR403	20 @ 0.5V	60	500K between 10 & 50V	80K in 0.3 usec§
DR404	20 @ 0.5V	60	500K between 10 & 50V	50K in 0.3 usec§

\*Jan type

†Test voltage is a continuous 60 CPS sine wave.

‡Switching from a forward current of 30 MA to a reverse of 35 volts.

§Switching from a forward current of 5 MA to a reverse of 40 volts.

The electrical characteristics of the following types and many others are also available: IN34, IN34A, IN38, IN38A, IN48, IN51, IN52, IN54, IN54A, IN55, IN55A, IN55B, IN56, IN56A, IN58, IN58A, IN63, IN69, IN70, IN81

Semiconductor Division

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Subsidiary of General Instrument Corporation

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ever offered in selenium rectifiers!*

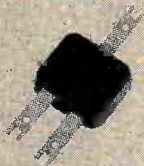
**RADIO RECEPTOR *hcd*\* PETTI-SEL**  
\*high current density

**INDUSTRIAL TYPE SELENIUM RECTIFIERS**

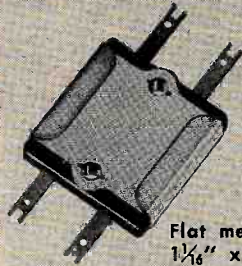
*Made possible by the improved new vacuum process requiring no artificial barrier layer*

Developed by Siemens Organization of West Germany, used extensively throughout Europe . . . and now manufactured exclusively in the U.S.A. by Radio Receptor Company.

*the complete line ranges from . . .*



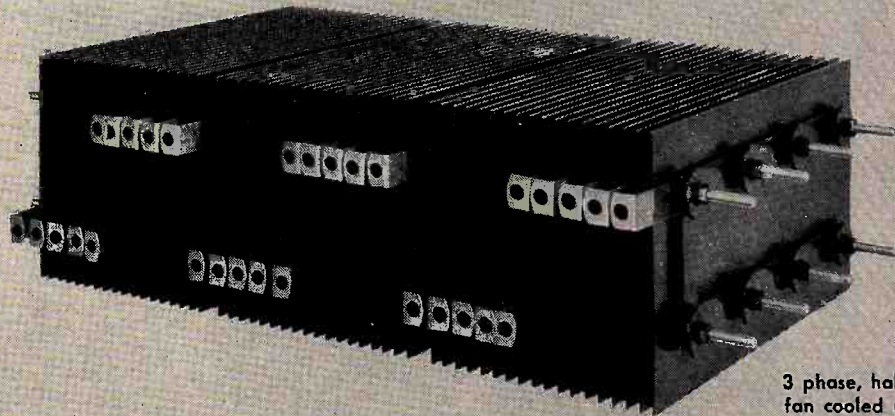
Plastic units,  $\frac{3}{16}'' \times \frac{3}{16}'' \times \frac{3}{32}''$ ,  
single phase, center tap,  
30V AC, 150 MA DC



Flat metal rectifiers,  
 $1\frac{1}{16}'' \times 1\frac{1}{16}'' \times \frac{1}{4}''$ ,  
bridge, 30V AC,  
200 MA DC

- Better performance
- Estimated life 100,000 hours
- Lower forward voltage drop
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- Conveniently smaller cell sizes than conventional units of the same ratings

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Also available: Very high voltage rectifiers up to 296,000 peak inverse volts at 30 MA; Dwarfs — 5 MA up to 125V AC with resistive load; Cartridge types up to 17,000 peak inverse volts at 5 MA.

3 phase, half wave,  
fan cooled rectifiers,  
8" x 16" x 24",  
26V AC, 4500 amperes DC

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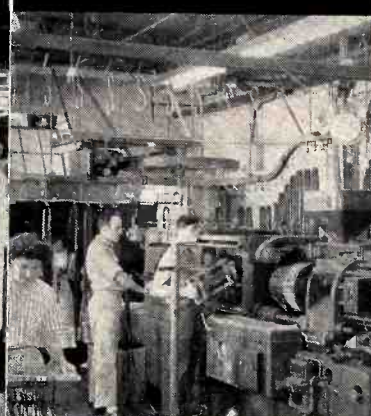
stripping



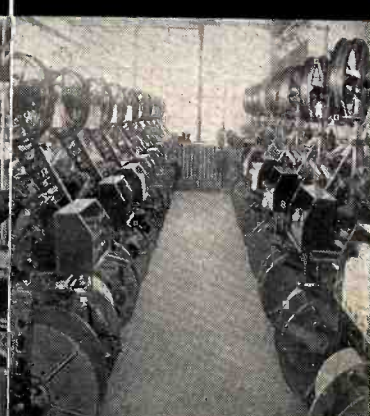
harness assembly



injection molding



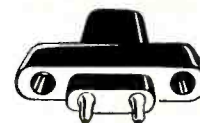
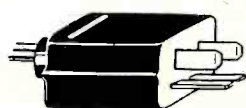
braiding



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Original "first of the kind" plugs, strain reliefs, harnesses, other insulations molded to your specifications

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A few of many possible combinations of cables made to customers' specifications



Coaxial solid "Copper-weld" conductor; low-loss polyethylene insulation; bare copper braid shield; vinyl plastic jacket RG-59/U type.

Solid bare copper conductor; low-loss polyethylene insulation; tinned copper braid shield; vinyl plastic jacket; RG-58/U type.

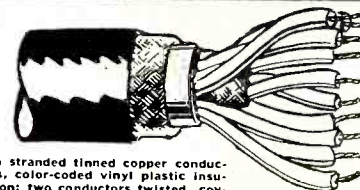
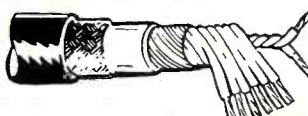
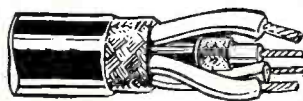
Coaxial-RG-11/U Type Stranded tinned copper conductor. Low-loss polyethylene insulation. Bare copper braid shield. Vinyl jacket.

Conductors in air space low-loss polyethylene tubes. Copper shield over tubes. Vinyl jacket.

Coaxial Midget.

**PHALOX**

CUSTOM-MADE CABLES



Four stranded tinned copper conductors, color-coded vinyl plastic insulation; one conductor has tinned copper shield and over-all vinyl plastic jacket; all four conductors cabled with jacketed conductor as core; cabled conductors covered with tinned copper shield, over-all vinyl plastic jacket.

Eight stranded tinned copper conductors, color-coded vinyl plastic insulation; with twisted pair as core, eight conductors are cabled and served, with vinyl plastic jacket; tinned copper shield and over-all vinyl plastic jacket. Two core conductors AWG 16, six AWG 22.

Ten stranded tinned copper conductors, color-coded vinyl plastic insulation; two conductors twisted, covered with tinned copper shield; ten conductors cabled and filled, with shielded pair as core; cabled conductors covered with tinned copper shield, over-all vinyl plastic jacket.

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Braided and jacketed cables for general intercommunicating and public address system use. Many variations, incorporating other wire sizes, insulation types and thicknesses. Can be manufactured to your individual specifications.

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Power supply cord SJT with M-32 plug, one end slit and stripped.

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summer, 1957

short form catalog c-704

## Berkeley digital and analog instrumentation

### COUNTING, TIMING, FREQUENCY MEASURING EQUIPMENT

- EPUT® Meters • Universal EPUT® Meters • Frequency Measuring Equipment • Preset Counter Controllers • Time Interval Meters • Electronic Counters • Nuclear Scalers and Count Rate Meters • Digital Recorders • Inline Readouts • Transducers • Decimal Counting Units

### SPECIAL AND GENERAL PURPOSE TEST INSTRUMENTS

- Expanded Scale Volt Meters • Expanded Scale Frequency Meters • Resistance Bridges • Double Pulse Generators

### EASE\* ANALOG COMPUTERS AND EASE\* PRECISION COMPONENTS FOR CONTROL SYSTEMS

\*T.M.

# Beckman®

*Berkeley Division*

*A Division of Beckman Instruments, Inc.*

*2200 Wright Avenue, Richmond, California*

*Phone LANDscape 6-7730 TWX Richmond 433*



# COUNTING, TIMING, FREQUENCY MEASURING EQUIPMENT

Beckman/Berkeley Division, now in its second decade, supplies industry and science throughout the world with two hundred types of electronic counting, control and computing equipment. An organization of highly skilled and experienced engineers, designers and production workers, Berkeley is equipped to mass produce a wide range of instruments for science and industry. Techniques for the mass production and assembly of high speed counters, timers and frequency measuring equipment originated at Berkeley.

Facilities at Berkeley are by no means limited to quantity production of standard type instruments. The Engineering Department conducts research development and product design operations in four major fields of electronic interest—counting,

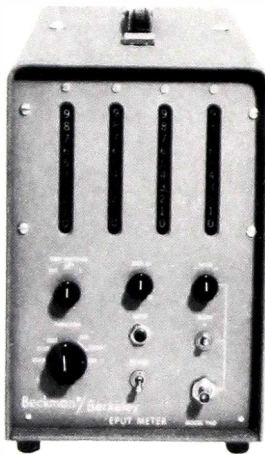
timing, and frequency measuring equipment, analog computers, nuclear test instruments and special products.

Naturally this stress on research and development has resulted in important electronic "firsts" at Berkeley. Some of these include:

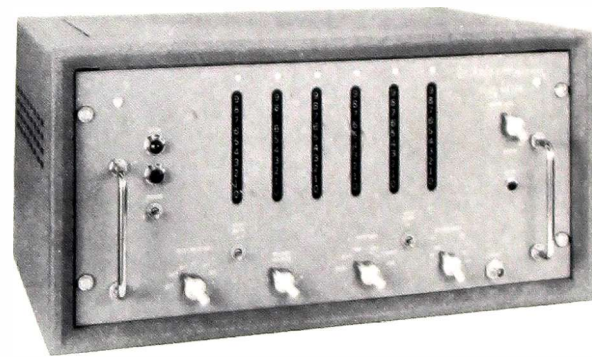
- The first 1,000,000 count per second events-per-unit-time meter (EPUT®)
- The original electronic decade unit (DCU)
- The first direct reading time interval meter for measuring time intervals to one microsecond.
- The first console style push-button analog computer (EASE\*)
- The first direct reading frequency meter
- The first digital recorder with printed readout
- The first in-line, in-plane digital indicator
- The FERRISTOR\*, miniature vacuum tube replacement

## \* EPUT® meters

Berkeley EPUT® Meters automatically count and display the number of events that occur during a precise time interval. Events may be any physical occurrences that can be represented by changing voltages occurring either regularly or at random rates to 1,000,000 per second.



New Model 5210 100KC EPUT® Meter for industrial and field application. Light, small, portable. Simple to operate. Straightforward design and construction. Reliable. The 5200 Series use same DCUs as other Berkeley equipment.

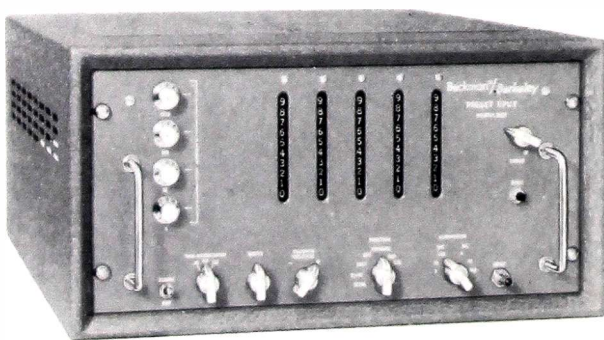


7000 Series units may be used to measure frequency or period, and also as high speed electronic counters with manual on-off control. Model 7160 shown.

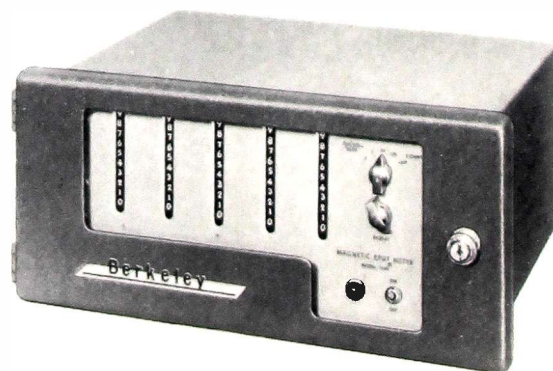
## APPLICATIONS

Precision tachometry; measurement of pressure, flow, temperature, viscosity, velocity, frequency, frequency period; process control or data reduction systems; calibration of frequency generating equipment; measurement of any electrical, mechanical, optical or other physical event occurring during a precise time interval.

BRIEF SPECIFICATIONS	Model 5210	Model 7150	Model 7151	Model 7160	Model 7161	Model 7650
Count Capacity:	4 digits	5 digits	5 digits	6 digits	6 digits	5 digits
Count Rate:	0 cps to 100 KC	0 cps to 100 KC	0 cps to 100 KC	0 cps to 1 mc	0 cps to 1 mc	0-40,000 cps
Time Bases: (decade steps)	0.1 and 1 sec	10 μsec to 1 sec	Time Interval Generator	1 μsec to 1 sec	Time Interval Generator	0.1 to 10 sec
Binary coded output to drive digital printer	optional \$30.00 extra	yes	yes	yes	yes	yes
Price:	\$475.00	\$775.00	\$1195.00	\$995.00	\$1345.00	\$1495.00



New Models 7151 and 7161 Preset EPUT® Meters feature a variable time base. Time base dividers have been replaced by preset DCUs. In addition to specifications below, these instruments feature several unique operating functions: Totalize — divides frequency between 0 and 10 KC by any number from 1 to 10,000; T1G — generates frequencies from 0.1 to 10<sup>1</sup> milliseconds.



\*T.M.

Model 7650 Long Life Magnetic EPUT® Meter performs the same function as models described above. Uses Berkeley FERRISTORS\* in all critical circuits to assure continuous-duty reliability. Ideally suited to industrial test applications such as jet and piston-engine test cells, etc. Has digital "count-down" time base for precise gating; no adjustment of time base required.

These truly universal instruments combine high-speed electronic counting with a precision time base in multi-purpose circuitry. They function as counters, timers, time-interval meters, EPUT® meters, frequency, frequency ratio or period meters, or as secondary frequency standards.

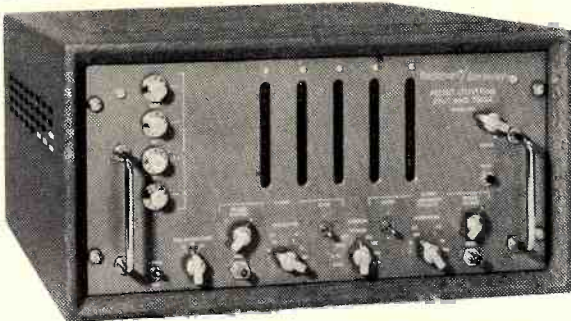
## APPLICATIONS

Counting, time interval, events-per-unit time measurements for precision tachometry, measurement of pressure, flow, frequency, velocity, viscosity, elasticity; timing relay, shutter action, etc. Measurement of unknown frequencies, frequency ratios, periods, etc.

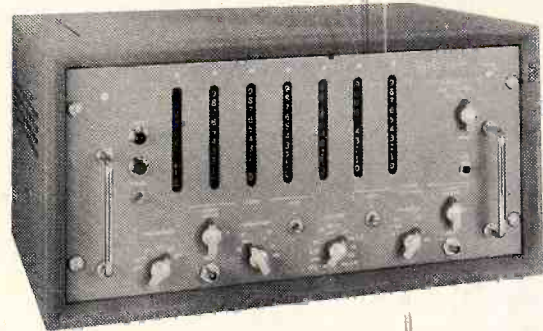


BRIEF SPECIFICATIONS	Model 5230	Model 7350	Model 7351	Model 7360	Model 7361
Ranges-Frequency:	0 cps to 100 kc	0 cps to 100 kc	0 cps to 100 kc	0 cps to 1 mc	0 cps to 1 mc
Time Interval:	100 μsec to 10 <sup>4</sup> sec	10 μsec to 10 <sup>6</sup> sec	10 μsec to 10 <sup>2</sup> sec	1 μsec to 10 <sup>7</sup> sec	10 μsec to 10 <sup>3</sup> sec
Period:	0 cps to 10 kc	0 cps to 100 kc	0 cps to 10 kc	0 cps to 1 mc	0 cps to 10 kc
Time Bases:	0.1 and 1 sec	10 μsec to 10 sec	Time Interval Generator	1 μsec to 10 sec	Time Interval Generator
Binary coded output information for driving digital recorder	\$30.00 extra	yes	yes	yes	yes
Price:	\$575.00	\$945.00	\$1295.00	\$1245.00	\$1445.00

New Model 5230 100 kc Universal EPUT® Meter for industrial and field application. Light, small, portable. Simple to operate. Straightforward design and construction. Reliable. The 5200 Series uses same DCUs as other Berkeley equipment.



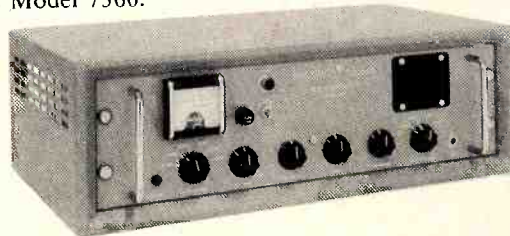
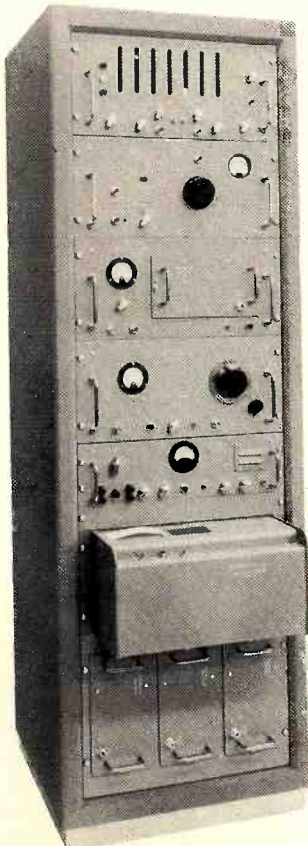
New Models 7351 and 7361 Preset Universal EPUT® Meters features are similar to Models 7150 and 7160 with variable time base feature, etc. In addition, TIM and A/B functions are offered.



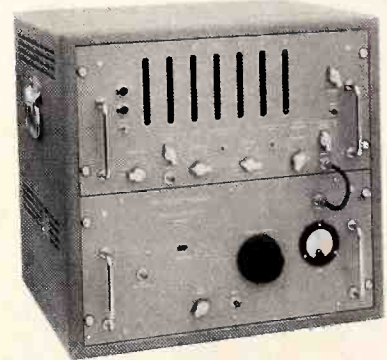
Model 7360 Universal EPUT® and Timer.

## Frequency Measuring Equipment

Basic instrument is the Model 5571, capable of measuring frequencies from 0 cps to 42 mc. Addition of the Model 5580 UHF-VHF converter and suitable plug-ins extends the range to 515 mc; Model 5582B VHF converter with plug-ins extends the range to 1,005 mc. Results are displayed in direct-reading digital form. Unit will drive a Model 1452 digital printer to provide a complete frequency logging system in which results are printed on standard adding machine tape. Model 5571 is also a Universal EPUT® Meter with same specifications as Model 7360.



New Model 905 WWV receiver is most convenient, reliable method of utilizing standard time and frequency broadcasts from NBS stations WWV and WWVH. Features: covers all six WWV and WWVH frequencies, crystal controlled, separate crystal for each channel, built-in audio filters. Price: \$525.00 (Rack) \$550.00 (Cabinet).



Model 5571 with 5580 converter and 5580 series plug-ins for frequencies to 515 mc. Model 5571 price, \$1825. Model 5580 converter, \$300.00. 5581 series plug-ins, \$125.00 to \$175.00 each. All are FCC-approved. Model 5571 shown.

Complete frequency logging system for frequencies to 1,000 mc. Model 5571 (with 5582B converter and plug-ins), drives Model 1452 digital printer to record results automatically on adding machine tape, 905 WWV receiver.

## \* Time Interval Meters

Any event delineated by varying voltages may be timed. All models may be standardized against WWV or other external standards. Provisions are also made to measure period of input signals, use as a high-speed electronic counter, or frequency ratio meter.

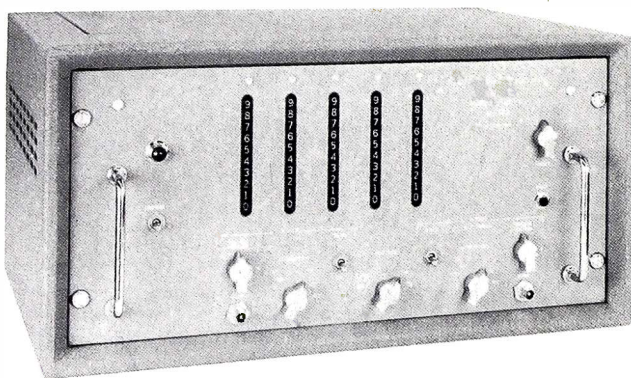
## APPLICATIONS

Timing of relays, shutters, solenoids, controls; ballistics research; measurement of viscosity, elasticity, velocity; accurate low frequency and period measurements, frequency ratio measurements, etc.

BRIEF SPECIFICATIONS	Model 5220	Model 7250	Model 7260
Range:	100 $\mu$ sec to 1 sec	10 $\mu$ sec to 1 sec	1 $\mu$ sec to 1 sec
Accuracy:	$\pm$ 100 $\mu$ sec $\pm$ 1 part in 10 <sup>4</sup>	$\pm$ 10 $\mu$ sec, $\pm$ 1 part in 10 <sup>5</sup>	$\pm$ 1 $\mu$ sec, $\pm$ 1 part in 10 <sup>6</sup>
Input Requirements:	0.25v rms, 1 megohm dc-coupled.	0.1v rms, 10 megohms, ac or dc-coupled.	
Display Time:	Adjustable .05 to 5 sec.	Adjustable, 0.1 to 10 seconds (automatic reset). Manual reset also provided.	
Binary-coded output to drive Digital Printer	Optional \$30.00 extra	yes	yes
Price: (f.o.b. Factory)	\$475.00	\$595.00	\$830.00

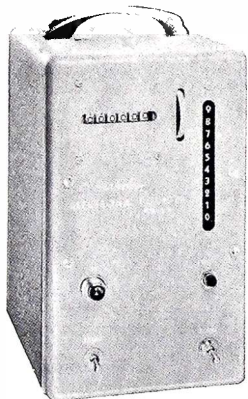


New Model 5220 100  $\mu$ sec to 1 sec time interval meter for industrial and field applications.



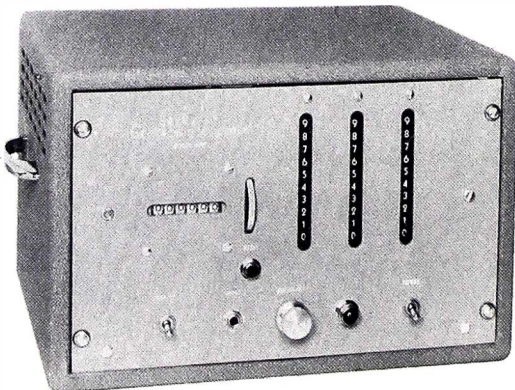
Model 7250 Berkeley Time Interval Meters provide a direct digital reading of elapsed time between any two events, or the duration of a single event, in micro-second (Model 7260) or 10-microsecond increments.

## \* Electronic Counters

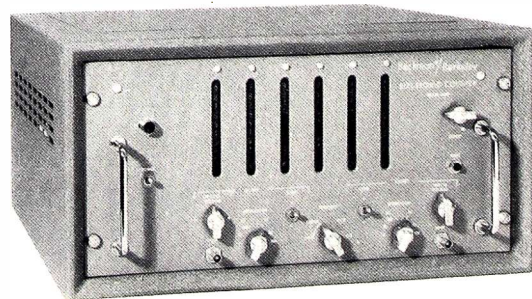


BRIEF SPECIFICATIONS	Model 5001	Model 5010	Model 7050	Model 7060
Counting Rate:	0-125 cps	0-10,000 cps	0-100KC	0-1 mc
Sensitivity:	0.5 volts peak	0.5 volts peak	0.1 volts rms.	0.1 volts rms
Binary coded output to drive Digital Printer	no	no	yes	yes
Price:	\$195.00	\$330.00	\$545.00	\$645.00

Model 5001 (125 cps) industrial type electronic counter for use where speed requirements are in excess of the limitations on mechanical registers (10 cps).



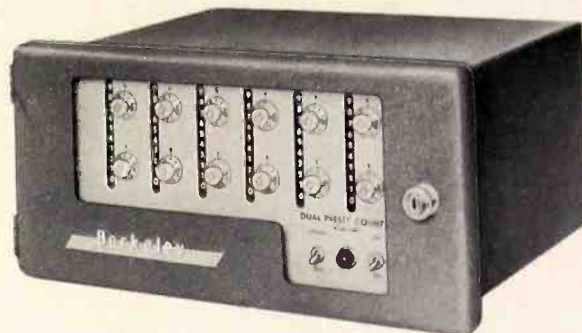
The Berkeley Industrial Counter, Model 5010 (10 KC), is a highspeed electronic counting instrument designed to fill general counting needs, where speed requirements are greatly in excess of those possible with mechanical counters.



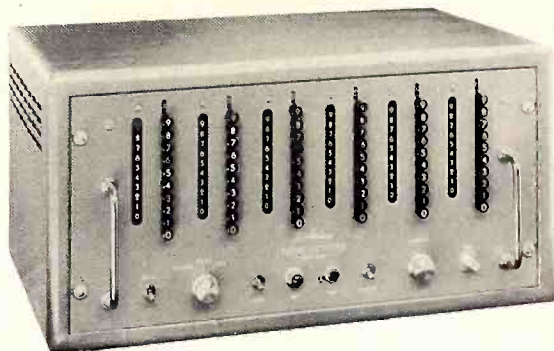
New Models 7050 (100 kc) and 7060 (1mc) gating counters offer both manual and electronic gating. Gate control signals may be of any frequency from d-c to maximum counting rate of the instrument with no input waveform restrictions. For use as frequency ratio meters, digital flow computers, slave EPUT® or time interval meters, high speed counters. Shown Model 7060.

## Preset Counter-Controllers

Counts at rates to 40,000 cps, yields output signals at any desired preset total (or any two preset counts with dual preset models). Operates on input pulse of  $\pm 1$  volt peak, or more. Instantaneous reset to zero after final count. Reliable, simple to operate. Available in 2, 3, 4, 5, and 6-digit capacities. Long-life magnetic Model 5840 dual preset features FERRISTOR\* circuitry for continuous-duty reliability. Typical applications: coil winding, automatic packaging, sorting to length, motor speed control.



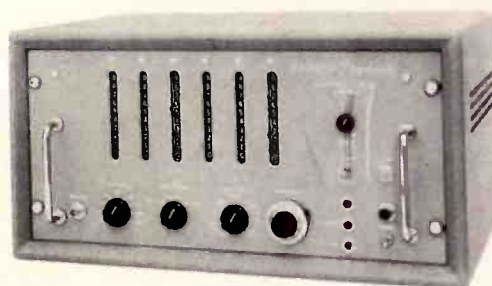
Series 5840 long-life magnetic dual preset counter features FERRISTOR\* circuitry; 4-digit, \$1115.00; 5-digit, \$1200.00; 6-digit, \$1295.00.



Series 5420 single preset models range in price from \$435.00 for 2-digit capacity to \$740.00 for 6-digit capacity. Dual preset Series 5440 range from \$650.00 (2-digit) to \$895.00 (6-digit).

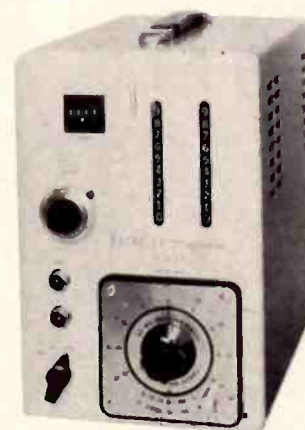
## Nuclear Scalers

Berkeley's long experience in counting techniques has been carried over to the nuclear field to produce a line of high quality scalars. Model 2025, basically a gated decimal counter, will count, store and record any phenomena occurring in a random fashion. It features automatic reset and start, uses DCUs instead of mechanical registers, and is designed for use with an electronic timer (Model 811) for increased accuracy.



BRIEF SPECIFICATIONS	
Model 2025	
Input:	Pulse Height discriminator with range +5 to +50 volts
Scaling Circuit:	Paired Pulse Resolution: Better than 1 $\mu$ sec
Integral Amplifiers:	Input Sensitivity: 1 millivolt $\pm$ 20%
Controls:	Preset Count Selector — 100 to 4 million in 1-2-4 steps
Price:	\$950

BRIEF SPECIFICATIONS	
Model 2101	
Input Sensitivity:	0.25 volts
Resolving Time:	5 $\mu$ seconds
Reset:	Reset of register and counting units by single lever
Timer:	Indicates and times automatically to closest second up to 60 min. Accuracy $\pm$ 0.2 sec
Price:	\$595.00



This scalar weighs only 24 pounds and offers maximum convenience for laboratory work and medical diagnosis. Can be used directly with G-M tubes and scintillation counters. Extremely reliable and simple to operate.

## Digital Recorders, Inline Readouts & Transducers



MODEL 1452 DIGITAL PRINTER. Automatically and permanently records information from any Berkeley 5510, 5571 or 7000 Series instrument, prints data in digital form on standard adding machine tape from printer and scanner in one compact unit. May be modified to print "Time" or "Code" information simultaneously with data. Rack or bench mounted; available in up to 8 digits. One printout every 0.85 seconds. Price (6-digit), \$950.00.

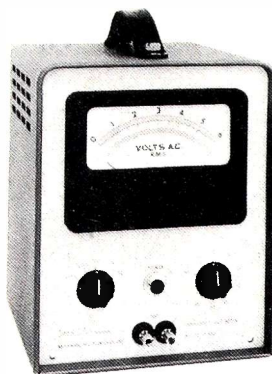


MODEL 5916 IN-LINE READOUT. Large, illuminated in-line IN-PLANE figures reduce fatigue and error. Ideal for remote observation of data. Connects directly to any Berkeley 5510, 5571 or 7000 Series instrument. Presentation rate up to 15 per second; accepts binary voltages. Price \$775.00.

TRANSDUCERS. A large number of transducers especially designed for use with Berkeley counting, timing, and frequency measuring equipment are available. These include tachometer, pickups, photocells, and light sources. Specifications and technical description on request.

## SPECIAL AND GENERAL PURPOSE TEST INSTRUMENTS

### \* Expanded Scale Voltmeter



Model 101R Rack Mount.

Model 101-50 expanded scale voltmeter. Featuring:  $\pm 0.25\%$  accuracy, true rms reading, easy to read expanded scale, direct connection for 1 MA recorder.  
 Brief Specifications: Accuracy— $\pm 0.25\%$  of input voltage; Voltage Indicated—True rms; Voltage Range—100-500 (50-250v); Frequency Range—50-2,000 cps; Scale Range—12v ( $\delta v$ ); Price: \$360.00 (rack mounted \$400.00).

### \* Expanded Scale Frequency Meter

Expanded Scale Frequency Meters are designed for fast accurate monitoring of frequencies near 400 cps. They were originally intended for use in making production inspection measurements of the frequency regulation of motor and engine driven generating units, but many other applications where a record of frequency is desired have been found.



The Model 404 expanded scale frequency meter features Accuracy of  $\pm 1/2$  cycle, 1 MA Recorder Connection Provided; Expanded Scale for easy, error-free reading.  
 Brief Specifications: Base Frequency—400 cps; Span— $\pm 25$  cycles; Accuracy— $\pm 1/2$  cycle; Price—\$330.00 (rack mount \$380.00).



The Model 100 Transformation Ratio Meter is an RMS reading expanded scale voltmeter designed to read the primary and secondary voltages of synchros faster and easier than by conventional methods. The method of operation is ideally suited for production testing as well as for inspection of synchros and control transformers.  
 Features:  $\pm 0.2\%$  Accuracy; RMS Reading; Expanded Scale; Read Directly in % Deviation; Simple To Operate For Rapid Production Checks. Price \$400.00.

### \* Wide Range Resistance Bridge

The Model 605 wide range resistance bridge provides a means for rapidly and easily checking resistances to a high degree of accuracy. Seven ranges for full scale resistance values are selectable by front panel push button switches. Features: 5 ohms to 100 megohms, push button operation, high accuracy, negligible drift.



Brief Specifications: Resistance Scales—100, 1K, 10K, 100K, 1M, 10M, 100M, Full Scale; Accuracy— $\pm 1.15\%$  of resistance measured + .05% Full Scale; Drift—Negligible after 30 minute warm-up; Batteries—1-45 Volt, 2-7 1/2 Volt; Price—\$170.00.

### \* Berkeley Double Pulse Generators



Model 4904 Double Pulse Generator

BRIEF SPECIFICATIONS	Model 903	Model 4904
Pulse Width:	0.15 to 1.8 $\mu$ sec	0.3 to 10 $\mu$ sec
Rise Time:	0.035 $\mu$ sec	0.08 $\mu$ sec
Decay Time:	0.15 $\mu$ sec	0.26 $\mu$ sec
Pulse Spacing:	0 to 10 $\mu$ sec. Single control	0 to 100 $\mu$ sec. Coarse and fine adjustments
Price:	\$498.00	\$645.00

Produce paired or single pulses. Pulse amplitude, width, polarity, repetition rate and pulse-to-pulse spacing are independently adjustable. Outputs may be mixed internally or externally. Model 903 can be driven externally by pulses; Model 4904 by pulses or sine wave generators.

#### APPLICATIONS

Measurement of paired pulse resolution time of counting circuits. Measurement of rise time, decay time and transient response of pulse forming circuits, electronic switches, gates and wide band amplifiers. Calibration of input sensitivity of counting instruments. Frequency calibration of counting rate meters. Measurements of overload characteristics and dynamic range of pulse amplifiers. Delayed coincidence work.

**New EASE\* 1100 Series Analog Computers** \*



The 1100 Series introduces a digital output-input translator system (DO/IT) that uses punched tape to set up and check problems, taking much of the human element out of computing and saving hours of operating time. Other new features include automatic static or dynamic problem checking, complete pushbutton monitoring system, and a fully shielded, color-coded patch board. Patch bay capacity 2188 to 3,600 terminals.

A typical setup would include:

- ★ 100 dc amplifiers
- ★ 16 servos
- ★ 300 DO/IT controlled attenuators
- ★ 30 electronic multipliers
- ★ 250 spare terminals
- ★ Required number of trunk lines and terminals for limiters, biases, etc.

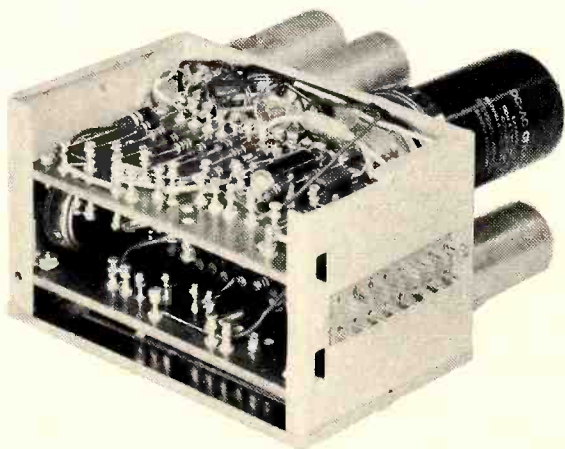
Computing resistors are maintained at an accuracy of better than .005% in a temperature controlled oven. Long-term accuracy of capacitors exceeds .05%. New servo-set potentiometer system permits adjustment of 50K Helipot precision potentiometers to an accuracy of better than 0.01% in less than 3 seconds average time.

**EASE\* Precision Components for Control Systems** \*

**Model 1191 General Purpose Servo Multiplier**

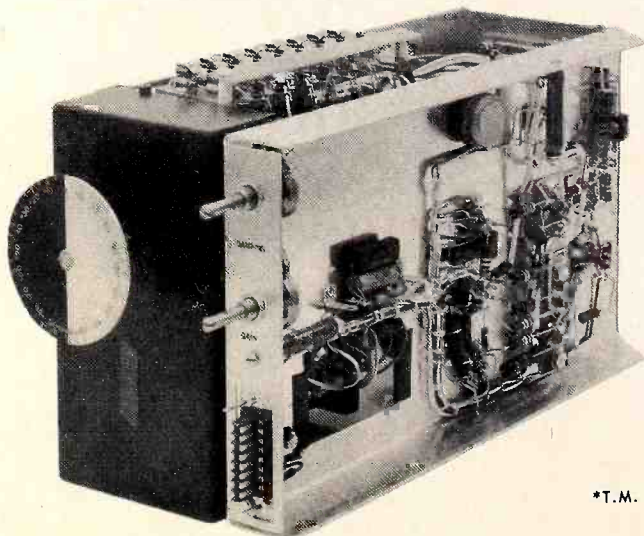
Up to five variables are multiplied by a sixth in the Model 1191 Servo Multiplier. One, two, or three of the five computing potentiometers can be supplied as sine-cosine resolvers. Amplifiers are removeable for ease of maintenance. The front panel contains servo gain and damping controls, as well as servo error light and a shaft position indicator.

No dither is employed, thus minimizing potentiometer wear. Selection of internal or external feedback reference is made through a relay. Servo Multipliers can also be supplied with such special features as a synchro or one extra potentiometer mounted on the potentiometer shaft, additional taps up to 33 total per potentiometer, and various non-linear resolvers.

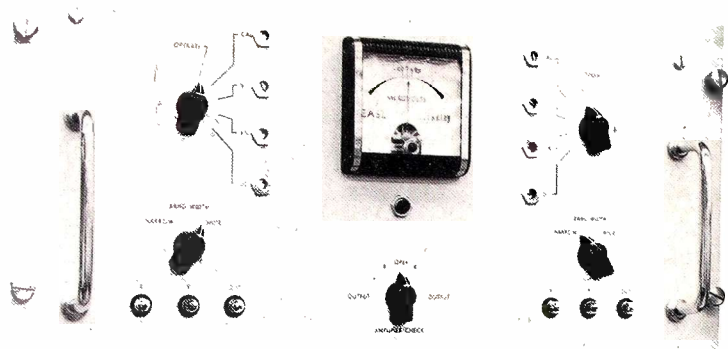


**Model 1048B DC Amplifier**

This new version of the Model 1048 amplifier, which has become a standard component for industry, features higher out-put current (better than 20 ma) and premium tubes with redesigned circuits for increased tube life.



\*T.M.



### Model 1157 High Accuracy Electronic Multiplier

Features .02% static accuracy on each of two independent products. Its chopper-stabilized amplifiers are available as inverters and its operation is switched by relay from multiplication to division. Two ranges are available—high accuracy, with a 10KC carrier, and wide band, with a 40KC carrier. This extends the usefulness of the multiplier well beyond the limitations imposed by a single compromise frequency carrier.

Specifications on other 1100 Series components and technical data on the complete computer are available on request. Prices on computer systems may be obtained by writing Sales Manager, Computer, Berkeley Division of Beckman Instruments, Inc., Richmond 3, California.

## \* Customer Services From Beckman/Berkeley

Technical information on all instruments and applications data will gladly be supplied on request. There is no charge or obligation for this service. All literature is prepared by a staff of technical writers who work closely with Berkeley research and applications engineers. Recent literature includes:

**Data File 110—FERRISTORS\*, Their Use and Application**  
**Data File 111—How to Make Frequency Measurements**  
**Data File 112—How to Make Time Interval Measurements**  
**Data File 10—How to Make WWV Measurements**  
**Data File 123—Analog Computer Solutions for Feedback Control Systems**

## \* Beckman/Berkeley Representatives

Berkeley's world-wide staff of factory trained engineering representatives work closely with our sales office and the customer. They help the customer set up newly-purchased equipment, acquaint personnel with its operation and application, and make sure that it stays

in operating order. The representative's job is not completed until he has "followed-up" to insure that the customer receives maximum use from his instruments. These men will be glad to give you personal assistance at any time. A list of Berkeley representatives follows.

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 Edward A. Ossmann & Associates  
 16 Caveson Lane  
 Phone: Union 9-7081

**ALBUQUERQUE, NEW MEXICO**  
 V. T. Rupp Co.  
 8009 Bellamah, N.E.  
 Phone: Albuquerque 9-4621

**ATLANTA 9, GEORGIA**  
 Murphy & Cota  
 2110 Peachtree St., N.W.  
 Phone: Trinity 6-300

**BINGHAMTON, N. Y.**  
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 147 Front St., Vestal, N. Y.  
 Phone: Endicott 5-0296

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 Broger Instrument Sales Co.  
 48 Pearl St., Brookline, Mass.  
 Phone: Beacon 2-4804

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 2036 Norton Rd.  
 Phone: Edison 2-7356

**CHICAGO 39, ILLINOIS**  
 Ridgeway Engineering Assoc.  
 6100 W. North Ave.  
 Phone: Tuxedo 9-5715

**CLEVELAND 28, OHIO**  
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 3955 Lee Road  
 Phone: Longacre 1-4567

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 Englewood, Colorado  
 Phone: Sunset 1-8566

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 Royal Oak, Michigan  
 Phone: Lincoln 8-4440

**HONOLULU 17, HAWAII**  
 Gene Piety  
 2030 Home Rule St.  
 Phone: 8-3105

**HOUSTON 6, TEXAS**  
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 (Fairview Station)  
 Phone: Jackson 6-2959

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 Ridgeway Engineering Assoc.  
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 Phone: Walnut 5-6464

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 Phone: Jackson 3-9299

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 Phone: Dunkirk 7-8224

**ALBERTA & BRITISH COLUMBIA**  
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 107 Administration Bldg.  
 Boeing Field, Seattle  
 Phone: Mohawk 3962

**MIAMI 43, FLORIDA**  
 Murphy & Cota  
 11375 S.W. 46th St.  
 Phone: Mohawk 5-1563

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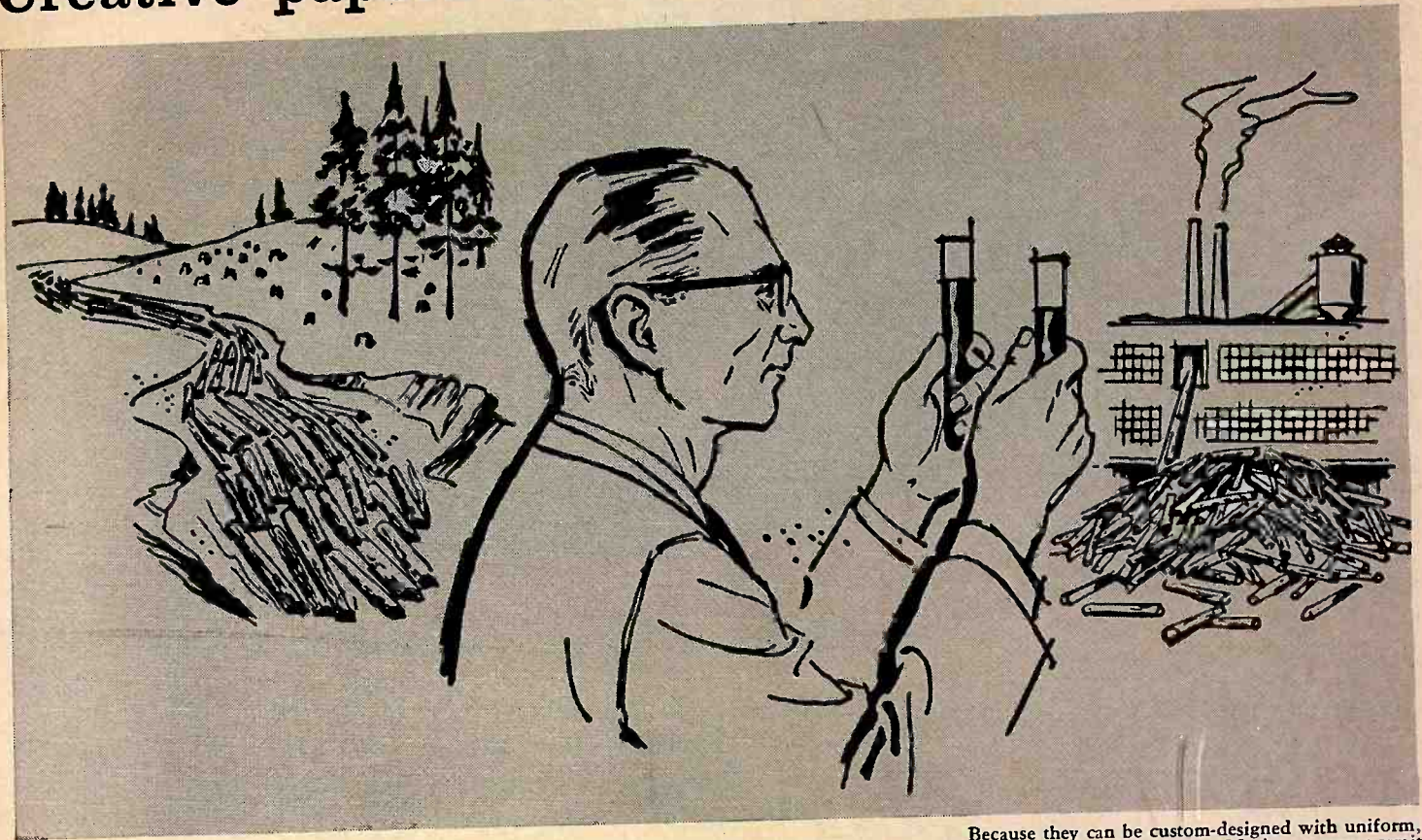
**WINSTON-SALEM, NO. CAROLINA**  
 Murphy & Cota  
 1102 Burke St.  
 Phone: 4-0750

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 R-O-R Associates  
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Creative papers from the mills of **MOSINEE**



Because they can be custom-designed with uniform, predictable resin absorbency, Mosinee papers permit careful control of resin impregnation processes. This quality minimizes machine adjustments, keeps production costs low, assures product effectiveness.

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# low-cost papers replace expensive traditional materials

Offering a combination of economy and versatility, Mosinee creative papers are proving their worth throughout industry. These special sulphate papers are being used where paper was never before even considered. And they're performing as well or better than the more costly materials previously used.

With scientifically controlled processes, Mosinee can produce papers possessing an amazing variety of chemical and physical properties including high dielectric strength . . . mold, flame, water and corrosion resistance . . . resin holdout or absorbency. Especially important, Mosinee can quantity-produce these papers with dependable uniformity.

## HERE ARE 6 GOOD REASONS FOR CALLING ON MOSINEE FOR YOUR SPECIAL SULPHATE PAPERS:

1. A proven record for creating outstanding custom-tailored papers
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4. Nearly 50 years of experience
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# Krohn-Hite

## FIRST and still the ONLY

# VARIABLE ELECTRONIC FILTERS

0.02 to 20,000 cps



MODEL 330-A & 330-M

THE MOST WIDELY SOLD ELECTRONIC FILTERS IN THE WORLD

- **PROVEN TROUBLE-FREE OPERATION**
  - **WIDE FREQUENCY RANGE**
  - **ADJUSTABLE BAND WIDTH**
- 0.01 to 200,000 cps**

Model	Type	Frequency Range	Frequency Accuracy	Noise & Hum	Power Consumption	Price
310-AB**	Band Pass	20 cps to 200 kc	10%	1 mv	40 watts	\$295.00
330-A**	Band Pass	.02 cps to 2 kc	5%	0.1 mv	50 watts	\$475.00
330-M**	Band Pass	0.2 cps to 20 kc	5%	0.1 mv	50 watts	\$475.00
340-A	Servo	.01 cps to 100 cps	5%	10 mv	40 watts	\$385.00
350-A**	Rejection	.02 cps to 2 kc	5%	0.1 mv	50 watts	\$475.00
360-A**	Rejection	20 cps to 200 kc	10%	5 mv	40 watts	\$295.00

\*\*Available for rack mounting at \$5.00 additional.



# POWER SUPPLIES

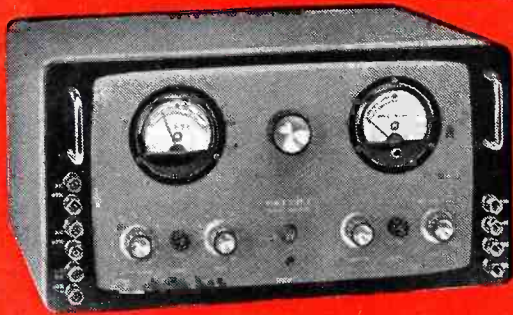
**PROVEN UNSURPASSED PERFORMANCE**

**COMPARE**

Krohn-Hite specifications with those of any of the existing 316 Power Supply Manufacturers.\*\*

0.001% Load Regulation 0.1 Millivolts Ripple  
0.005 Ohms Impedance 0.003% Line Stabilization

\*\* As listed in the 1956 Electronics Buyers' Guide Pages D-132 to D-134



MODEL UHR-240

\*Featuring  
**ULTRA-HIGH REGULATION**  
**over the ENTIRE OPERATING RANGE**



MODEL UHR-220

Model	Voltage	Current	Impedance		Other Outputs		Price
			D.C.	A.C.	Bias	Heaters	
UHR-240*	0-500v	0-500ma	0.005 ohms	0.05 ohms	0-150v, 0-5ma	6.3v ac, 10a 6.3v ac, 10a 5-13v dc, 2.5a	\$625.00
UHR-245*	150-500v	0-500ma	0.01 ohms	0.05 ohms	—	6.3v ac, 10a 6.3v ac, 10a	\$425.00
UHR-220**	0-500v	0-200ma	0.01 ohms	0.1 ohms	0-150v 0-5ma	6.3v ac, 5a 6.3v ac, 5a	\$390.00
UHR-230R	Dual Supply consisting of two Models UHR-220, Rack Mounted						\$790.00
UHR-225**	150-500v	0-200ma	0.02 ohms	0.1 ohms	—	6.3v ac, 5a 6.3v ac, 5a	\$275.00
UHR-235R	Dual Supply consisting of two Models UHR-225, Rack Mounted						\$560.00

\*Available for rack mounting at \$5.00 additional. \*\*Available for rack mounting at \$10.00 additional.

ALL PRICES F.O.B. PLANT



# Krohn-Hite

## FIRST and still the BEST

### WIDE RANGE PUSH-BUTTON

# OSCILLATOR

.001 to 100,000 cps



MODEL 440-A

- FREQUENCY RANGE OF  $10^8$
- 0.1% DISTORTION
- CONTINUOUS FREQUENCY COVERAGE

RC OSCILLATORS  
TO MEET YOUR SPECIAL  
REQUIREMENTS  
0.001 to 520,000 cps

Model	Frequency Range	Frequency Accuracy	Output	Distortion	Power Consumption	Price
400-A	.009 cps to 1.1 kc	2%	25 mw/10v	1%	45 watts	\$375.00
400-C***	.009 cps to 1.1 kc	2%	100 mw/10v	1%	65 watts	\$395.00
410-A***	.02 cps to 20 kc	2%	10 mw/5v	1/10%	150 watts	\$1050.00
420-A	.35 cps to 52 kc	2%	25 mw/10v	1%	45 watts	\$315.00
420-C***	.35 cps to 52 kc	2%	100 mw/10v	1%	65 watts	\$345.00
430-AB**	4.5 cps to 520 kc	2%	50 mw/10v	1%	45 watts	\$145.00
440-A**	.001 cps to 100 kc	1%*	100 mw/10v	1/10%*	120 watts	\$550.00
440-B**	1 cps to 1 kc	1/20%*	100 mw/10v	1/10%	110 watts	\$950.00

All oscillators except 430-AB and 440-B have both sine wave and square wave outputs.  
\*Higher at end of range \*\*Available for rack mounting at \$5.00 additional. \*\*\*Rack panel construction.

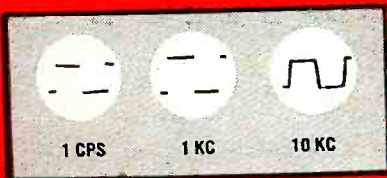


# POWER AMPLIFIER

THE ULTIMATE IN POWER AMPLIFICATION  
delivering 99.9999999%\*\*  
DISTORTION-FREE POWER



MODEL UF-101



SQUARE WAVE RESPONSE

\*Featuring  
**ULTRA-FIDELITY**

### SPECIFICATIONS

POWER OUTPUT... 50 watts from 15 cps to 30 kc  
FEEDBACK..... 80 db  
FREQUENCY RESPONSE  
±0.5 db from 0.5 cps to 30 kc  
±3 db from 0.03 cps to 70 kc  
DYNAMIC RANGE..... 110 db  
OUTPUT IMPEDANCE. 2, 4, 8, 16 and 450 ohms  
VOLTAGE GAIN... 14 db or 30 db to 16 ohm output  
PRICE..... \$425.00

\*Available for rack mounting at \$5.00 additional.

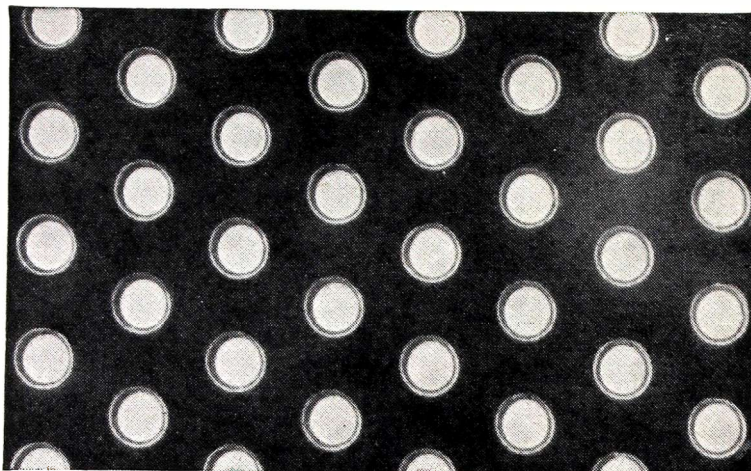
\*\* Typical harmonic distortion at 1,000 cps is 0.003% in voltage or 0.00000009% in power at 50 watts.

WRITE FOR FREE CATALOG D



**Krohn-Hite CORPORATION**  
580 MASSACHUSETTS AVE., CAMBRIDGE 39, MASS., U. S. A.

# Superior makes the parts



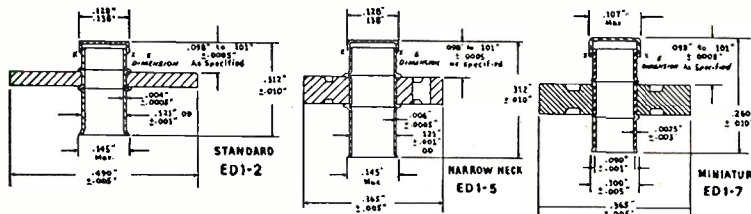
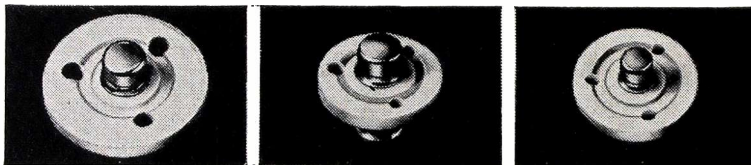
New tapered hole aperture mask—an actual photograph at 18X magnification.

## NEW, TAPERED HOLE APERTURE MASKS<sup>1</sup>

... for sharper, truer color TV

Here's a way to reduce beam diffusion, minimize false color and get better color TV pictures—in your present-design picture tubes.

Ideally, an aperture mask should have zero thickness. Electrons impinge on the walls of



Standard disc cathodes. (EDI-2) Most widely used cathodes in TV, radar test equipment, computer storage tubes and special beam type tubes.

Narrow neck disc cathodes. For 110° cathode ray tubes (EDI-5). Make possible shorter, narrower neck tubes and wider beam deflection angle. In growing use for portable TV.

Miniature disc cathodes. (EDI-6 and EDI-7) Save up to 50% heater power. Ideal for tri-gun color TV tubes. Make possible use of smaller deflection yokes and smaller cabinets.

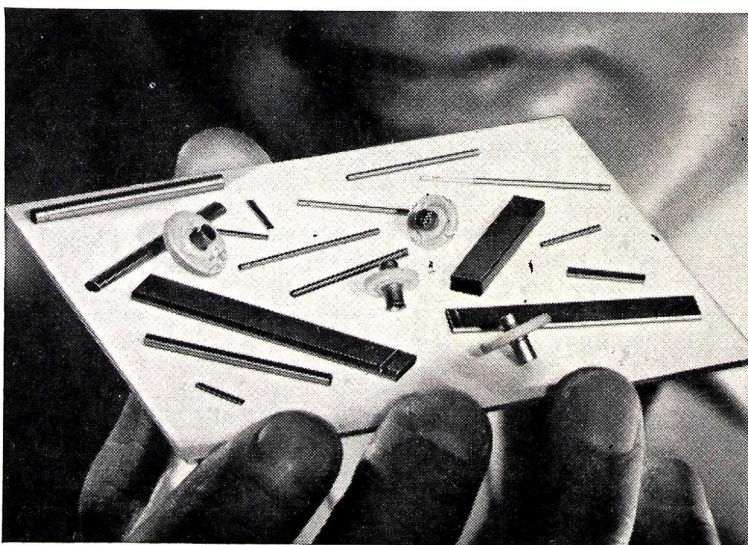
## DISC CATHODES

... three types, to cover all applications

In all Superior Tube disc cathodes, the critical "E" dimension (distance from top of ceramic to top of emission cap) is guaranteed accurate within  $\pm .0005$ ". Hence makers of TV picture tubes and other cathode ray tubes can save the time and cost of compensating for "E" dimension

## THE CATHALOYS<sup>2</sup>

... cathode alloys free from sublimation and interface impedance



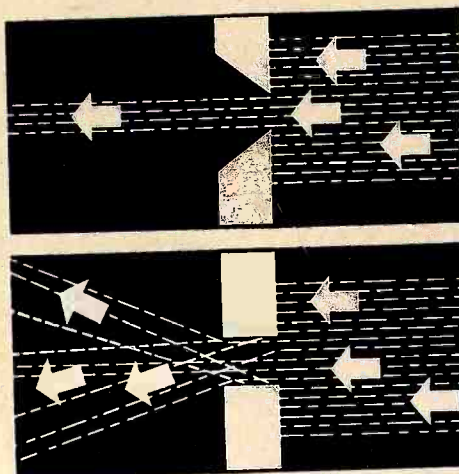
When ordering or seeking information please mention Electronics Buyers' Guide.

The Cathalloys are not only the world's most versatile cathode alloys, but they offer advantages not available in any other: high strength, high activity, or a combination of both plus low sublimation and freedom from interface impedance. In addition, they give electron tube manufacturers the assurance that they can produce tubes with new uniformity in performance characteristics. Even before being approved for production, each heat of a Cathaloy metal must be tested in an electron tube.

Of the five Cathalloys developed so far, A-32, the all-around active alloy and P-50, the all-around passive alloy, fill the vast majority of applications requirements. The others offer special advantages in countless applications. Principal characteristics are as follows:

# that make electron tubes better

cylindrical holes, and are deflected out of the narrow beam. Instead of striking a single dot, they sometimes strike adjacent color dots. The result is a hazy picture or false color. But with these new Superior Tube tapered-hole aperture masks, beam diffusion is practically eliminated. The walls of the tapered holes lie outside the path of beam electrons—even at the extreme edges of the picture. The electrons see only the holes.



See how electron beam passes through hole without diffusion. There are nearly 500,000 of these holes in each mask—all controlled to close tolerance.

Notice how old cylindrical hole aperture mask can diffuse electron beam. Electrons striking aperture walls are scattered over several dots.

variations on the assembly line. Because of this close dimensional control, cathodes can be used universally in different tubes and are interchangeable with each other during electron gun assembly. Both manufacturing efficiency and quality control can be significantly improved.

In addition, Superior Tube precision disc cathodes offer these four important advantages:

1. *Separate cap alloy.* Permits the choice and use of best alloys for both cap and shank in varying applications.
2. *Slight flare of shank opening.* Easier insertion of heater. Less abrasion of heater coating during normal expansion and contraction.
3. *Shadow groove in ceramic.* Inhibits electrical leakage between cathode and No. 1 grid.
4. *Chemically clean shank interior.* Minimizes heater-cathode leakage.

**Cathaloy A-32.**<sup>3</sup> Suitable for active alloy applications. Can be used for ruggedized tubes. Contains tungsten. Approximately 50% stronger than tungsten-free alloys.

**Cathaloy P-50.** Suitable for applications requiring a passive alloy. Available in Weldrawn<sup>2</sup> tubing. The only alloy commercially available in Weldrawn as well as in Lockseam.<sup>4</sup>

**Cathaloy A-31.** Specially designed for extreme stress applications. Contains 4% tungsten. Approximately twice as strong at high temperatures as tungsten-free alloys.

**Cathaloy A-30.** An active alloy. Versatile, yet not as strong as A-32. A good material for entertainment-type tubes.

**Cathaloy P-51.** 100% stronger than Cathaloy P-50. Ideal for ruggedized tubes. Available in seamless, Weldrawn and Lockseam forms.

## SPECIAL ALLOYS

Superior Tube is equipped also with melting facilities to supply on special order cathodes made from other alloys of specified composition. If you have a need for such cathodes, write for detailed information on this extra Superior Tube service.

## SEND FOR NEW COMPLETE CATALOG

Superior Tube's new Catalog 51—recently revised and supplemented with the most up-to-the-minute facts on cathodes, disc cathodes, tubular parts and glass sealing alloys. Gives standard cathode dimensions and tolerances, complete chemical and physical data on materials. Tells how to order. Write Superior Tube Company, 2504 Germantown Ave., Norristown, Pa.

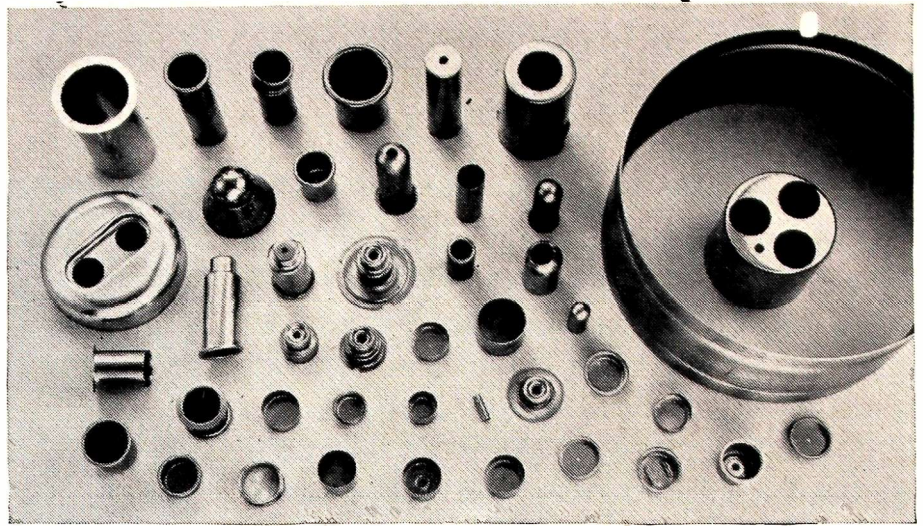
# Superior Tube

The big name in small tubing  
NORRISTOWN, PA.

Johnson & Hoffman Mfg. Corp., Mineola, N.Y.—an affiliated company making precision metal stampings and deep-drawn parts

<sup>1</sup>Manufactured by Superior Tube Co., under license from Buckbee Mears Co., St. Paul, Minn.  
<sup>2</sup>T.M. Reg. U.S. Pat. Off., Superior Tube Co.  
<sup>3</sup>Pat. Applied for.  
<sup>4</sup>Manufactured under U.S. Patents.

When ordering or seeking information please mention Electronics Buyers' Guide.



## DEEP-DRAWN PARTS

Parts made by drawing the metal into the desired shape. These parts include cups, eyelets, rings, flanges and grommets.

# Precision Metal Stampings

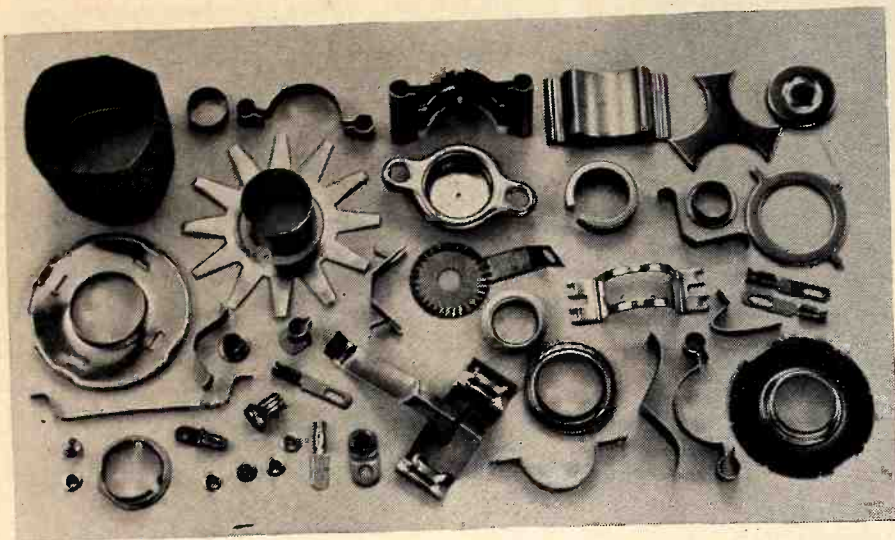


*Untrimmed or trimmed, depending on available tooling.*

## TOOLING ON HAND FOR ROUND CUPS IN THESE SIZES

Save cost. Johnson & Hoffman can make round cups in these sizes from existing tooling, saving you the high cost of special dies. A small tooling charge may be necessary to accommodate different end shapes. These parts are available in low carbon steel, stainless steel, glass sealing alloys, nickel, aluminum, brass and titanium. When ordering, please specify material, wall thickness, diameter, length, and shape of open end.

OUTSIDE DIA.	HEIGHT	OUTSIDE DIA.	HEIGHT	OUTSIDE DIA.	HEIGHT	OUTSIDE DIA.	HEIGHT
<b>.004 Mat'l (Wall)</b>		<b>.010 Mat'l (Wall)</b>		<b>.010 Mat'l (Wall)</b>		<b>.015 Mat'l (Wall)</b>	
.284	5/32	1.000	3/8	.374	9/16	.608	7/16
.231	3/16	.988	5/8	.314	5/8	.575	1 15/16
.198	1/4	.940	1 1/4	.271	5/8	.552	1 3/32
.170	9/32	.934	7/16	<b>.012 Mat'l (Wall)</b>		.529	2 1/8
.150	1 1/32	.900	1 11/16	.730	1 3/16	.485	1 1/8
.135	3/8	.860	1 29/32	.585	1	.470	5/8
.121	1 3/32	.795	1 1/2	.520	1 3/16	.453	1/2
<b>.007 Mat'l (Wall)</b>		.790	1	<b>.015 Mat'l (Wall)</b>		.402	3/4
.703	9/32	.780	3/8	1.605	1 1/16	.373	5/8
.562	3/8	.770	1 3/16	1.225	1 1/2	<b>.030 Mat'l (Wall)</b>	
.520	1/2	.752	1 5/16	1.195	7/8	2.170	1
<b>.010 Mat'l (Wall)</b>		.737	2 3/32	1.100	1 11/16	1.787	1 1/4
1.310	3/4	.704	7/16	1.027	3/4	1.583	1 3/8
1.210	1 5/16	.658	1 1/2	.950	1 7/8	1.498	1 9/16
1.202	7/8	.632	1 7/32	.935	1 3/8	1.310	1/2
1.195	1 3/16	.625	5/8	.920	1 1/4	1.050	5/8
1.180	1 3/16	.620	1/2	.788	1 5/16	.926	5/16
1.050	1 3/16	.600	2 9/32	.750	1 1/2	.859	1 3/16
1.030	1 3/16	.576	1 5/8	.657	1 3/4	.806	7/16
1.020	1 1/16	.562	9/16	.615	3/8	.795	1 5/16
		.530	1 9/32			.730	1 3/16
		.520	1 3/4			.710	1/2
		.497	1 1/16				
		.455	7/16				



## STAMPINGS

Parts made of flat strip which is bent or curved to the shape desired or cut to a particular shape. These machines can also perform embossing or drawing operations within certain limits.

## MICRO-MINIATURE PARTS

A typical example is this group of parts made for use in the new General Electric 6BY4 ceramic electron tube.\* These parts, with a maximum diameter of only 1/4 in., are held within .0005 in. tolerance.

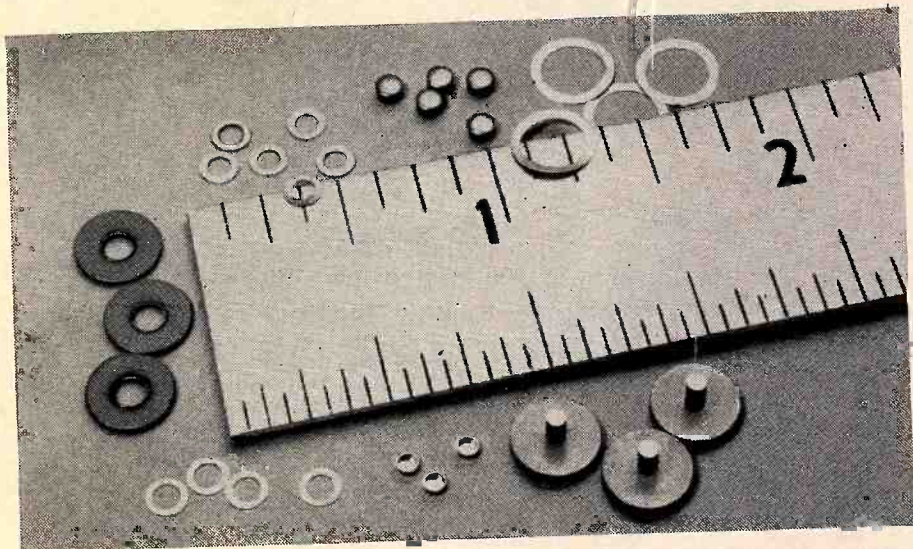
\*Reproduced by permission of General Electric Co., Electronic Components Division.

# at Low Cost

**Johnson & Hoffman ingenuity can save you money while insuring product quality**

The ability of Johnson & Hoffman to make precision metal stampings and deep-drawn parts at low cost is a result of its emphasis on creative engineering . . . ingenious design and tooling . . . combining two parts into one . . . or reducing the number of operations required to produce a given part.

Whatever your requirements, look to Johnson & Hoffman as your fast, reliable source of supply. We have an extensive line of standard designs and are equipped to develop new tooling for special parts you may need.



### MATERIALS

Titanium, molybdenum, tungsten, stainless steel, brass, carbon steel, copper, aluminum, Berylco,\* phosphor bronze, Inconel,† HC-4, 52 alloy, Kovar,‡ nickel silver, silver, Rodar.§

### FINISHES

Electropolished, tumbled, plated.

### SIZE LIMITATIONS

Johnson & Hoffman has facilities to produce a wide variety of parts to exacting close tolerances. Deep-drawn parts, for example, can be supplied from strip metals from .003 to .060 in. thick in sizes up to

2.75 in. OD and 3.75 in. in depth. These include plain or contoured cups, pierced or closed. Materials of other thicknesses can be used, depending on the contour of the part and the particular material. There is virtually no limit to the variety of stampings that can be produced. Complete information on these parts, plus micro-miniature parts, can be supplied on request.

### WRITE FOR ESTIMATE

If you currently buy precision stampings or deep-drawn parts, ask Johnson & Hoffman for an estimate. Find out just how much you can save, while maintaining or possibly improving your product quality.

\*T.M. Reg. U.S. Pat. Off., The Beryllium Corporation.

†T.M. Reg. U.S. Pat. Off., International Nickel Co.

‡Kovar is distributed by the Carborundum Co., Stupakoff Division, Latrobe, Pa., for Westinghouse Electric Corporation. Reg. U.S. T.M. No. 337,962, Westinghouse Electric Corporation.

§T.M. Reg. U.S. Pat. Off., Wilbur B. Driver Co.



An affiliate of  
Superior Tube Co.

# J & H

## JOHNSON & HOFFMAN

### MANUFACTURING CORPORATION

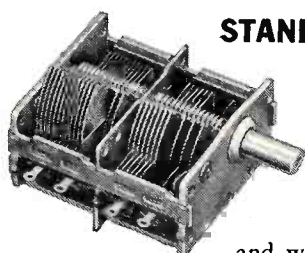
31 East 2nd Street • Mineola, New York • Pioneer 2-3333

# TUNE IN ON RADIO CONDENSER

## For Variable Capacitors Tuners Electromechanical Assemblies

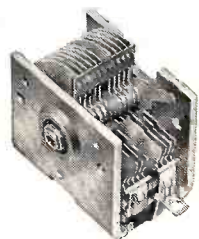
The experience of Radio Condenser in producing tuners and variable capacitors to individual requirements has consistently proved its value to manufacturers through the right combination of quality and cost. However unusual a problem may be, chances are that R/C specialists have faced a similar problem and solved it.

The products shown on this page are only a brief sampling of units designed, engineered, and manufactured by Radio Condenser. A more complete description of products in each category is given in our catalog, available on request. Or, we will be happy to arrange a direct interview with a Radio Condenser Engineer at your convenience.



### STANDARD HOME RADIO TYPE CAPACITORS

R/C units cover every standard application, including AM-FM receivers. Each is a product of high quality, performance-proved, and well adapted to rapid, low cost quantity production.



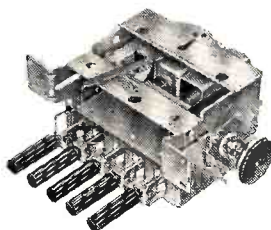
### CAPACITORS FOR LIMITED SPACE

Among the most recently announced R/C developments is a miniature variable capacitor for transistorized radio receivers, also adaptable to color TV phasing control. R/C accomplished important reductions in size with no sacrifice of stability or calibration accuracy.



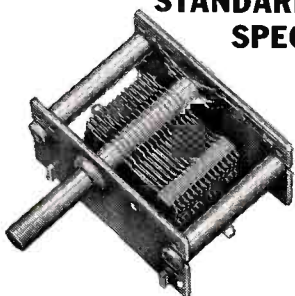
### MINIATURE AIR TRIMMER CAPACITORS

For every type of electronic equipment—printed wiring board or conventional chassis—Radio Condenser miniature trimmers permit more circuit in less space. All are equipped with plug-in tabs as well as two holes for screw mounting. Ruggedly constructed, the tiny trimmers also have excellent insulation resistance, "Q", and thermal stability.



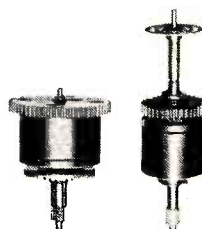
### AUTOMOTIVE RADIO TUNERS

Approximately one-third of all American automobiles are equipped with R/C tuners. Because every automobile radio tuner is an individual case, R/C custom manufacturing experience is an important asset to the radio manufacturer in this specialized field.



### STANDARD CAPACITORS FOR SPECIAL APPLICATIONS

Always an important part of R/C activities, design and manufacture of variable capacitors of a special nature are handled by a special division. Products include units for every type of military service, test equipment, etc.



### LOW COST MAGNETIC CLUTCHES

Originally designed by R/C to meet the rigid price-performance requirements of the automotive industry. Replace cumbersome mechanical assemblies to save space . . . cut costs . . . eliminate costly production steps. Two basic designs can be modified to meet individual volume requirements.



## RADIO CONDENSER CO.

Davis & Copewood Streets • Camden 3, New Jersey

EXPORT: Radio Condenser Co., International Div., 15 Moore St., N.Y. 4, N.Y. CABLE: MINTHORNE

CANADA: Radio Condenser Co. Ltd., 6 Bermondsey Rd., Toronto, Ontario

For all power supply needs through 1.5 amperes

# LAMBDA SPACE-SAVING

# COM-PAK<sup>®</sup> POWER SUPPLIES

THREE VOLTAGE RANGES: 0-200, 125-325, 325-525 VDC

1.5 AMPERE MODELS

**NEW!**

NEED ONLY **8<sup>3</sup>/<sub>4</sub>"** OF PANEL HEIGHT!



- MODEL C-1580M (with meters): 0-200 VDC, 0-1500 MA.....580.00
- MODEL C-1581M (with meters): 125-325 VDC, 0-1500 MA.....605.00
- MODEL C-1582M (with meters): 325-525 VDC, 0-1500 MA.....680.00
- MODEL C-1580: ..... 0-200 VDC, 0-1500 MA.....550.00
- MODEL C-1581: ..... 125-325 VDC, 0-1500 MA.....575.00
- MODEL C-1582: ..... 325-525 VDC, 0-1500 MA.....650.00

800 MA MODELS:

NEED ONLY **7"** OF PANEL HEIGHT!



- MODEL C-880M (with meters): 0-200 VDC, 0-800 MA.....370.00
- MODEL C-881M (with meters): 125-325 VDC, 0-800 MA.....345.00
- MODEL C-882M (with meters): 325-525 VDC, 0-800 MA.....390.00
- MODEL C-880: ..... 0-200 VDC, 0-800 MA.....340.00
- MODEL C-881: ..... 125-325 VDC, 0-800 MA.....315.00
- MODEL C-882: ..... 325-525 VDC, 0-800 MA.....360.00

400 MA MODELS:

NEED ONLY **5<sup>1</sup>/<sub>4</sub>"** OF PANEL HEIGHT!



- MODEL C-480M (with meters): 0-200 VDC, 0-400 MA.....289.50
- MODEL C-481M (with meters): 125-325 VDC, 0-400 MA.....274.50
- MODEL C-482M (with meters): 325-525 VDC, 0-400 MA.....289.50
- MODEL C-480: ..... 0-200 VDC, 0-400 MA.....259.50
- MODEL C-481: ..... 125-325 VDC, 0-400 MA.....244.50
- MODEL C-482: ..... 325-525 VDC, 0-400 MA.....259.50

200 MA MODELS:

NEED ONLY **5<sup>1</sup>/<sub>4</sub>"** OF PANEL HEIGHT!



- MODEL C-280M (with meters): 0-200 VDC, 0-200 MA.....214.50
- MODEL C-281M (with meters): 125-325 VDC, 0-200 MA.....189.50
- MODEL C-282M (with meters): 325-525 VDC, 0-200 MA.....199.50
- MODEL C-280: ..... 0-200 VDC, 0-200 MA.....184.50
- MODEL C-281: ..... 125-325 VDC, 0-200 MA.....159.50
- MODEL C-282: ..... 325-525 VDC, 0-200 MA.....169.50



**LAMBDA Electronics Corp.**

11-11 131 STREET • COLLEGE POINT 56, NEW YORK

INDEPENDENCE 1-8500

Cable Address:

Lambdatron, New York



# LAMBDA COM-PAK<sup>®</sup> POWER SUPPLIES

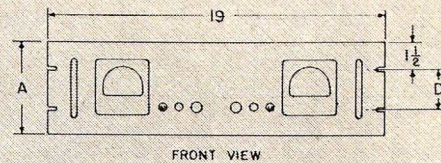
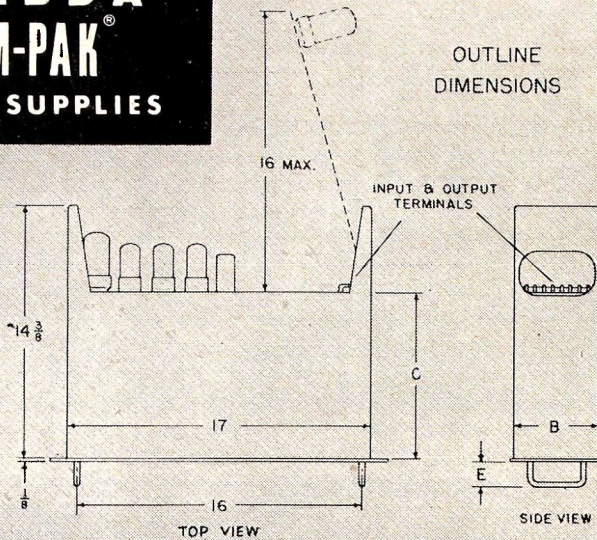


TABLE OF DIMENSIONS

MODEL*	A	B	C	D	E
C-280, C-281, C-282	5 1/4	4 13/16	9 1/2	2 1/4	1 3/8
C-480, C-481, C-482	5 1/4	4 13/16	9 7/8	2 1/4	1 3/8
C-880, C-881, C-882	7	6 9/16	9 7/8	4	1 9/16
C-1580, C-1581, C-1582	8 3/4	8 5/16	11 1/32	5 3/4	1 13/16

\*ALSO INCLUDES METERED MODELS WITH SUFFIX "M", e.g. MODEL C-281M



## COM-PAK SERIES... SPECIFICATIONS

### DC OUTPUT (regulated for line and load):

#### Voltage and Current

Models	Voltage Range <sup>1</sup>	Current Range <sup>2</sup>
C-280, C-280M	0-200 VDC	0-200 MA
C-281, C-281M	125-325 VDC	0-200 MA
C-282, C-282M	325-525 VDC	0-200 MA
C-480, C-480M	0-200 VDC	0-400 MA
C-481, C-481M	125-325 VDC	0-400 MA
C-482, C-482M	325-525 VDC	0-400 MA
C-880, C-880M	0-200 VDC	0-800 MA
C-881, C-881M	125-325 VDC	0-800 MA
C-882, C-882M	325-525 VDC	0-800 MA
C-1580, C-1580M	0-200 VDC	0-1500 MA
C-1581, C-1581M	125-325 VDC	0-1500 MA
C-1582, C-1582M	325-525 VDC	0-1500 MA

<sup>1</sup>Voltage range for each model is completely covered in four continuously variable bands as follows:

Models	Voltage Bands
C-280, 480, 880, 1580	0-50, 50-100, 100-150, 150-200
C-281, 481, 881, 1581	125-175, 175-225, 225-275, 275-325
C-282, 482, 882, 1582	325-375, 375-425, 425-475, 475-525

<sup>2</sup>Current rating applies over entire voltage range.

Regulation (line) ..... Better than 0.15% or 0.3 Volt (whichever is greater). For input variations from 105-125 VAC.

Regulation (load) ..... Better than 0.25% or 0.5 Volt (whichever is greater). For load variations from 0 to full load.

Transient Response (line) ..... Output voltage is constant within regulation specifications for step-function line voltage change of plus (+) 10 volts or minus (-) 10 volts rms within the limits of 105-125 VAC.

Transient Response (load) ..... Output voltage is constant within regulation specifications for step-function load change from 0 to full load or full load to 0.

Internal Impedance .....  
 C-200 Series ..... Less than 6 ohms.  
 C-400 Series ..... Less than 3 ohms.  
 C-800 Series ..... Less than 1.5 ohms.  
 C-1500 Series ..... Less than 0.75 ohms.

Ripple and Noise ..... Less than 3 millivolts rms.

Polarity ..... Either positive or negative may be grounded.

AMBIENT TEMPERATURE AND DUTY CYCLE ..... Continuous duty at full load up to 50°C (122°F) ambient.

### AC OUTPUT

(unregulated) ..... 6.5 VAC (at 115 VAC Input).<sup>3</sup>  
 C-200 Series ..... 10 AMP.  
 C-400 Series ..... 15 AMP.  
 C-800 Series ..... 20 AMP.  
 C-1500 Series ..... 30 AMP.

<sup>3</sup>Allows for voltage drop in connecting leads. Isolated and ungrounded.

AC INPUT ..... 105-125 VAC, 50-400 CPS

Models	Input Power <sup>4</sup>	Output Power
C-280	300 Watts	C-880 670 Watts
C-281	330 Watts	C-881 850 Watts
C-282	390 Watts	C-882 1070 Watts
C-480	410 Watts	C-1580 1180 Watts
C-481	480 Watts	C-1581 1420 Watts
C-482	595 Watts	C-1582 1850 Watts

<sup>4</sup>With all outputs loaded to full ratings and input at 125 VAC.

### OVERLOAD PROTECTION:

External Overload Protection ..... AC and DC fuses, front panel, with built-in blown-fuse indicators.

Internal Failure Protection ..... Fuse, rear of chassis.

### INPUT AND OUTPUT CONNECTIONS

..... Heavy duty barrier terminal block, rear of chassis. 8 foot heavy duty rubber covered line cord with integral molded plug, also supplied.

### METERS:

Output Voltage ..... 3 1/2" rectangular voltmeter on metered models.

Output Current ..... 3 1/2" rectangular milliammeter on metered models.

### CONTROLS:

DC Output Controls ..... Band-switches and screw-driver adjusting vernier-control, rear of chassis.

AC and DC Switches ..... Front panel.

VOLTAGE REFERENCE ..... A stable 5651 reference tube is used to obtain superior long-time voltage stability.

### PHYSICAL DATA:

Mounting ..... Standard 19" rack mounting.

#### Size:

C-200 Series	..... 5 1/4" H x 19" W x 14 3/8" D.
C-400 Series	..... 5 1/4" H x 19" W x 14 3/8" D.
C-800 Series	..... 7" H x 19" W x 14 3/8" D.
C-1500 Series	..... 8 3/4" H x 19" W x 14 3/8" D.

#### Weight:

C-200 Series	..... 53 lb. Net 80 lb. Shipping Wt.
C-400 Series	..... 53 lb. Net 80 lb. Shipping Wt.
C-800 Series	..... 84 lb. Net 100 lb. Shipping Wt.
C-1500 Series	..... 120 lb. Net 140 lb. Shipping Wt.

Panel Finish ..... Black ripple enamel (standard). Special finishes available to customers' specifications at moderate surcharge.

- \* LESS PANEL SPACE
- \* IMPROVED PERFORMANCE
- \* LONG, TROUBLE-FREE SERVICE



Lambda's COM-PAK series wins immediate and enthusiastic acceptance. Engineers welcome advanced thermal, mechanical design; praise economy of panel space.

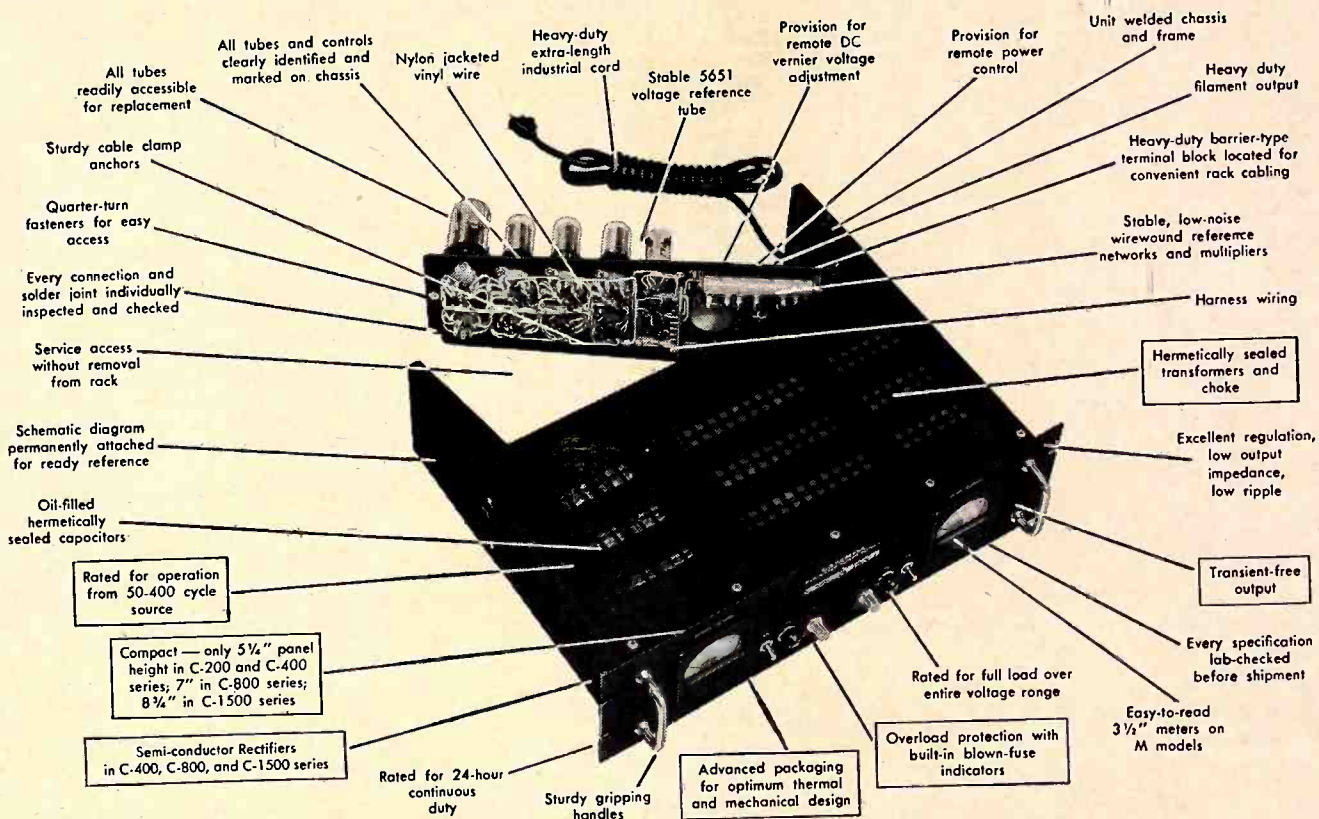
The new COM-PAK models fill the need for compact, regulated DC power supply units. You'll find their economy of panel space matched by their functional simplicity. You'll appreciate their quick-service features. All wiring, tubes and other components are readily accessible. You can reach them easily, service them fast.

All COM-PAK models are made with hermetically-

sealed transformers, chokes and capacitors. The 400 MA, 800 MA and 1.5 ampere models include new, high-efficiency, long-life, hermetically-sealed semi-conductor rectifiers.

Demand for COM-PAK power supplies is the greatest in our history. Place your order now for a better priority in shipment.

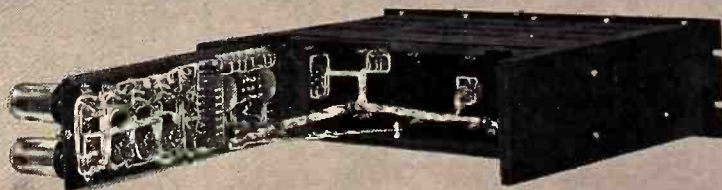
## ONLY THE NEW COM-PAK SERIES INCLUDES ALL 31 OF THESE IMPORTANT DESIGN AND PERFORMANCE FEATURES



## FAST IN-RACK SERVICING



Quick rear access to tubes and controls.



Rear panel swings open for servicing.



# MINIATURE INSTRUMENT BALL BEARINGS

## STANDARD RETAINER BEARINGS

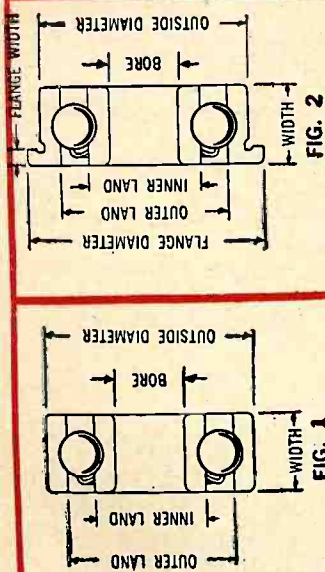


FIG. 1

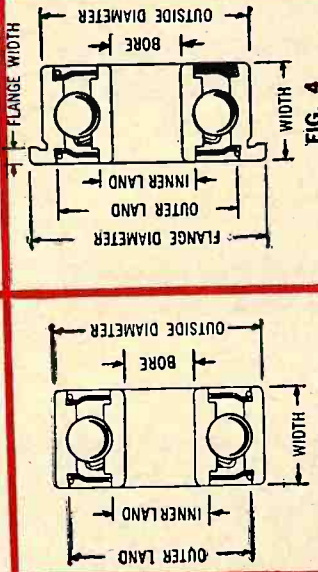


FIG. 3



FIG. 4

**NOTES**

\*RADIUS shown is maximum size of shaft or housing fillet that bearing will clear.  
 TOLERANCES shown are ABEC 5 or better.  
 Bearings can also be supplied to ABEC 7. The tolerance on width is for individual rings only.  
 MATERIAL is Type 440 C stainless steel. Unshielded bearings (Figures 1 and 2 only) can be supplied in SAE 52100 chrome steel at same prices.  
 LOAD CALCULATIONS — Use C Rating and nomograph in our catalog. For chrome steel (Figures 1 and 2 only) multiply C by 1.2.  
 WIDTHS shown have been accepted as standard by the AFBMA for SINGLE or DOUBLE shields.

**HOW TO ORDER**

Use bearing numbers shown. \*\*For single shield (Figures 3 and 4) use the following suffixes instead of PP:  
 Figure 3, suffix P1 — Shield on flanged side.  
 Figure 4, suffix P2 — Shield on side opposite flange.  
 In all cases, the following should be specified:  
 1. Radial Play (see our catalog).  
 2. Lubrication (see our catalog).  
 The following should be specified only if they are essential to the application:  
 3. Coding (see our catalog).  
 4. ABEC 7 tolerances (see our catalog).  
 5. Other special specifications should be checked with the Plant before ordering.



**SEND FOR FREE CATALOG**

Get this complete, authoritative technical manual and data book on Micro-Bearings. Includes helpful design article: "Factors To Consider In Selecting Small Instrument Ball Bearings."

BORE	OUTSIDE DIAMETER	WIDTH	BEARING NUMBERS			RADIUS*	FIG. 2 & 4 ONLY		BALLS NO. & SIZE	C RATING		
			FIG. 1 PLAIN BEARING	FIG. 2 FLANGED BEARING	FIG. 3 PLAIN BEARING SHIELDED**		FIG. 4 FLANGED BEARING SHIELDED**	FLANGE DIA.			FLANGE THICK.	
.0469	.1562	+.0000 -.0002	SRO	SFR0	SR0PP	.005	.203	+.0000 -.0001				
					SFR0PP					6 1/32	19	
.0550	.1875	+.0000 -.0002	SR1	SFR1	SR1PP	.005	.234	.023	.100	.162	6 1 mm	28
					SFR1PP							
.0781	.2500	+.0000 -.0002	SR1-4	SFR1-4	SR1-4PP	.006	.296	.023	.086	.173	6 3/64	39
					SFR1-4PP							
.0937	.1875	+.0000 -.0002	SR1-5	SFR1-5	SR1-5PP	.006	.359	.023	.112	.226	7 1/32	21
					SFR1-5PP							
.1250	.3125	+.0000 -.0002	SR1-44	SFR1-44	SR1-44PP	.006	.296	.023	.159	.267	6 1/16	64
					SFR1-44PP							
.1562	.3750	+.0000 -.0002	SR2-5	SFR2-5	SR2-5PP	.006	.422	.023	.164	.220	8 1 mm	36
					SFR2-5PP							
.1875	.5000	+.0000 -.0002	SR2-6	SFR2-6	SR2-6PP	.008	.440	.023	.179	.275	6 1/16	66
					SFR2-6PP							
.2500	.6250	+.0000 -.0002	SR4	SFR4	SR4PP	.010	.547	.023	.202	.298	7 1/16	73
					SFR4PP							
.3125	.5000	+.0000 -.0002	SR1810	SFR1810	SR1810PP	.009	.547	.023	.181	.309	8 1 mm	35
					SFR1810PP							

# MICRO-BEARINGS

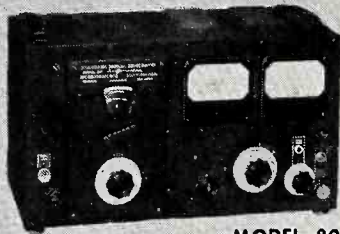
## MINIATURE INSTRUMENT BALL BEARINGS

**NEW HAMPSHIRE BALL BEARINGS, INC.**  
 PETERBOROUGH NEW HAMPSHIRE

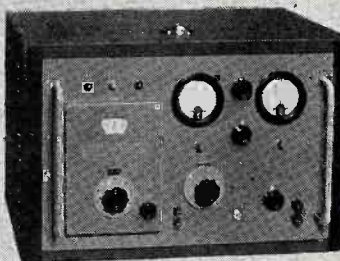
# MEASUREMENTS CORPORATION



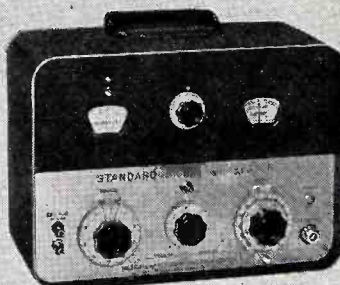
*Laboratory Standards*



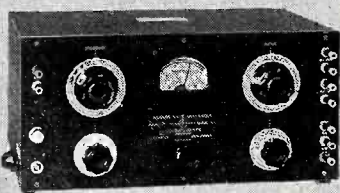
MODEL 80  
STANDARD SIGNAL GENERATOR



MODEL 95  
STANDARD SIGNAL GENERATOR



MODEL 210-A  
FM STANDARD SIGNAL GENERATOR



MODEL 71  
SQUARE WAVE GENERATOR



MODEL 67  
PEAK-TO-PEAK VOLTMETER

## STANDARD SIGNAL GENERATORS

MODEL	FREQUENCY RANGE
65-B	75 Kc to 30 Mc
80	2 Mc to 400 Mc
80-R	5 Mc to 475 Mc
82	20 Cycles to 200 Kc 80 Kc to 50 Mc
84-R	300 Mc to 1000 Mc
84-TVR	400 Mc to 1000 Mc
95	50 Mc to 400 Mc
210-A	86 Mc to 108 Mc

## SQUARE WAVE GENERATOR

MODEL	FREQUENCY RANGE
71	6 to 100,000 Cycles Continuously variable

## PULSE GENERATOR

MODEL	FREQUENCY RANGE
79-B	60 to 100,000 pulses per second

## VHF FIELD STRENGTH METER

MODEL	FREQUENCY RANGE
58-AS	15 Mc to 150 Mc

## HIGH FREQUENCY BARRETTTER

MODEL	FREQUENCY RANGE
202-C	2 Mc to 1000 Mc

## VACUUM TUBE VOLTMETERS

MODEL	FREQUENCY RANGE
62	30 cps to over 150 Mc
67	5 to 100,000 sine-wave cps.

## MEGACYCLE "GRID-DIP" METERS

MODEL	FREQUENCY RANGE
59 LF	0.1 Mc to 4.5 Mc
59	2.2 Mc to 420 Mc
59 UHF	420 Mc to 940 Mc

## CRYSTAL CALIBRATORS

MODEL	FREQUENCY RANGE
111	250 Kc to 1000 Mc
111-B	100 Kc to 1000 Mc



MODEL 59  
MEGACYCLE "GRID-DIP" METER



MODEL 111  
CRYSTAL CALIBRATOR

## STANDARD TEST SET for TRANSISTORS



MODEL 505

Tests PNP and NPN small-signal, medium-power and switching transistors.

Checks for short-circuited emitter-collector junctions.

Measures collector-to-emitter leakage current.

Measures collector current and d-c gain.

Case Dimensions: 10" high x 14" wide x 7 1/4" deep.

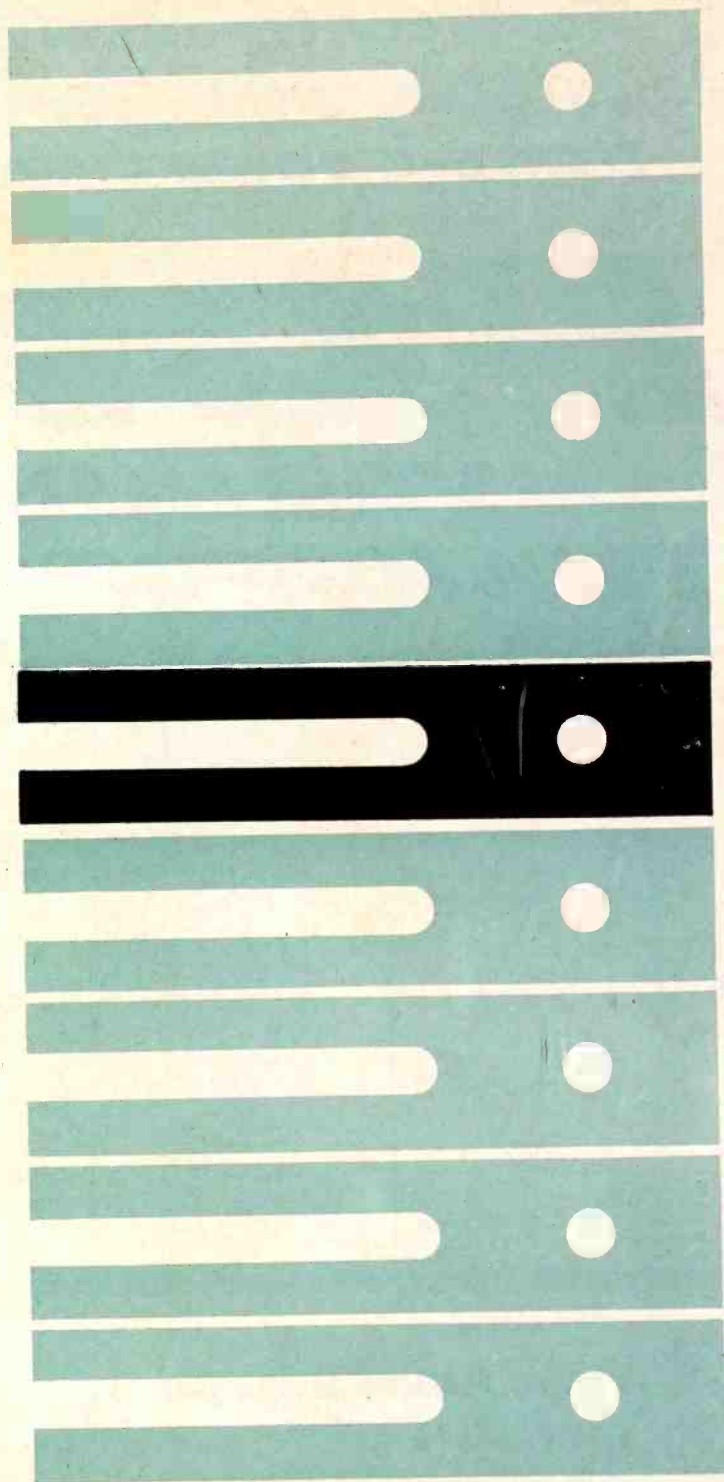
Power Supply: Two F4BP 6-volt dry batteries.

Weight: Approximately 9 pounds without batteries.

# MEASUREMENTS CORPORATION

BOONTON • NEW JERSEY

# Tuning Fork Controlled



Tuning Fork Resonators, the ultimate in precision audio frequency control.

**PHONE OR WRITE**

for complete information regarding component type Tuning Fork Resonators, and variously packaged Frequency Standards, Oscillators, Drivers, and Frequency Dividers.

**PHILAMON LABORATORIES INC.**

90 Hopper Street, Westbury, Long Island, N. Y. EDgewood 3-1700

*For a continuously adjustable output voltage from a-c power lines*



**TYPE 10**  
INPUT: 120 volts, 60 cycle, 1 phase.  
OUTPUT: 0-120/132 volts, 1.25 amperes, .165 KVA for Back-of-Panel



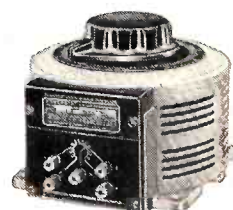
**TYPE 2PF10**  
INPUT: 120 volts, 60 cycle, 1 phase. OUTPUT: 0-132 volts, 1.0 amperes, .132 KVA

# POWER

## VARIABLE TRANSFORMERS

**Standard types meet the most unusual conditions**

The most extensive line of variable transformers is POWERSTAT. And now a complete standard line of POWERSTATS for high frequency use is offered in addition to the innumerable standard air-cooled types for manually-operated or motor-driven duty . . . oil-cooled models . . . and explosion-proof units. You'll find 120, 240 and 480 volt, single phase and 3-phase models. They all provide excellent regulation with high efficiency. Their conservative ratings and rugged construction assure precise plus long, dependable service. Look to POWERSTAT for the complete line of variable transformers of the highest quality.



**TYPE 136**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-120/140 volts, 20.0 amperes, 2.8 KVA. Exposed Terminal Connections.



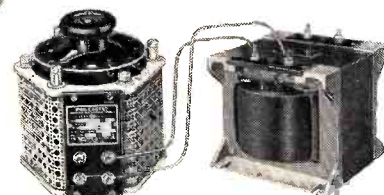
**TYPE 0-1126**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-140 volts, 30 amperes, 4.2 KVA. For Oil-Cooled Operation.



**TYPE X-1126**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-140 volts, 12 amp., 1.7 KVA. Explosion-Proof for Hazardous Locations.



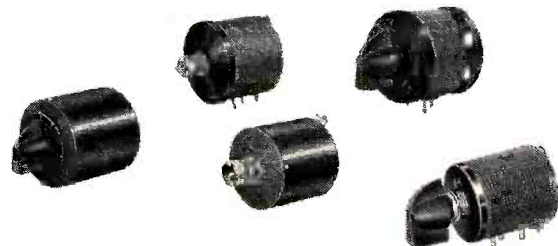
**TYPE 10-1002**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-120 volt, 1.25 amp., .15 KVA. Complete Rotation.



**TYPE 2106LC**  
INPUT: 95-135 volts, 50/60 cycle, 1 phase. OUTPUT: 115 volts, 52 amperes, 6.0 KVA. Limited Output Range or a Line Corrector.

### New, Standard Line for HIGH FREQUENCY Applications

One-third the weight . . . one-half the size of 60 cycle units, these POWERSTATS are ideal for ship, aircraft, guided missile and other 400/800 cycle applications. Here are some of the new models. There are many others. We will be glad to develop special units to meet your special needs.



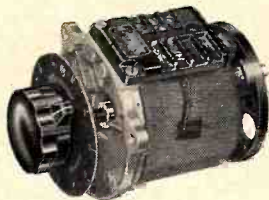
#### HS SERIES

For 400/800 cycle, single phase use. Units for 28 and 120 volt service. The 120 volt types can be connected for 0-120 or 0-140 volts output. Reduced voltage types have a double winding and operate from 120 volts to deliver an output of 0-28 volts. A fixed tap provides a non-adjustable 28 volt supply.

Precision products of



**TYPE 20**  
INPUT: 120 volts, 60 cycle, 1 phase. OUTPUT: 0-120/140 volts, 3.0 amperes, .42 KVA for Back-of-Panel.



**TYPE 116U**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-120/140 volts, 7.5 amperes, 1 KVA for Back-of-Panel.



**TYPE 116**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-140 volts, 7.5 amp., 1 KVA. Enclosed with Cord-Plug, Receptacle, Fuse, Switch.



**TYPE 3PN116**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-140 volts, 7.5 amperes, 1 KVA. Third Wire Grounded.

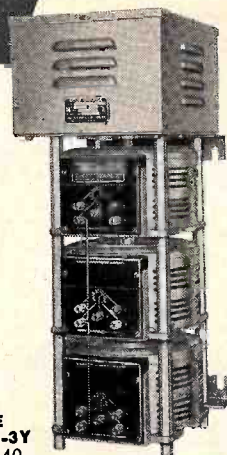
# STAT<sup>®</sup>



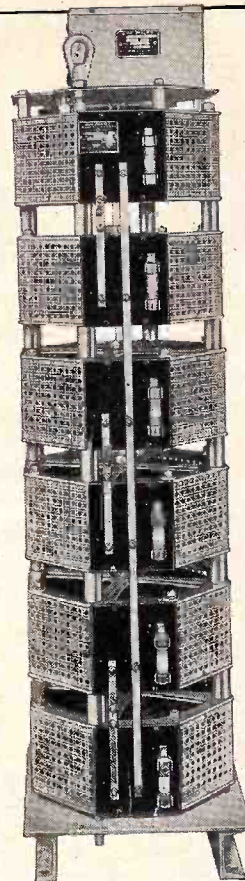
**TYPE 2PF136**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-120/140 volts, 20.0 amperes, 2.8 KVA. With Cord-Plug, Fuse, Receptacle.



**TYPE LW136 (and LW136-3)**  
Double wound assembly with isolated secondary. One phase 120 or 240 volt input. Three uses: (1) One phase 120 or 240 volt input; 3-phase 240 or 480 volt input; low voltage isolated output. (2) 120 or 240 volt 1-phase, or 240 or 480 volt 3-phase line corrector. (3) 120 or 240 volt, 1-phase, or 240 or 480 volt, 3-phase limited range "buck-boost" variable transformer.



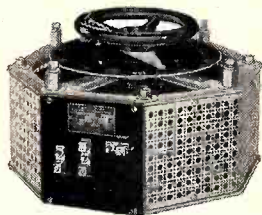
**TYPE 15M136-3Y**  
INPUT: 240 volts, 60 cycle, 3 phase. OUTPUT: 0-240/280 volts, 20 amperes, 9.7 KVA. Motor-Driven for Remote Control.



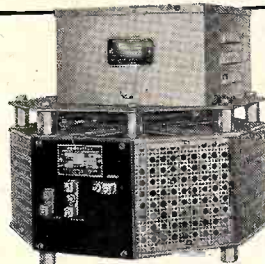
**TYPE MW1156-6Y**  
INPUT: 240 volts, 60 cycle, 3 phase. OUTPUT: 0-280 volts, 90 amperes, 43.6 KVA. Motor-Driven for Easy Operation.



**TYPE 1126-1001**  
INPUT: 115 volts, 400/800 cycle, 1 phase. OUTPUT: 0-130 volts, 15 amperes, 1.95 KVA. With a Dust-Proof Container.



**TYPE 1156**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-140 volts, 45 amperes, 6.3 KVA. For Heavy Duty.

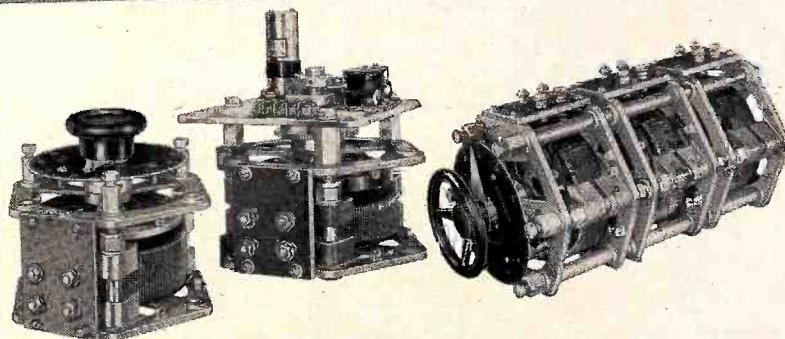


**TYPE MZ1156**  
INPUT: 120 volts, 50/60 cycle, 1 phase. OUTPUT: 0-140 volts, 45 amperes, 6.3 KVA. Motor-Driven for Remote Control.



## HM SERIES

For 400/800 cycle, single and 3-phase use. Units for 120 and 240 volts, 1-phase . . . 240 and 480 volts 3-phase service. All units with terminal connections to provide output voltages limited to input voltages . . . or output voltages above input voltages.



## HL SERIES

For 400/800 cycle, single and 3-phase use. Manually-operated and motor-driven models. Units for 120 and 240 volt service. Three phase models are wye connected to operate from 240 or 480 volt lines. Input terminals provide choice equal to or 17% higher than line voltage.

**THE SUPERIOR ELECTRIC COMPANY**  
5000B Bradley Ave., Bristol, Connecticut





For a constant  
output voltage  
from a-c power lines

3 TYPES  
TO SUIT  
INDIVIDUAL  
APPLICATIONS

# STABI

## Automatic VOLTAGE REGULATORS

MODELS OF  
EACH TYPE  
FOR HIGH  
FREQUENCY  
APPLICATIONS

Have you a *special* voltage regulation requirement? Chances are it can be handled by a *standard* STABILINE. Look at the range of characteristics shown here. STABILINES maintain a constant output voltage regardless of line or load changes. Type IE is completely electronic without moving parts; Type EM corrects faster than most regulators and maintains constant voltage to large loads without waveform distortion; Type TM is without tubes, transistors, or moving parts.

OTHER  
STANDARD TYPES  
TO FULFILL  
THE MOST  
EXACTING  
REQUIREMENTS



### Temperature Limited DIODE type 1236C

characteristics

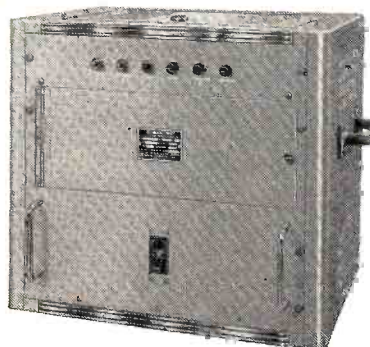
	AVERAGE	MAXIMUM
CATHODE (Tungsten)		
VOLTAGE	1.9 v/pts a-c or d-c	2.6 volts a-c or d-c
CURRENT	440 MA	520 MA
PLATE		
VOLTAGE	600 volts d-c	700 volts d-c
CURRENT	0.7 MA d-c	1.0 MA d-c

Applications:  
RMS detector for differential volt  
meters  
RMS detector for a-c voltage and  
current stabilizers  
Detector for d-c voltage and  
current stabilizers



### TYPE IE51002

INPUT: 95-135 volts, 60 cycle, 1 phase.  
OUTPUT: 115 volts, 2.2 amperes, .25 KVA.  
Completely Electronic, Portable with Cord-  
Plug, Receptacle.



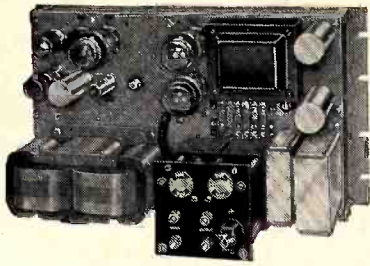
### TYPE EMD4208

Two Type EM units with *individual* control and power circuits in one cabinet. One phase, 2 or 3 wire, 120 or 240/120 volt, 45-66 cycle service. Output from 2.1 to 8.4 KVA depending on input connections.

### TYPE EMD4208S

Same as Type EMD4208 except with *common* control . . . added 240 volt service . . . and output from 4.2 to 16.8 KVA depending on input connections.

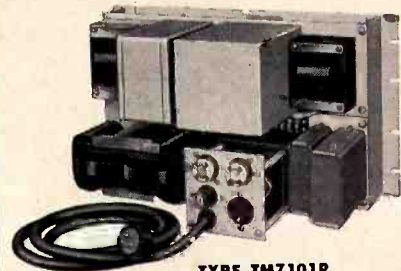
Precision products of



**TYPE IE5101R**  
 INPUT: 95-135 volts, 60 cycle, 1 phase. OUTPUT: 115 volts, 8.5 amperes, 1.0 KVA. Instantaneous Electronic. No Moving Parts.

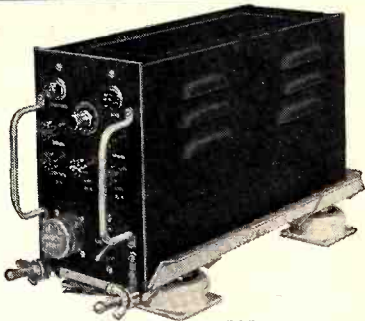


**TYPE EM4102R**  
 INPUT: 95-135 volts, 50/60 cycle, 1 phase. OUTPUT: 115 volts, 17.5 amperes, 2.0 KVA. Electro-Mechanical with zero waveform distortion.



**TYPE TM7101R**  
 INPUT: 95-135 volts, 60 cycle, 1 phase. OUTPUT: 115 volts, 1.0 KVA. Tubeless Magnetic without Transistors, Tubes or Moving Parts. TYPE TM7105 the same characteristics except 5.0 KVA output.

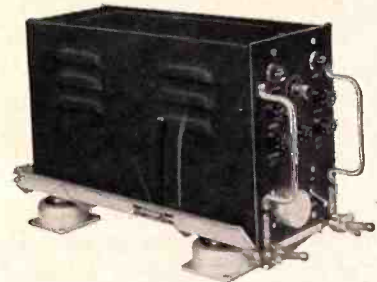
# LINE<sup>®</sup>



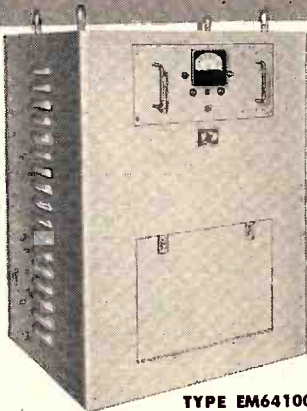
**TYPE IEH5101**  
 INPUT: 95-130 volts, 1 phase, 400 cycle. OUTPUT: 115 volts, 1.0 KVA.



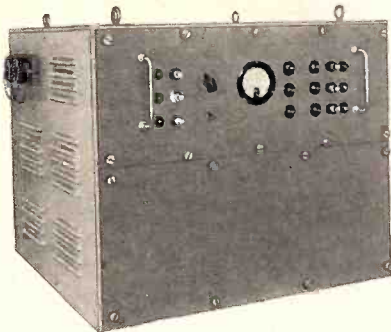
**TYPE EM10009**  
 INPUT: 187-229 volts, 3 phase, 400 cycle. OUTPUT: 208 volts, 5.0 KVA.



**TYPE TMH7101**  
 INPUT: 95-130 volts, 1 phase, 400 cycle. OUTPUT: 115 volts, 1.0 KVA.



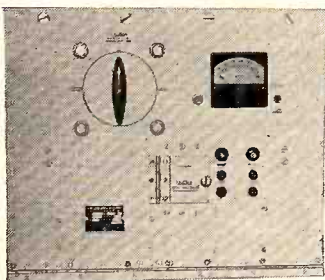
**TYPE EM64100Y**  
 INPUT: 420-500 volts, 50/60 cycle, 3 phase. OUTPUT: 460 volts, 131 amperes, 100 KVA. Electro-Mechanical for Large Industrial Loads.



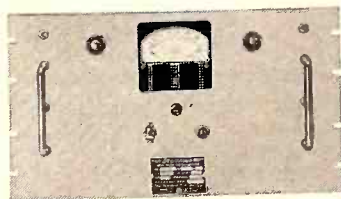
**TYPE EM10002**  
 INPUT: 105-135 volts per phase, 55/65 cycle, 3 phase. OUTPUT: 120 volts, 55.5 amperes, 20 KVA. Electro-Mechanical Meets MIL-E-4158.



**TYPE EM10006**  
 INPUT: 385-490 volts, 45/65 cycle, 1 phase. OUTPUT: 440 volts, 2.2 KVA. Electro-Mechanical Meets U. S. Navy Specifications 16-E-4 and 40-T-9.



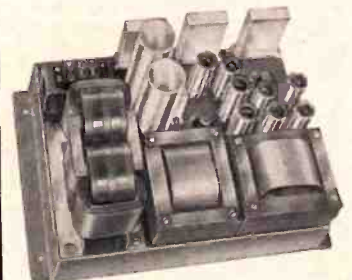
**TYPE EM10004**  
 INPUT: 195-255 volts, 50/60 cycle, 1 phase. OUTPUT: 230 volts, 24 KVA. Electro-Mechanical Designed for MIL-E-16400.



**TYPE EM10003**  
 INPUT: 80-115 volts, 50/60 cycle, 1 phase. OUTPUT: 115 volts, 2.0 KVA. Electro-Mechanical for Normally Low Input Voltages.



**TYPE IE20003**  
 INPUT: 95-135 volts, 60 cycle  $\pm 10\%$ , 1 phase. OUTPUT: 115 volts, 8.5 amperes, 1.0 KVA. Completely Electronic for Military Applications.



**TYPE IE20002**  
 INPUT: 190-250 volts, 50/60 cycle, 1 phase. OUTPUT: 230 volts, .15 KVA. Completely Electronic, withstands High Humidity.

**THE SUPERIOR ELECTRIC COMPANY**  
 5000B Bradley Ave., Bristol, Connecticut



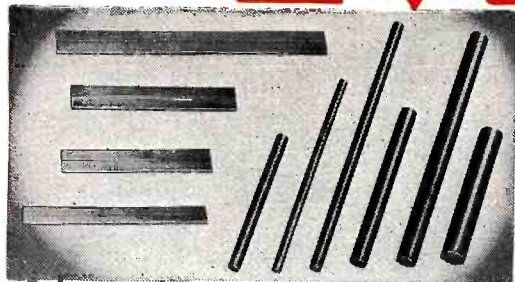
Precision

# M

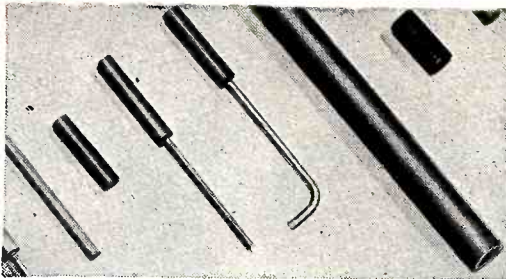
# Moldite Cores

ENGINEERED and DESIGNED

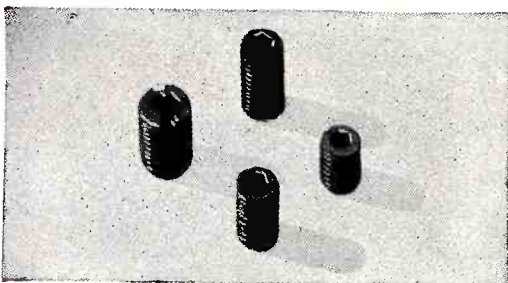
with your Equipment  
in Mind



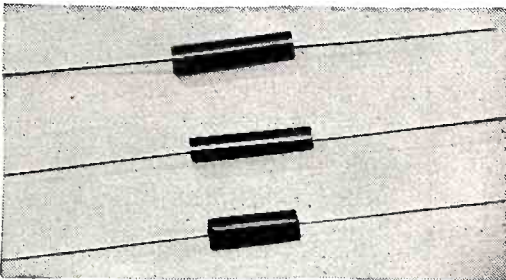
ANTENNA RODS



CORES, LOOP STICKS, SLEEVES, CUPS, TOROIDS, RODS



THREADED CORES



FERRITE COIL FORMS

## Moldite FERRITES

offer these advantages:

- lower losses (eddy current)
- higher efficiency
- lower operating temperatures
- lighter weight
- smaller sizes for more compact construction
- higher permeability
- less corona effect
- lower cost



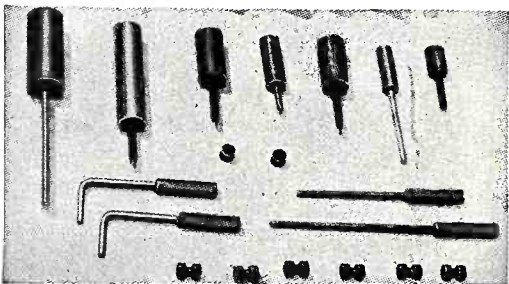
IRON SLEEVE & CUP CORES



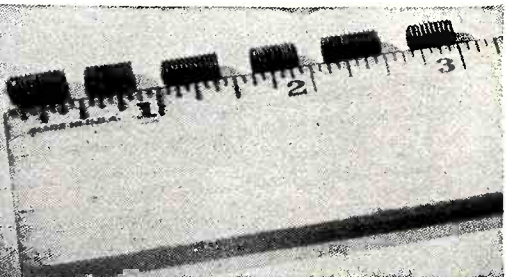
INSULATED IRON CORES

## Moldite IRON CORES

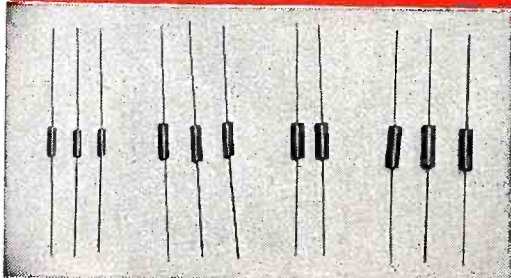
Moldite Iron Cores are made in an infinite variety of powders, shapes, and sizes and include all types of standard cores as well as numerous specially designed cores for new developments, commercial and military applications.



CORES WITH INSERTS (plated or unplated) and PLAIN CORES (Solid or with I.D.)



THREADED IRON CORES



IRON & PHENOLIC COIL FORMS  
(also in ferrite)

## Moldite COIL FORMS

Moldite Coil Forms provide simpler coil assemblies—smaller coils, point-to-point wiring, minimum of solder connections and are inexpensive.

IRON CORES • FERRITES • MOLDED COIL FORMS • E E CORES

The Murray Co.  
604 Central Avenue  
East Orange, N. J.

Jerry Golten Co.  
2750 W. North Ave.  
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Jose Luis Ponte  
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# NATIONAL MOLDITE COMPANY

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Send for Catalog #150

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Hillside 5, New Jersey

Perlmuth Electronics Assoc. John S. Plewes Co.  
2419 South Grand Ave. 52 Humbercrest Blvd.  
Los Angeles, Cal. Toronto 9, Ontario

# Shallcross

## PRECISION WIREWOUND RESISTORS

Small, Shallcross "P-Type" encapsulated resistors offer unmatched stability and reliability for critical applications. All are reverse-pi wound on multiple-section epoxy resin bobbins, then hermetically-sealed in a tough epoxy coating. "P-Type" resistors are offered in a complete range of commercial and military

types with radial leads, axial leads, or lug terminals. Military types meet or exceed MIL-R-93A (85°C ambient) and MIL-R-9444 (125°C ambient) requirements—including salt water immersion tests. Standard tolerances—1%, 0.5%, 0.25%, 0.1%, and 0.05%. Close tolerances and matched pairs a specialty. Write for Bulletin L-30.



## ROTARY SELECTOR SWITCHES

### STANDARD SWITCHES



Single-Pole, instrument-type switches using silicone-impregnated steatite or phenolic decks. 1/4" laminated silver or solid brass contacts and multiple-leaf wiper arms. Positive, long-life ball-bearing detent. Up to 4 decks. Many optional special features. Bulletin L-31.

### OVAL CERAMIC SWITCHES



Assembled by Shallcross from stock, interchangeable parts, the "12,000" Series offers custom-built quality without the delay and cost of specials. Solid silver contacts and collector rings on steatite decks. 0.0025 Ω contact resistance. 1 to 3 poles per deck, up to 10 decks. Adjustable stop. Optional detent. Bulletin L-32.

### MINIATURE SWITCHES

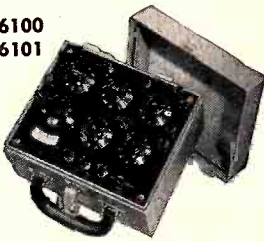


Only 1 1/4" square by 1" deep for first deck, 5/8" for additional decks. Silver alloy button contacts and multi-leaf wipers maintain low contact resistance. Glass fibre Silicone-laminate decks for outstanding humidity, moisture and salt-spray resistance. 1 to 4 poles per deck. 1 or 2 hole mounting. Easily-positioned, adjustable stops. Bulletin L-45A.

## BRIDGES

Field & Lab Types for  
Precise DC Resistance Measurements  
... 1 micro-ohm to 10<sup>6</sup> megohms.  
Bulletin L-19B

6100  
6101



617 series



6320



638-R

Model Number	Measurement Accuracy	Maximum Setting	Minimum Setting	Circuit	Special Features
6100	±0.1% +0.01Ω (1Ω to 1.011 MegΩ)	1.011 MegΩ	0.001Ω	Fault Location—Wheatstone	Fault Location by Murray, Varley, Hilborn & Fisher Loop Tests.
6101	±0.1% +0.01Ω (1Ω to 11.11 MegΩ)	11.11 MegΩ	0.001Ω	Wheatstone	Four dial rheostat usable as decade box.
6320	±0.02% +0.01Ω (1Ω to 11.11 MegΩ)	111.11 MegΩ	0.00001Ω	Wheatstone	Most accurate five dial Shallcross bridge for direct resistance measurement.
	±0.05% to ±20% on separate "+" and "-" selector.	11.111 MegΩ	0.0001Ω	Percent Limit	Rapid "GO-NO GO" percent limit testing. Built-in adjustable comparison standard.
638-R	±0.75% or better (.001Ω to 1Ω)	11.11Ω	0.000001Ω	Kelvin	Overlapping Kelvin and Wheatstone ranges selected with single ratio dial.
	±0.2% +0.01Ω (1Ω to 11.11 MegΩ)	11.11 MegΩ	.001Ω	Wheatstone	
6350	±1%, (10Ω to 10 MegΩ) ±2%, (10 MegΩ to 10,000 MegΩ) ±5%, (above 10,000 MegΩ)	1.111 x 10 <sup>6</sup> MegΩ	0.01Ω	Wheatstone with d-c Amplifier	Modular construction dual range power supply, null indicator-amplifier, for 115V. 60 cycle operation.
617 Series	±0.1% to ±20% on separate "+" and "-" selectors from a minimum resistance consistent with number of dials in use to the maximum settings.	111,111Ω 1,111,110Ω 11,111,100Ω	0.1Ω *1Ω 10Ω	Percent Limit	For rapid "GO-NO GO" percent limit testing. Hand or foot operated for production testing. All models also usable for direct resistance measurements. Binding post for external d-c power supply.
	±0.2% +0.01Ω from a minimum consistent with number of dials in use to the maximum setting.	111,111Ω 1,111,110Ω 11,111,100Ω	0.1Ω *1Ω 10Ω	Wheatstone	

† Except 617B and 617J ±0.1% ±0.01Ω.

\* Except 617G, 0.01Ω.

## DECADE RESISTANCES

Available as single unmounted decades or as complete decade resistance boxes with 1 to 6 dials. Steps as low as 0.01 ohm; total resistance as high as 11,111,100 ohms.

Remarkably rugged and accurately-calibrated for maintained stability in rough lab, classroom and production line work. Uses impregnated Shallcross precision wirewound resistors mounted on steatite switch decks. Large button contacts of silver or brass. Write for Bulletin L-17A.



## DECADE VOLTAGE DIVIDERS

Laboratory-type voltage dividers used in bridge circuits, for measuring rotary potentiometer linearity, in synchro-test delta bridge circuits, and in other uses requiring maintained accuracy and high resolution. Kelvin-Varley or Potentiometer circuits available in eight 4 and 5 dial models.

Impregnated Shallcross precision wirewound resistors used throughout. Steatite instrument switches assure uniformly low contact resistance. Bulletin L-16B.

10 Jackson Ave., Collingdale, Pa.

Representatives in principal U. S. Cities; Toronto & Vancouver, Canada

## SHALLCROSS MANUFACTURING CO.

# NRC EQUIPMENT CORPORATION

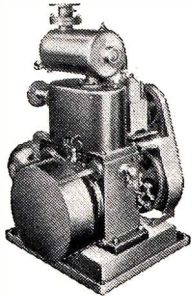
A SUBSIDIARY OF  
NATIONAL RESEARCH CORPORATION

117 Charlemont St., Newton Highlands 61, Mass.

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## HIGH VACUUM COMPONENTS, EQUIPMENT, and SYSTEMS

### Mechanical Vacuum Pumps



**NRC Model 100M**

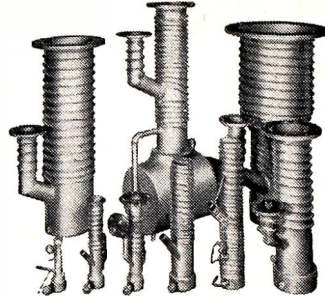
Because of the Gas Ballast feature, these pumps maintain their original high efficiency even when pumping 100% water, or other condensable vapors. Therefore, expensive oil purifiers and frequent and costly oil changes are not needed. NRC pumps have paid for themselves in three years from oil savings alone.

Model	Capacity CFM	Ultimate Vacuum Gas Ballast Off mm. Hg (A)	Ultimate Vacuum Gas Ballast On mm. Hg (A)	Price (B)	
<b>SINGLE STAGE</b>					
2-S	1.25	$3 \times 10^{-3}$	Less than one half millimeter of mercury	\$155	
4-S	3.3	$3 \times 10^{-3}$		225	
6-S	6.75	$3 \times 10^{-3}$		315	
15-S	11.6	$3 \times 10^{-2}$		475	
30-S	29.5	$3 \times 10^{-3}$		800	
100-S	100	$3 \times 10^{-3}$		1500	
200-S	202	$1 \times 10^{-2}$		2500	
400-S	403	$5 \times 10^{-3}$		4000	
<b>DOUBLE STAGE</b>					
2D	1.25	$5 \times 10^{-5}$		$2.5 \times 10^{-2}$	\$215
4D	3.3	$5 \times 10^{-5}$	$2.5 \times 10^{-2}$	280	
6D	6.75	$5 \times 10^{-5}$	$2.5 \times 10^{-2}$	425	
15D	14.75		$2.5 \times 10^{-2}$	750	
30M	29.5	$3 \times 10^{-3}$	$3 \times 10^{-3}$	1300	
100M	100	$3 \times 10^{-3}$	$3 \times 10^{-3}$	2150	
200M	202	$3 \times 10^{-3}$	$3 \times 10^{-3}$	3500	
400M	403	$3 \times 10^{-3}$	$3 \times 10^{-3}$	5900	

Note A: McLeod gauge reading

Note B: F.O.B. Newton, Mass. Price includes pump, base, v-belt drive, and motor

### Diffusion and Booster Pumps



**NRC Booster and Diffusion Pumps**

While NRC high vacuum diffusion and booster pumps are unsurpassed for through-put, blank off, and forepressure tolerance, they are especially outstanding for reliability. They offer long, trouble-free life, and are easy to maintain. Narcoil pumping fluids are unusually stable, have excellent pumping characteristics, and are low-priced. Narcoil-10 is \$10.50 per gallon and Narcoil-40 is \$38.50 per gallon.

Model	Blank-Off, mm. Hg (C)	Max. Speed Liters/Sec.	Tolerable Fore-pressure mm. Hg	Pumping Fluid	Price (D)
<b>DIFFUSION PUMPS</b>					
G-2-M (A)	$8 \times 10^{-7}$	30	0.50	Mercury	\$225
H-2-P	$2 \times 10^{-7}$	80	0.25	Narcoil 40	125
A-2-P (B)	$2 \times 10^{-6}$	85	0.20	DC 703	165
H-4-P	$5 \times 10^{-7}$	300	0.31	Narcoil 40	235
H-6-P	$5 \times 10^{-7}$	730	0.20	Narcoil 40	410
H-10-P	$5 \times 10^{-7}$	1900	0.19	Narcoil 40	820
H-16-P	$5 \times 10^{-7}$	5500	0.30	Narcoil 40	1450
<b>BOOSTER PUMPS</b>					
B-1	$1 \times 10^{-4}$	8	0.30	Narcoil 10	\$ 70
B-2	$1 \times 10^{-4}$	85	0.85	Narcoil 10	205
B-4	$1 \times 10^{-4}$	260	1.30	Narcoil 10	360
B-6	$1 \times 10^{-4}$	530	0.90	Narcoil 10	1090
B-12	$1 \times 10^{-4}$	3500	0.90	Narcoil 10	2250

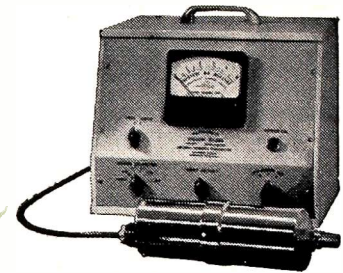
Note A: Glass pump

Note B: Air-cooled. Price includes blower

Note C: Untrapped ion gauge, except for G-2-M

Note D: Includes initial charge of pumping fluid

### Vacuum Gauges



**NRC Model 520**

NRC vacuum gauges are outstanding for their accuracy and ability to withstand hard usage. The NRC Model 520 shown above is an all-purpose gauge with uniquely wide range and accuracy. Its ruggedized new circuitry eliminates troublesome components, minimizes contamination effects and provides highly stable linear amplification.

Model	Type	Range mm. Hg	Price complete with head(s)
<b>NRC HIGH VACUUM GAUGES</b>			
501	Thermocouple Head	$10^{-3}$ to 1.0	\$11.00
507	Ionization Head	$2 \times 10^{-8}$ to $5 \times 10^{-3}$	24.00
510	Alphatron® Ionization	$10^{-3}$ to 10.	545.00
515	Logarithmic Alphatron® Ionization	$10^{-3}$ to 10.	275.00
516	Pirani	$10^{-3}$ to 1.0	175.00
520	Alphatron® Ionization	$10^{-4}$ to $10^3$	575.00
701	Thermocouple	$10^{-3}$ to 1.0	120.00
710	Thermocouple Ionization	$2 \times 10^{-8}$ to 1.0	481.00

## NRC HIGH VACUUM SYSTEMS

Write us about your problem if you are seeking ways to improve your product quality and cut costs.

As one of the pioneers and leaders in the design and manufacture of many kinds of high

vacuum systems, NRC Equipment also can supply standard and specially engineered equipment such as:

Vacuum Furnaces, Vacuum Coaters  
Freeze Driers, Impregnators, Vacuum Driers

Vacuum Analytical Equipment  
(for measuring gas content of metals)

Specially engineered vacuum systems

Leak detection apparatus



**OLD HAND AT FINDING NEW WAYS**

**TO MAKE ELECTRONIC STAMPINGS BETTER**

***Volkert* STAMPINGS, INC.** 222-34 96th AVE.  
QUEENS VILLAGE 29, L. I., N. Y.

# PRECISION SINGLE-TURN POTENTIOMETERS



TIC offers a complete selection of all types of single-turn potentiometers with a wide range of sizes from 7/8" to 3" diameters . . . accuracies . . . and linearities. All units are designed for unique, one-piece clamp rings to join adjacent cups securely, yet allow each cup to be precisely phased. Up to 15 cups can be ganged on a single shaft.

Patented resistance-element design offers greater flexibility in linear and nonlinear function design. Precision-bored, phosphor-bronze sleeve bearings or low-friction stainless-steel ball-bearing construction . . . centerless ground stainless-steel shaft . . . servo or tapped-hole mounting . . . and complete environmental protection.



# PRECISION TRIMMER POTENTIOMETERS

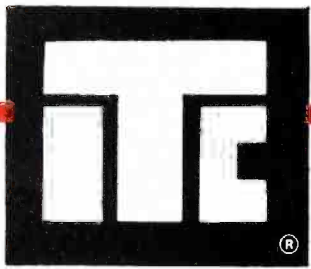
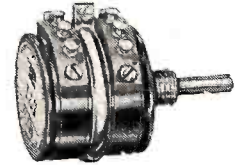


TIC provides a complete selection of trimmer potentiometers for precise, stable adjustments under all forms of adverse environmental conditions. The variety of sizes and shapes available, in addition to the wide range of power and temperature capabilities with the specific application.

Among the trimmers available is the original metal-film potentiometer, the TIC RFT Metfilm. Use of metallic film as the resistance element provides infinite resolution for ultra-

fine trimming. Extremely compact and stable with an over-all size that permits stacking 7 to the square inch. A 25-turn lead screw provides extreme accuracy of adjustment.

Latest addition to the TIC Trimmer Line is the low-cost, wire-wound RWT. This unit incorporates the same compact design as the RFT. Its wire-wound resistance element design provides low-cost.

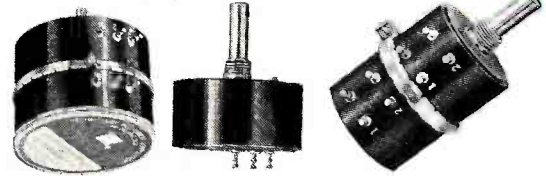


# GUIDE TO THE WORLD'S FINEST PRECISION Potentiometers

## PRECISION LOW-COST P-SERIES POTENTIOMETERS

Low-cost P-series precision potentiometers are designed to meet the growing demand for economical precision potentiometers in commercial instrumentation. Precision features developed for stringent military applications have been retained in the low-cost P-series. In addition, the moulded bakelite housing minimizes distributed capacitance providing wide frequency response and stability in extremes of humidity.

Low temperature coefficient of resistance wire produces stability in extremes of temperature. Up to 6 cups can be ganged on a single shaft. Specially designed clamp rings permit independent phasing of each cup.



TYPE	DESCRIPTION	CASE SIZE	RESIS. RANGE	STAND. IND. LIN.	SPEC. IND. LIN.	STAND. WIND. ANGLE	CONSERV. POW. RAT. WATTS AT 25°C	MOUNTINGS AVAILABLE
<b>SINGLE-TURN</b>								
RV1½	Intermediate	1½" d.	100 to 100K	±0.5%	±0.25% above 7.5K	320°±3°	3	Servo or Tapped Hole
RVBC2	Ball-bearing Unitized	2" d.	100 to 100K	±0.5%	±0.20% above 5K	320°±3°	4	Servo Tapped Hole
RVP3	High Prec.	3" d.	100 to 200K	±0.2% above 1K	±0.10% above 5K	320°±3°	6	Servo or Tapped Hole
ST09	.Min. Ball-bearing	7/8" d.	100 to 50K	±1.0%	±0.3% above 2K	320°±5°	2	Servo
ST18	Ball-bearing Unitized	1¾" d.	100 to 100K	±0.5%	±0.2% above 1K	320°±2°	3	Servo
ST30	High Prec. Ball-bearing	3" d.	100 to 200K	±0.2% above 1K	±0.1% above 5K	320°±3°	6	Servo or Tapped Hole
<b>TRIMMERS</b>								
RV½	Sub-min.	½" d.	50 to 15K	±5%		300° Nominal	1½	Thrd. Bushing
RV7/8	Miniature	7/8" d.	100 to 50K	±5%		320° Nominal	2	Thrd. Bushing
RFT	Sub-min. Metfilm	3/8" x 3/8" x 1-5/16" approx.	50 to 25K	±5%		Shaft Angle 9000° Nominal	1½	Eyelet Mount
RWT	Sub-min.	5/16" x 1/4" x 1¼" approx.	50 to 15K	±5%		Shaft Angle 9000° Nominal	2	Eyelet Mount
<b>P SERIES</b>								
P1¼	Low Cost Molded Bakelite	1¼" d.	100 to 50K	±2%	±0.5% above 5K	315°±5°	2½	Thrd. Bushing: P1¼ with add'l prec. pilot: SP¼
P1½	Low Cost Molded Bakelite	1½" d.	100 to 100K	±0.75%	±0.25% above 5K	315°±3°	4	Thrd. Bushing: P1½ with add'l prec. pilot: SP1½
P-3	Low Cost Molded Bakelite	3" d.	100 to 200K	±0.5%	±0.15% above 5K	320°±3°	8	Tapped Hole: P3 Servo: SP3

# TECHNOLOGY INSTRUMENT CORP.

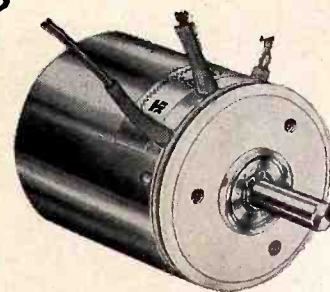
569A Main St., Acton, Mass., COLONIAL 3-7711 7229 Atoll Ave., North Hollywood, Calif. POplar 5-8620 STanley 7-0286

# PRECISION MULTI-TURN POTENTIOMETERS

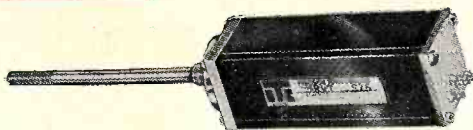
TIC manufactures a complete line of precision multi-turn potentiometers of the highest quality for precision computer, servomechanisms and electromechanical instrumentation service. The M10T provides wide temperature and resistance ranges . . . extreme electrical accuracy and stability. Extremely precise tolerances in shaft diameter, concentricity, and perpendicularity assures complete transfer of M10T accuracy to external systems. One-piece unit of all functional parts . . .

stainless-steel cover . . . and bonding of cover to one-piece base provides complete environmental protection.

The 10-turn M10T-09 precision potentiometer combines miniaturization with performance. Wide temperature range (-55°C to +130°C) and wide resistance range (1K to 50K ohms) of the M10T-09 provide versatility.



# PRECISION TRANSLATORY POTENTIOMETERS



TIC Precision Translatory Series differs from other potentiometers in that resistance variation is attained by means of linear (translatory) motion rather than the conventional shaft rotational method. Unique design permits up to three completely isolated resistance elements with separate brush arms and take-offs in a single housing. The RVT translatory can be provided with both linear and nonlinear resistance functions.

# SINE-COSINE AND OTHER PRECISION POTENTIOMETERS

The RVP3-S59 Precision Sine-Cosine Potentiometer represents another first for Technology Instrument Corporation. Patented double-contoured resistance element card makes possible the extreme accuracy of the RVP3-S59 and other standard non-linear potentiometers. Double-contoured card (resistance element card is contoured symmetrically on both edges) also permits greater flexibility in the design of nonlinear functions. TIC's precision sine-cosine variable resistor RVP3-S59 is

especially designed for precision resolution of voltages into sine and cosine components. High resolution adds to the high conformity of the output to a sine function to achieve the extreme accuracy of the RVP3-S59. Because of the fact that the RVP3-S59 is a resistive device no compensation is required for reactive elements or frequency characteristics. May also be used on both AC and DC systems . . . over wide frequency ranges.



# ROTARY METLFILM POTS

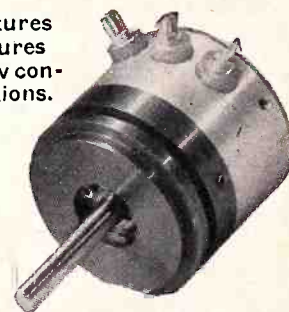


Type MFR — Hermetically sealed Rotary Metfilm Precision Potentiometer features super tested reliability, infinite resolution, high accuracy, operation at temperatures up to 145°C, low torque, and long life exceeding 1,000,000 cycles. A wholly new concept in potentiometer construction withstanding extremes of environmental conditions.



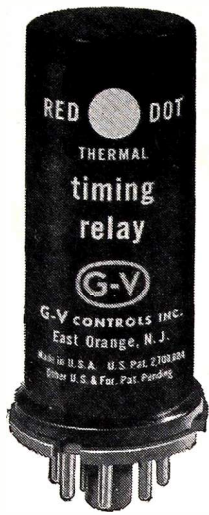
# MODULAR DESIGN POTS

Type PVR — New modular design pots for high temperature and accuracy. A complete line ranging from 1/2" diameter to 3" diameter linear and non-linear pots with a new concept of flexibility. Modular design permits a choice of mountings, ganging without clamp rings, variable number of taps, selection of terminal types and a delivery schedule to meet any demands.



TYPE	DESCRIPTION	CASE SIZE	RESIS. RANGE	STAND. IND. LIN.	SPEC. IND. LIN.	STAND. WIND. ANGLE	CONSERV. POW. RAT. WATTS AT 25°C	MOUNTING AVAILABLE
M10T-09	Miniature 10-Turn High Precision	7/8" d.	1K to 50K	0.10%	±0.05%	3600° +2° -0°	5	Servo or Tapped Hole
M10T-19	10-Turn High Precision	1 5/8" d.	1K to 250K	0.05%	±0.025% over 1K	3600° +2° -0°	5	Servo and Tapped Hole
RVT	Translatory	1 1/4" x 1 1/4" x (3 5/8", 6 1/8", 9 1/8", 14 3/8")	100Ω/" to 25000Ω/"	±1% @ 2 1/2" plus ±2.5% @ 1" to 2 1/2" ±5% @ 1/2" to 1"			2 1/2 5 6 8	Threaded Bushing
MFR-1	Rotary Metfilm		1K-25K	0.5%				Servo Std. other spec.
MFR-2	Rotary Metfilm		1K-50K	0.5%				Servo Std. other spec.
PVR-05	Modular Design Precision Pot.	1/2" d.	50-20K	±0.5%	0.3%	320° ±5°	2	Servo Threaded Bush. Tapped Hole
PVR-09	Modular Design Precision Pot.	7/8" d.	100-150K	±0.5% of tot. R above 5K	±0.25%	320° ±5°	2	Servo Std. Thrd. Bushing Tapped Hole Available
PVR-11	Modular Design Precision Pot.	1-1/16" d.	100-150K	0.5%	0.25%	320° ±5°	3	Servo Std. Thrd. Bushing Tapped Hole Available
PVR-15	Modular Design Precision Pot.	1-7/16" d.	100-200K	0.5%	0.20%	320° ±2°	4	Servo Std. Thrd. Bushing Tapped Hole Available
PVR-18	Modular Design Precision Pot.	1-3/4" d.	100-200K	0.5% (IND. CONFORM.)	0.15%	320° ±2°	4	Servo Std. Thrd. Bushing Tapped Hole Available
RVP-3-S59	Sine-Cosine	3" d.	20K	±0.5% peak to peak		360°	4	Tapped Hole or Servo S156
RVP-3-S200	Double Sided Square-Law	3" d.	25K	±0.25% of total V		±180°	3	Servo or Tapped Hole S121
RVP-3-S208	50 db Logarithmic (Exponential)	3" d.	15K	±2% constant frac.		320°	1.5	Servo or Tapped Hole S204
RV2-S373	Sine Function	2" d.	9.5K	±2% peak to peak		360°	2.5	Servo or Tapped Hole S336
RV2-S417	20 db Logarithmic (Exponential)	2" d.	3.6K	±1% of total V		281°	2.5	Servo or Tapped Hole S412
RV1 5/8-S247	Single Sided Square-Law	1 5/8" d.	10K	±0.5% of total (V1-2)		350°	2.5	Servo or Tapped Hole S245





## ▶ Thermal Time Delay Relays

Stainless steel mechanism welded into a single integral structure for unequalled resistance to vibration and shock. Heater built inside expanding member for maximum efficiency and protection. Rolling contact action for positive operation.

**RED DOT RELAYS**—NEW low cost timing relay for Industrial Controls, Heating Equipment, Communications, Air Conditioning, Electronics. Available from stock in standard heater voltages and time delays.

**HERMETICALLY SEALED TYPE**—Adjustable time delay • Miniature and octal sizes—metal shells • Time Delays—1/10 sec. to 5 min. • Heater voltages up to 230 • Fully temperature compensated • For industrial and military applications • Contact ratings up to 6 amp.

**TYPICAL USES** Delaying plate voltage application • Producing hold-over interval after interruption of power • Delaying automatic shut-down until a fault has continued for a specified period.



*Notably Efficient • Widely Used*

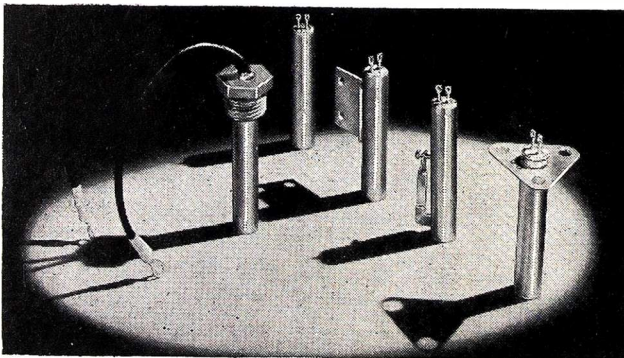
# G-V Precision Thermal Devices

*A quality line skillfully designed and thoroughly field-tested.*

### G-V Thermal Relays Have Proved Performance Advantages—

- So reliable that the country's principal producers of electronic equipment have adopted them as production components!
- So reliable that they have been used on hundreds of government contracts!
- So reliable that they have been in successful field use for over three years!

*And G-V offers you helpful engineering cooperation and the most complete technical data service.*



## ▶ Electrical Thermostats

**Features:** Hermetically sealed • Adjustable or fixed temperature • Rapid in response—metal shell is the sensing element • Wide variety of sizes and mounting forms • Exposure to  $-70^{\circ}\text{C}$ . does not change setting • High shock and vibration resistance • Current rating—1 amp. to 10 amp. • Stable setting and precise control.

## Voltage Sensing and Current Sensing Relays—Thermal Type

**Features:** Responds to changes in current or voltage • Currents .015 to 5 amp • Voltages 2 to 230 volts • Time constants—1 sec. to 200 sec. • Adjustable operating point • Minimum differential • Independent of ambient temperature • Independent of frequency • Hermetically sealed in metal shell • Miniature size • Small, light, and noiseless.

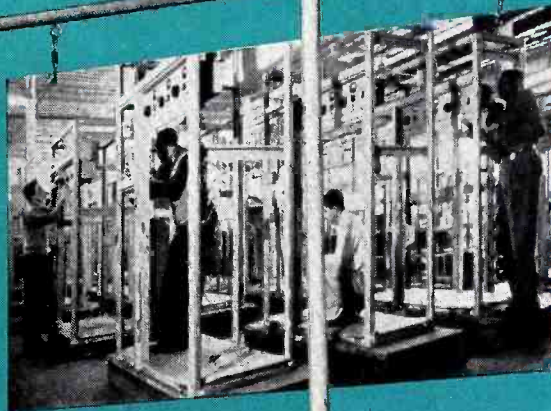
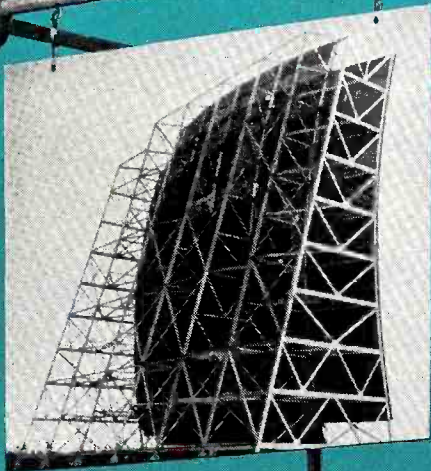
**Typical Uses:** Over- or under-voltage alarm or cut-off • Overload protection • Voltage or current regulation.

*Write for bulletin and help with your particular problems.*

**G-V G-V CONTROLS INC.**  
12 Hollywood Plaza, East Orange, New Jersey

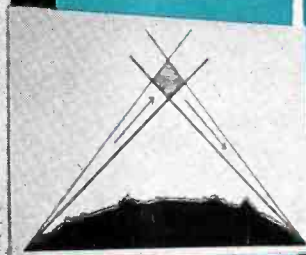
Greatly expanded production facilities assure prompt deliveries.



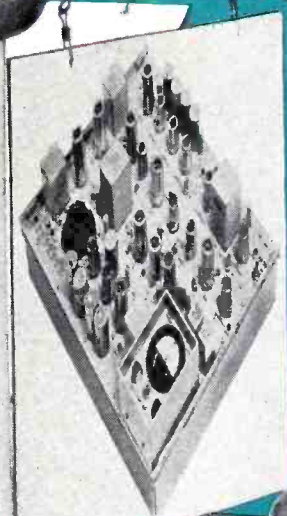


**Tropospheric scatter radio systems**  
**Point-to-point communications** (*long and short range*)  
**Guided missile control apparatus**  
**Thin route FM multiplex equipment**  
**for telephone toll service**  
**Wave propagation research gear**

*Inquiries invited on special applications in these and related fields*



**REL**  
**Radio  
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Laboratories  
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**36-40 Thirty-seventh Street  
Long Island City 1, N. Y.**  
Stillwell 6-2100 • Teletype: NY 4-2816  
Canadian representatives:  
ANCAIR & SOPER CO. BOX 713 - OTTAWA



# Stupakoff

## Products of Quality

Manufactured by **STUPAKOFF** DIVISION OF

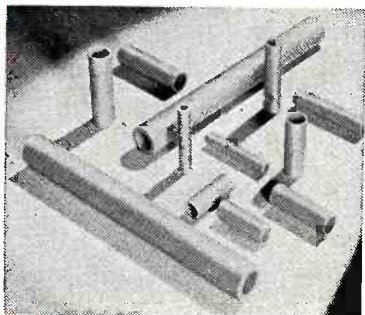
For many years Stupakoff has specialized in the manufacture of precision ceramic parts, involving production runs into the tens of thousands. They are made in plain, ground, metallized and assembled types—for any voltage, frequency or temperature.

Stupakoff Hermetic Seals are made with Kovar alloy and hard glass. Oxidation of these materials at their interfaces forms a strong, vacuum- and pressure-tight, corrosion-proof bond.

Stupakoff facilities include large, well-equipped laboratories; extensive modern production and testing equipment; and an experienced staff of quality-conscious engineers and technicians.

### CERAMIC TUBING

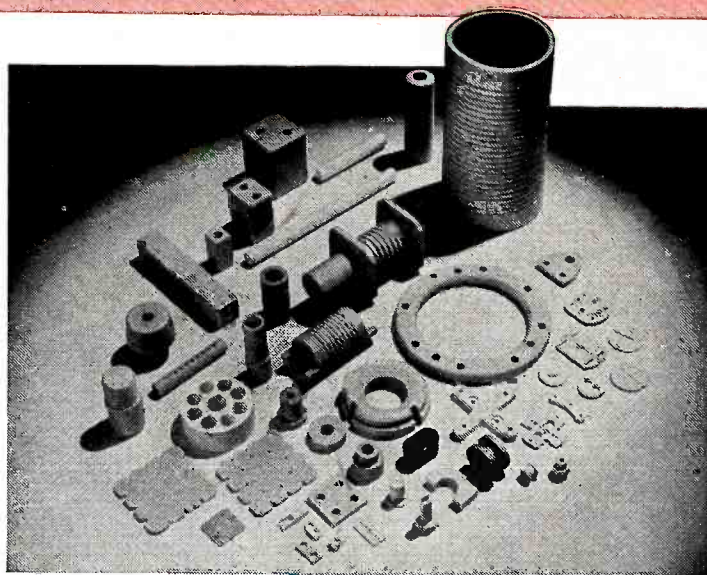
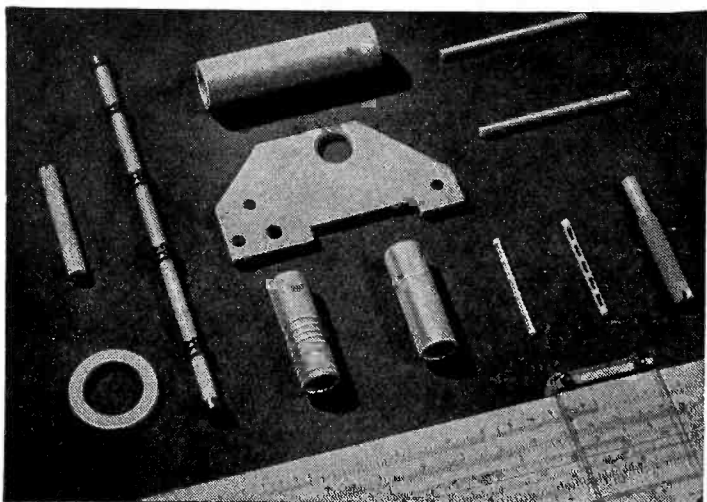
For applications requiring low-cost, high quality ceramic tubing, Stupakoff offers an attractive selection of standard sizes and lengths. Available from stock in a wide variety of sizes, from .015 to 5.125-in. OD, .006 ID to 2.625-in. ID, and any length up to 15 inches.



**PRECISION CERAMICS**—In the assembly of electrical or electronic equipment, the use of precision-made components means faster production and the correct functioning of the equipment in service.

Through the application of experience-developed engineering and technical skills and modern equipment, Stupakoff produces, in large volume, parts that meet most exacting tolerances and specifications.

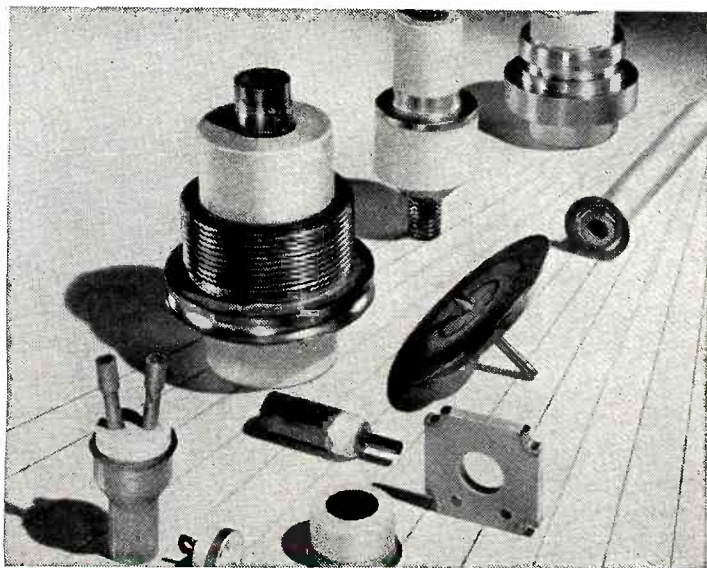
Stupakoff precision ceramics may be simple or complex; and made from various ceramic materials.



**CERAMIC PARTS**—Stupakoff is a leading manufacturer of ceramic products for electrical and electronic applications for all voltages, frequencies and temperatures. Parts are made by modern production methods of Alumina, Cordierite, Forsterite, Magnesia, Zircon, Stupalith® and Steatite—plain, ground, metallized or assembled.

Where thermal shock conditions prevail, parts made of Stupalith will withstand extremely severe service.

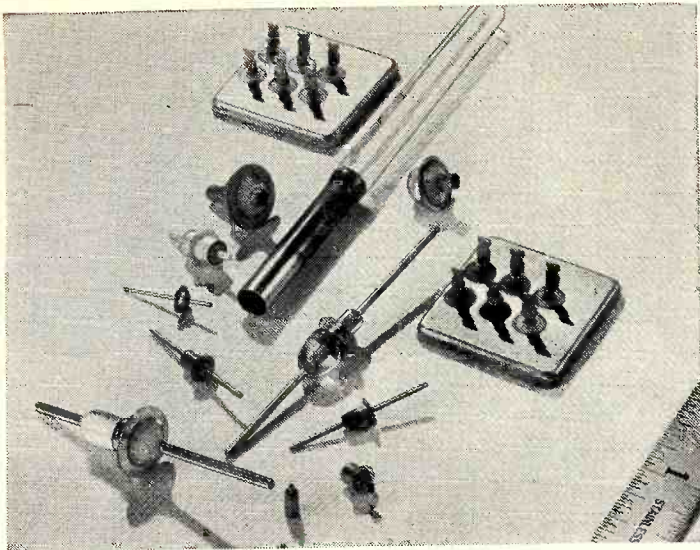
Coil forms, insulators, brazing fixtures and vacuum tube spacers are among the popular items.



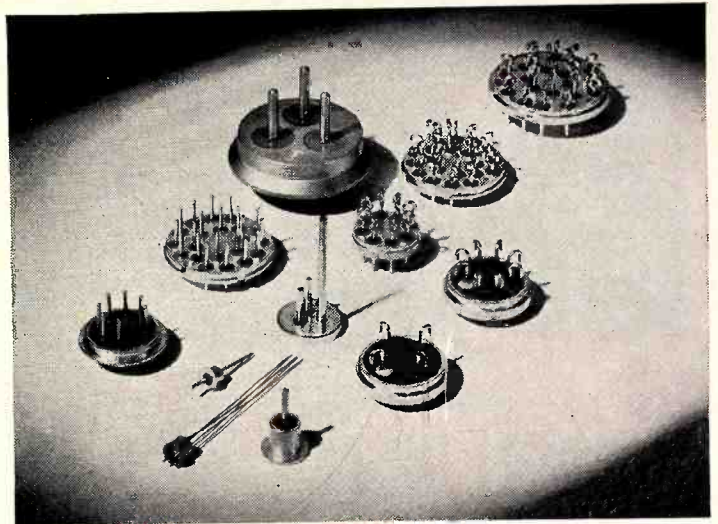
**METALLIZED ASSEMBLIES**—Combine a specially developed metal bond and rigidly controlled alumina to give a strong, durable, vacuum-tight product. Terminals are supplied with Stupakoff Metal Bond which significantly reduces assembly costs by withstanding exposure to soldering temperature for prolonged period without losing bond strength.

# FOR ELECTRICAL and ELECTRONIC applications

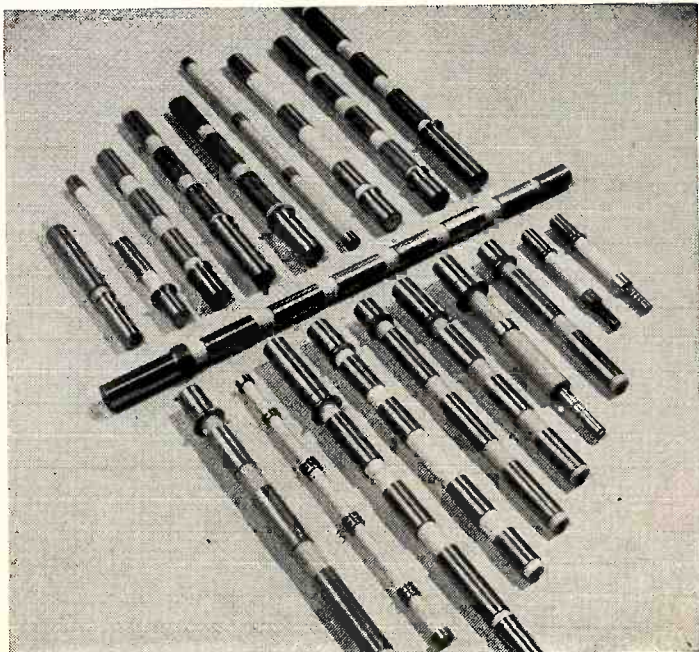
The **CARBORUNDUM** Company, Latrobe, Pennsylvania



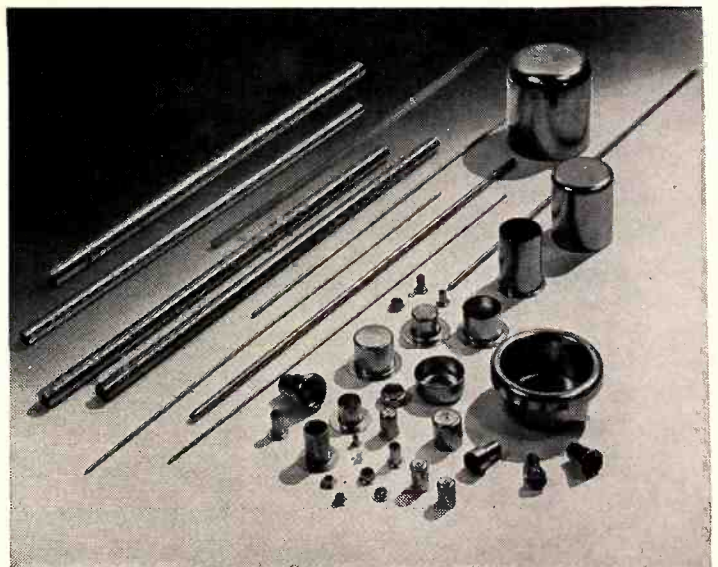
**KOVAR GLASS SEALS**—Single terminals with tubular, solid or flattened and punched center lead; high voltage terminals for feed-through applications; multi-header terminals for applications requiring a number of leads in limited area; stand-off terminals; strain relief terminals and Special Seals made for exacting applications.



**COMPRESSION SEALS**—Thermally pre-stressed compression seals designed to provide the strength, durability and electrical properties needed for the most demanding applications. Dimensionally controlled for ease of welding and soldering, choice of tin-nickel-silver or gold plating for appearance and corrosion resistance.



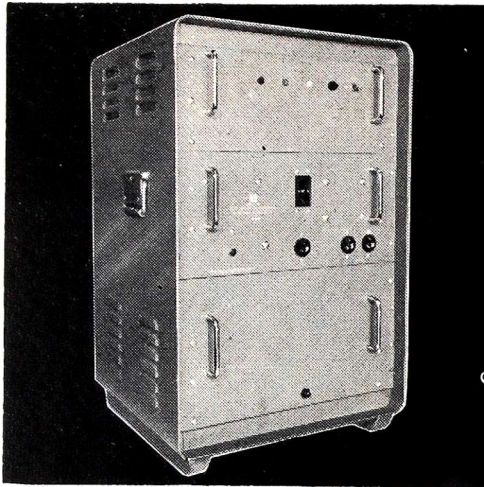
**METAL-CERAMIC SHAFTS**—Made in a wide variety of sizes and designs, Stupakoff Metal-Ceramic Shafts consist of metal bands permanently attached to ceramic rods. Through care in manufacture, exceptional precision is maintained on a mass-production basis. For example, it is not unusual to hold the concentricity of components to a T. I. R. of 0.001 in.



**KOVAR ALLOY**—The ideal alloy for glass sealing, Kovar matches the expansivity of hard glass over the entire working temperature range. It resists mercury attack, has ample mechanical strength and seals readily with simple oxidation procedure. It is available as sheet, strip, foil, rod, tube, wire—or fabricated into cups, eyelets, leads and other shapes. Kovar produces a permanent vacuum-tight seal, is usable in any thickness, and can be welded, soldered and brazed to other metals.

# INSTRUMENTS & COMPONENTS

precision engineered by **CURTISS-WRIGHT**

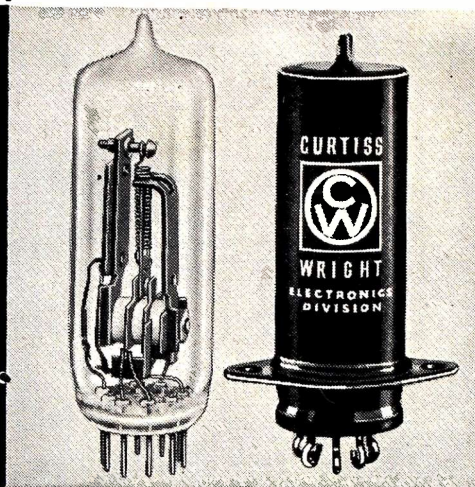


## The Curtiss-Wright DISTORTION ELIMINATING VOLTAGE REGULATOR

- Furnishes 1.4 KVA of distortion-free,  $\pm 1\%$  regulated power without phase shift
- 330 microseconds recovery time —fastest regulation available
- Reduces line distortion to less than 0.3%
- Simultaneously provides 4 KVA of  $\pm 1\%$  electromechanically regulated power
- Model EE 100A \$1,689.00 F.O.B., Carlstadt, N. J.

### Applications:

Provides simpler, more accurate calibration of meters . . . better design of transformers, synchros, motors, magnetic amplifiers . . . easier testing with fewer rejects . . . more accurate measurement of magnetic properties . . . better computer performance . . . elimination of fast line transient effects.



## The Curtiss-Wright "SNAPPER" THERMAL TIME DELAY RELAYS

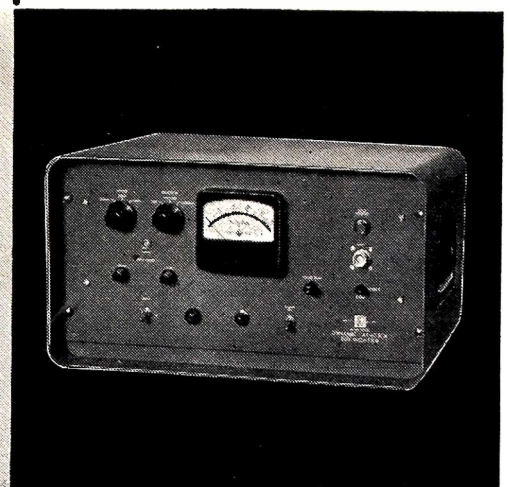
- Eliminate chatter with snap action
- Single-pole, double throw contacts
- Wide temperature range ( $-65^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ )
- Metal envelope (7 or 9 pin) miniature or (8 pin) octal
- Glass envelope in 9 pin miniature
- Preset time delays in metal from 3 seconds to 3 minutes, glass from 5 to 60 seconds

### Applications:

For military or commercial applications, "Snapper" Relays are providing positive, reliable action in circuits requiring time delays.

### Other Components:

Curtiss-Wright also manufactures "Snapper" Thermostats, "Memory" Relays and Magnetic Amplifiers.



## The Curtiss-Wright DYNAMIC CAPACITOR ELECTROMETER

- A micro-microammeter and millivoltmeter in one instrument
- Measures currents from  $10^{-16}$  to  $10^{-5}$  amperes
- 10, 100 and 1,000 mv ranges
- Exclusive diaphragm-type dynamic capacitor
- Extremely high input impedance —  $10^{15}$  ohms
- Better than 2% accuracy, high stability
- Price \$1,075.00 F.O.B., Carlstadt, N. J.

### Applications:

Measurement of semi-conductor parameters, low-level voltages, static charges, floating grid potentials, grid currents and insulation resistance. Used in mass spectrometry and pH measurements; nuclear reactor control and radiation monitoring systems; beta and gamma gauge control systems.

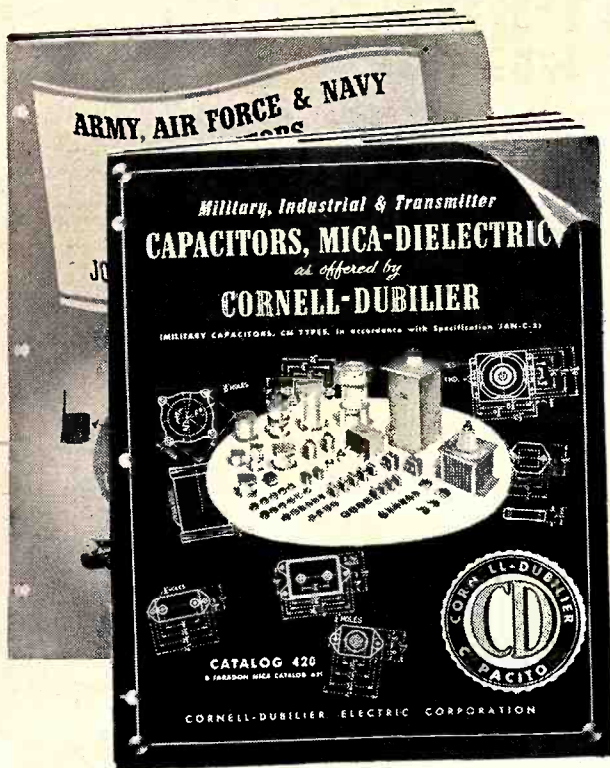
### Nuclear Instrumentation and Controls

The Electronics Division is now working on contracts for nuclear control systems. You are cordially invited to discuss your nuclear instrumentation and control problems with us.

Detailed data sheets and application information available on all products.



Curtiss-Wright has career positions open for qualified engineers and technicians.



Catalog No. 400. Paper Dielectric Capacitors to Army-Navy specifications.

Catalog No. 420. Mica Capacitors. Industrial, Military, and Transmitter.



Catalog 200D-3  
General: electrolytics, paper, mica, ceramic, filters, printed circuits.



Bulletin 528A  
Tantalum: electrolytic, subminiature, metal-cased, low voltage tubular units.



Bulletin 179  
A.C. Motor Capacitors, oil impregnated and filled rectangular cases.



Catalog 410  
"Powercon inverters" D/C to A/C. A/C to D/C.



Catalog 616  
Ceramic capacitors. Disc, tubular and specials.



Bulletin 147  
Miniaturized tubulars, metal-cased, paper dielectric.



Catalog PRT 225  
Printed Circuitry



Catalog 400  
JAN. Paper Capacitors.



Catalog 166  
R. F. Attenuation Filters.



Bulletin 527  
Low Temperature Electrolytics, Metal-cased tubulars.



Bulletin 162  
Automation: Phenolic cased plug-in tubulars.



Catalog VIB-3  
Vibrators; Automotive, industrial, communications.

# THESE ARE ENGINEER-SAVERS!

Any one of these CORNELL-DUBILIER catalogs or engineering bulletins will make it easier to find the right capacitor for practically every problem. A complete file of the C-D Bulletins are available—free of charge, of course. They'll save you precious hours every week. Check off—on convenient coupon below—the catalog, catalogs or engineering bulletins you wish to have us send you.

**if it's a capacitor  
we make it**

CONSISTENT HI-DEPENDABILITY  
CORNELL-DUBILIER CAPACITORS

CORNELL-DUBILIER ELECTRIC CORPORATION  
383 HAMILTON BOULEVARD, SOUTH PLAINFIELD, NEW JERSEY.

Please put me on your mailing list for all engineering bulletins;  
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420 200D-3 528A 162 410 616 166 PRT 225 400  
 147 527 179 VIB-3 EBG-7



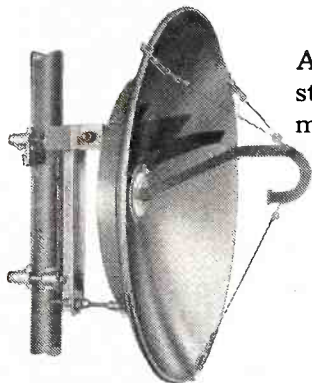
Leadership for  
20 Years...

**ANTENNAS**  
**ANTENNA SYSTEMS**  
**TRANSMISSION LINES**

The ANDREW product line covers the related fields of antennas for communication and broadcasting, and transmission lines to connect these antennas to transmitters, receivers or other electronic equipment.

**PARABOLIC ANTENNAS**

A wide selection of standard models in a complete range of sizes and frequencies is stocked for immediate delivery. Special antennas are designed and manufactured to meet individual requirements. Here is a representative selection of stock antennas.



Type PT4-59 4-foot antenna with waveguide horn for 5925-6425 mc.

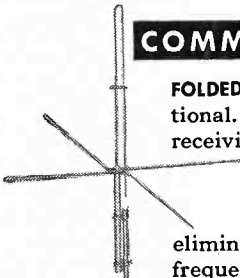
TYPE NUMBERS OF STOCK PARABOLIC ANTENNAS

Frequency Range (MC)	ANDREW Type Number			
	4 ft. dia.	6 ft. dia.	8 ft. dia.	10 ft. dia.
890 - 920	1004A-1	1006A-1		1010A-1
920 - 960	1004A-2	1006A-2		1010A-2
1700-1850	2004A-1	2006A-1	2008A-1	2010A-1
1850-1990	2004A-2	2006A-2	2008A-3	2010A-3
1990-2110	2004A-3	2006A-3	2008A-3	2010A-3
2450-2700		P6-24		P10-24
3750-4200			PS8-37	
5925-6425	P4-59	P6-59	P8-59	P10-59
6575-7125	P4-65	P6-65	P8-65	P10-65
7125-7425	P4-71	P6-71	P8-71	P10-71

Tower or roof mounts are included as part of the antenna. Most standard mounts include elevation and azimuth adjustments of at least  $\pm 5^\circ$ . Special heating equipment is available and recommended for antennas operating above 5000 mc in ice areas.

For antennas requiring tower mounts, specify prefix PT for all sizes: example, PT4-59. Roof mounts for 4' and 6' sizes use prefix PM; example, PM6-71. 8' and 10' mounts are designed for either tower or roof mounting.

**COMMUNICATIONS ANTENNAS**



**FOLDED UNIPOLES**—(25 mc to 174 mc), omnidirectional. The ideal fixed station transmitting and receiving antenna. Inexpensive, lightweight and easy to install. Some lower frequency models incorporate new design changes which increase windload ratings and eliminate field cutting of vertical elements to frequency.

**HIGH GAIN**—for 148-174 mc, 400-470 mc. ANDREW High Gain omnidirectional antennas will increase your coverage and multiply benefits by the number of mobile units in the system. Type numbers, frequency and gain are shown below.

Omnidirectional Pattern		
Type 3000	148-174 mc	6.3 db
Type 3006	148-174 mc	9.0 db
Type 4000	450-470 mc	7.6 db
Type 4002	450-470 mc	5.0 db
Type 4010	400-420 mc	7.5 db
Offset Omnidirectional Pattern		
Type 201	450-470 mc	10.8 db in max. dir.
Type 3004	148-174 mc	8.1 db in max. dir.

**CORNER REFLECTORS.** Unidirectional antennas for 25-174 mc and 400-960 mc. Preferred for their high gain and stable operation under severe weather conditions. Also may be utilized for low power TV transmitting in directional and omnidirectional arrays.

**ANTENNA SYSTEMS AND PLANNING**

ANDREW Corporation offers engineering assistance in the planning of your antenna-transmission line

system at no cost to you. Contact the nearest ANDREW office for this consulting service.



Be sure your library contains Andrew catalog 21 and the new product supplement, 215.

**TRANSMISSION LINES**

**HELIAX**, flexible air dielectric cable combines the efficiency of the finest copper cables with handling ease of solid dielectric types. Available in two sizes,  $\frac{7}{8}$ " Type HO and  $1\frac{5}{8}$ " Type H1, with complete series of pressurized end fittings. Type HO may now be used up to 5000 mc.

**RIGID AND SEMI-FLEXIBLE.** Complete range of sizes for UHF and VHF systems. Semi-flexible soft copper cable in  $\frac{3}{8}$ " and  $\frac{7}{8}$ " sizes, rigid copper line  $\frac{7}{8}$ " to 9" sizes. Adaptors and fittings available from stock. New 50 ohm,  $6\frac{1}{8}$ " line now available for high power applications.

**WAVEGUIDE.** High efficiency copper clad steel waveguide in sizes ranging from  $7\frac{1}{2}$ " to 15" for pressurized UHF systems. Includes accessories for complete line installation.

**COAXIAL SWITCH.** Automatic, 50 ohm,  $3\frac{1}{8}$ ", UHF and VHF. This new, automatic switch now allows high power communication systems, as well as VHF and UHF television stations, the convenience of four-second switching of  $3\frac{1}{8}$ " coaxial transmission line at powers up to 10 kw at 1000 mc. Both automatic and manual models include automatic high voltage disabling switch and remote position indicating lights.



**ASSOCIATED ANDREW PRODUCTS**

Antenna Reflectors, Parabolic Antennas, Tropospheric Antennas, Yagi Antennas, Mobile Antennas, UHF and VHF Cable, Transmission Line (all types) Connectors, Coaxial Cable

Controls, Photoelectric Dehydrators, Automatic Filters, Microwave Filters, UHF and VHF Lighting Equipment, Tower Lines, Slotted Masts, Telescoping Phasing and Tuning Equipment.

*Andrew*  
CORPORATION

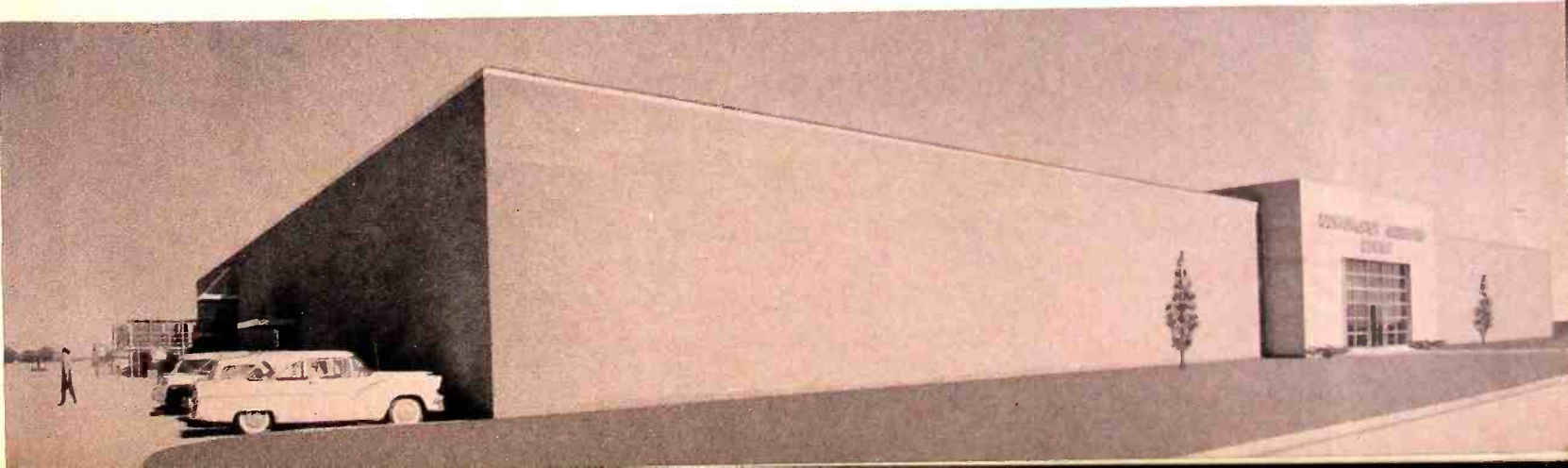
363 EAST 75th STREET • CHICAGO 19

COMMUNICATION ACCESSORIES  
COMPANY



AMERICA'S LARGEST  
EXCLUSIVE FACILITY  
for the Manufacture of All Types of

**T O R O I D A L  
C O M P O N E N T S**







## **C-A-C's New Large Facilities Provide PRODUCTION ADVANTAGES**

The new C-A-C building, covering over 50,000 square feet on a single level, makes possible complete departmentalization utilizing the most modern production facilities and techniques. Over 750 employees, working as a well-organized team—and highly experienced in their specialized fields—offer an unexcelled service in the processing of orders. Year 'round air-conditioning and humidity control not only provide greater employee comfort, but contribute to higher precision workmanship.

The C-A-C organization was built on service—it pioneered many of the recent developments in toroidal windings and packaging techniques. Now, in the most complete laboratory of its kind (including environmental testing facilities), C-A-C engineering and research is progressing to bring you new developments—new advantages.

## **SEE YOUR C-A-C MAN FOR ADDITIONAL INFORMATION**

**NEW YORK**—H. Gray Assoc., YE 2-3825  
21-10 33rd Rd., Long Island City 6, N. Y.

**PHILADELPHIA**—C. R. Hile Co., Elgin 6-2266  
Hillview Road, Box 144, Paoli, Pa.

**BALTIMORE**—C. R. Hile Co., Northfield 5-4500,  
L. G. Korman, 5006 Kenwood,  
Baltimore 6, Md.

**LOS ANGELES**—S. O. Jewett, State 9-6027,  
13537 Addison St., Sherman Oaks, Calif.

**TUCSON**—S. O. Jewett, Pat Maguire, East 7-1644  
1025 S. Van Buren, Tucson, Arizona

**SYRACUSE**—Naylor Electric Co., 2-3894,  
1115 Hills Building, Syracuse, N. Y.

**MERIDEN**—Henry Lavin Assoc., Beverly 7-5527,  
P. O. Box 196, Meriden, Conn.

**DALLAS**—Norvell Assoc., Forest 8-4180,  
5622 Dyer St., Dallas, Texas

**ST. PAUL**—Northport Engineering, Inc.  
Midway 6-2621, J. D. Webster, 1729 Selby St.,  
St. Paul 4, Minn.

**ST. LOUIS**—E. W. McGrade Co., Parkview 5-6550,  
1110 S. Brentwood, St. Louis 17, Mo.

**ORLANDO**—C. R. Hile Co., 711 Magnolia Ave.,  
Wm. Lehmann, Orlando, Fla.

**CHICAGO**—Gassner & Clark Co.,  
Rogers Pk. 4-6121, 6644 N. Western Ave.,  
Chicago 45, Ill.

**NEEDHAM**—Henry Lavin Associates,  
3-3446, Bob Curtin, 82 Curve St.,  
Needham, Mass.

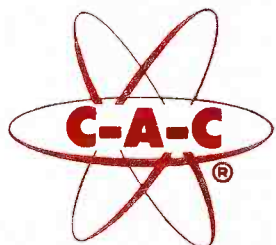
**CLEVELAND**—Ernie Kohler Assoc.,  
Olympic 1-1242, 8905 Lake Ave.,  
Cleveland 2, Ohio

**DAYTON**—Ernie Kohler Assoc.,  
Oxmoor 2813, 2600 Far Hills Ave.,  
Dayton 9, Ohio

**SEATTLE**—Testco, Mohawk 4895,  
D. Thompson, Boeing Field, Rm. 105,  
Seattle 8, Wash.

**INDIANAPOLIS**—Morris, Cunningham &  
Mitchell, Clifford 1-3222, 1-0225, 5-6268,  
6101 College Ave. Bldg., Indianapolis 20, Ind.

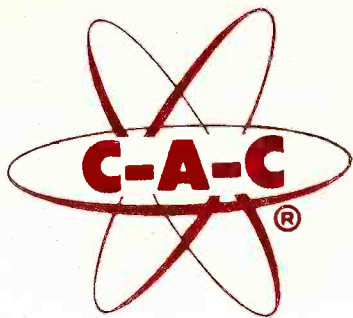
**KANSAS CITY**—E. W. McGrade Co.,  
Logan 1-3709, P. O. Box 8876, Kansas City, Mo.



# **Communication Accessories Company**

*A Subsidiary of Collins Radio Company*

**LEE'S SUMMIT, MISSOURI  
PHONE KANSAS CITY Broadway 1-1700**



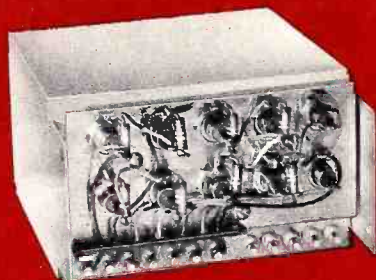
# MAGNETIC AMPLIFIERS AND TRANSFORMERS



## MAGNETIC AMPLIFIERS

Custom computer amplifiers with high stability and linearity can be designed having single or multiple inputs to your specific needs. Servo drives and relay actuators are also available. Frequency selective networks can be integrally designed to provide additional useful control functions. Proven packaging techniques insure minimum size—proven toroidal construction assures highest performance.

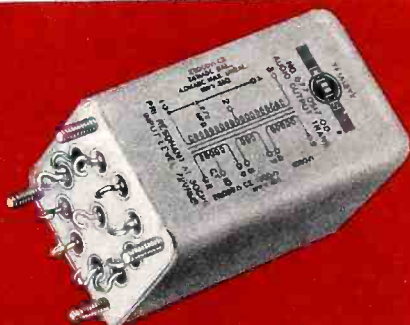
Typical Temperatures..... -60°C. to +150°C.  
Typical Line Frequencies..... 60cps to 6000cps



## MISSILE POWER TRANSFORMERS

Recommended for supply frequencies above 400 cps and where size performance and reliability are factors. Thin nickel alloy toroidal cores reduce core losses. Toroid structure cures stray field problems.

**SEALED MISSILE POWER SUPPLIES** combining toroidal power transformers, toroidal filter chokes, hi temp capacitors and silicon rectifiers. These units offer multiple outputs and low ripple. Low stray field of toroidal elements obviate usual internal shielding. Mag regulation where required.



## LAMINATED TRANSFORMERS AND INDUCTORS

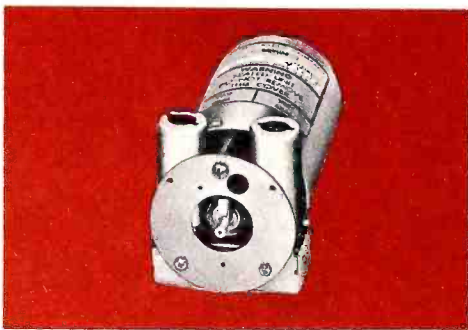
A complete line of laminated constructed units are now available through CAC. Our highly qualified engineering staff, a well complimented laboratory, humidity controlled production facility with modern manufacturing equipment guarantees conformance with any specifications. Both power and audio transformers employing advanced techniques can be supplied either hermetically sealed or encapsulated to 150° C. ambients. Catalogues, supplied upon request, cover a wide range of standardized designs including omni-range and ILS Filters.



## PRECISION RATIO COMPUTER TRANSFORMERS

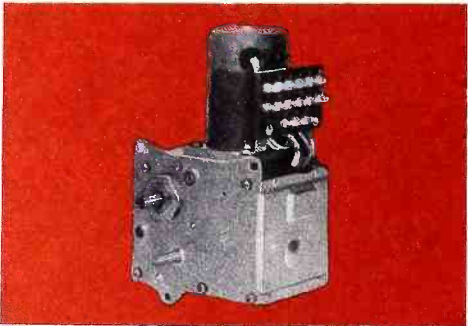
Toroidal form of construction is ideal for designing precision ratio transformers since the turns of wire are applied to and adjusted on the core. Normal production procedure of zero turn accuracy, high permeability cores, low phase shift, and near unity coupling will yield laboratory quality on any production run. Advanced design and newest packaging methods provide optimum performance with minimum size and rugged construction.

*Catalogs on Individual Components are Available on Request.*



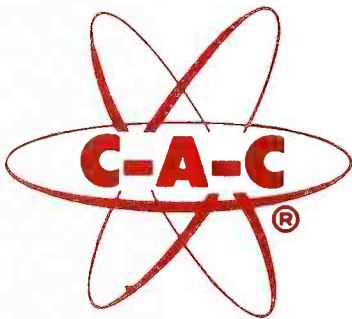
### PERMEABILITY-TUNED VFO's (Mfd. by Collins Radio Co.)

Mechanically stable — sealed against atmospheric changes — temperature and voltage compensated. Available as complete packages for incorporation into your equipment. Superior accuracy, stability and linear dial calibration for your transmitters, receivers, test equipment or frequency standards.



### AUTOTUNES (Mfd. by Collins Radio Co.)

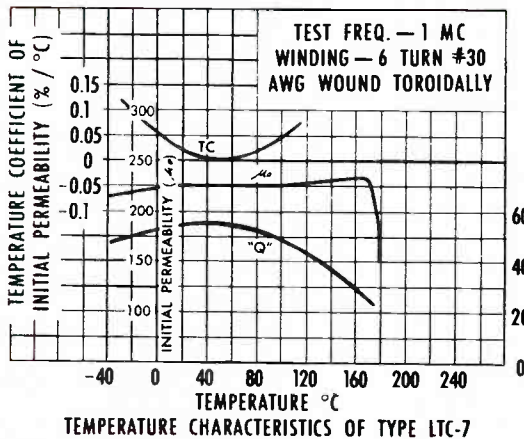
Electro-mechanical position systems. Ideally suited for components requiring rotary or linear motion. Positioning accuracies of 0.05 angular degrees with reset accuracy to 0.0001 inch relative to 1/4 inch shaft size. Designed for the lifetime of any equipment. Fast — versatile — high torque — accurate — dependable.



## Communication Accessories Company

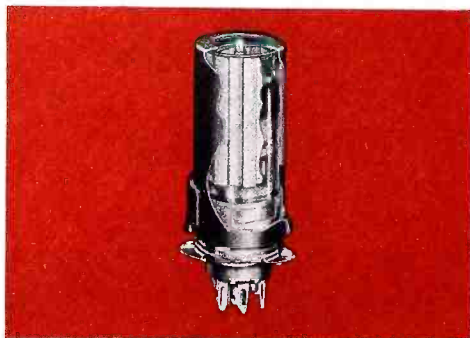
A Subsidiary of Collins Radio Company

LEE'S SUMMIT, MISSOURI  
PHONE KANSAS CITY BRoadway 1-1700



### FERRITE CORES (Mfd. by Collins Radio Co.)

Requirements for extreme temperature stability and consistently reproducible cores encouraged the Collins Radio Company to enter the magnetic materials field. Now, after several years of intensive research and development, these cores are available through CAC in many standard or custom forms for all applications. Temperature characteristics developed exhibit 10 times improvement over previous materials. Special saturation and other properties are presently available. Technical bulletins upon request.



### HEAT DISSIPATING TUBE SHIELDS (Mfd. by Collins Radio Co.)

Heat treated beryllium copper corrugated liner and socket insert are highly resilient and accommodate wide variations of tube diameter. Base liner reduces bulb temperature in most critical tube area. Interchangeable with standard JAN equipment. Tube cannot work out of socket through long term vibration. Maximum electrostatic shielding.



**US-KON** INDUSTRIAL HEATING BLANKETS

# LET US HELP ENGINEER BETTER HEATING AT LOWER COST INTO YOUR PRODUCT

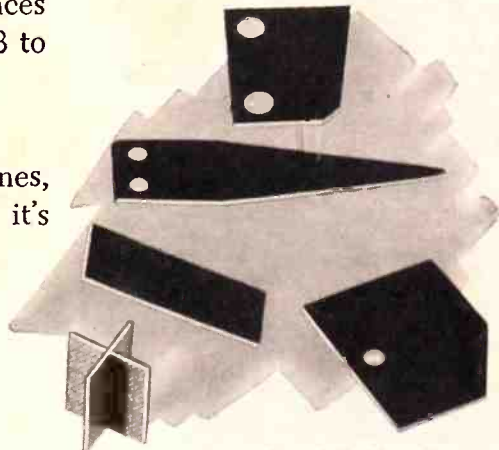
**ARE YOU IN THE REFRIGERATION FIELD?** Leading firms such as Larkin, Bush and Bohn, are among the many that use Us-Kon® Heating Blankets to prevent ice formation in drain pans of unit coolers. Us-Kon also does many other jobs in refrigeration.



Drainpan of unit cooler with Us-Kon heating blanket in place.

**ARE YOU IN PLASTIC LAMINATION?** Us-Kon Blankets are used on hot presses to speed up production, save working space and capital outlays. In some instances the Us-Kon does as much work as equipment that might cost 33 to 50 times as much.

**WHAT ABOUT FURNITURE VENEERING?** For rapid curing of glue lines, veneering of wooden products of flat or curved construction, it's flexible Us-Kon Electrical Blankets.



Examples of Us-Kon Conductive Cards.

**THE AMAZING US-KON ELECTRICALLY CONDUCTIVE CARDS** are used in radar micro-wave assemblies to control the attenuation of electromagnetic energy by such concerns as Convair and Texas Instrument.

## UNIFORM HEAT OVER LARGE OR SMALL AREAS

Us-Kon conductive rubber electrical heating blankets give quick, uniform heat. They are less than 1/8" thick, weigh less than 8 oz. per square foot and are in sizes from 1" to 56" wide and 6" to 50 ft. or more in length. They are so flexible they conform to curves of as little as 1/4" radius. There are no wires. Temperature can be thermostatically controlled.

Tell us the type of your product or application. Write United States Rubber, Mechanical Goods Division, Rockefeller Center, New York 20, N. Y.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



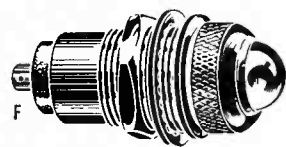
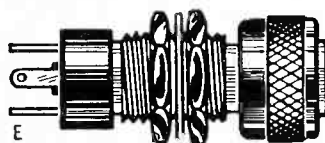
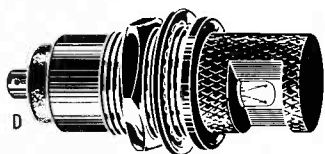
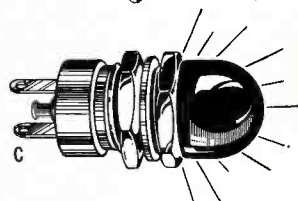
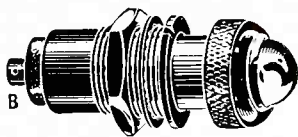
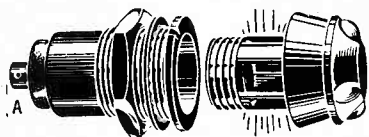
Mechanical Goods Division

# United States Rubber

*In automation...indication...miniaturization*

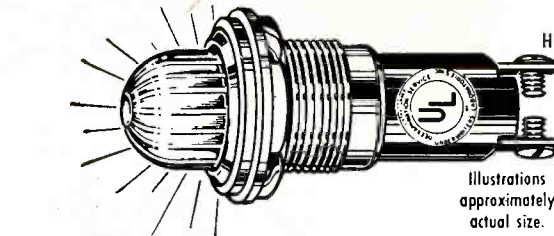
# PILOT LIGHTS

*perform vital functions...Assure maximum dependability—specify:*

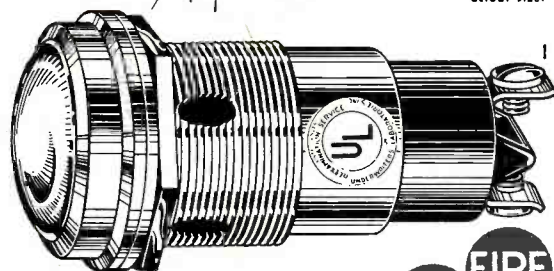


**THE COMPLETE LINE** designed to meet every requirement. *Dialco* offers the most extensive selection of Pilot Lights — from *sub-miniature* types to *giant* units with 1½" lenses. Special features such as MIL spec insulation, water-tightness, special finishes, etc. can be furnished as standard. For NEON lamps, *Dialco* provides Pilot Lights with **built-in resistors** (patent #2,421,321) for operation on 105-125 V, or 210-250V; also simple external resistors for higher voltages.

**Every assembly is available complete with lamp:** Assure complete satisfaction — let the *Dialco* Engineering Dept. assist in selecting the *right* lamp and *most suitable* pilot light for your needs.



Illustrations approximately actual size.



**DISCS tell the story!**

In both military and civilian equipment, *Discs* inserted behind lenses can be used to deliver specific messages. A significant safety feature!

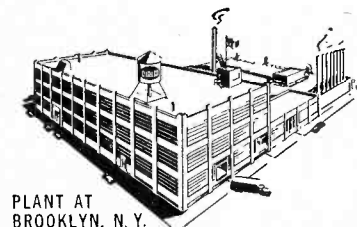


**Sub-Minature Units:** (A) No. TT-51; No. TT-51A with No. 327 lamp. For edge lighting. Red or other color filters, black top... (B) No. 8-3730-111, for MIL-P-7788 panel... (C) No. 101-3830-951 two-terminal unit with omnidirectional lens... (D) No. 4-1930, light shield... (E) Patented "Press-to-Test" unit with dimming or non-dimming lens cap... (F) No. 8-1930-111, non-dimming... (G) No. 11-1930-111, mechanical dimmer; No. 3-1930-111, polaroid dimmer. (H) No. 521308-991, for neon lamps, with multi-view cap... (I) No. 313502-111, a 1" unit with friction cap.

**SAMPLES ON REQUEST — at once — no charge**

**FREE:** Brochure on "Selection and Application of Pilot Lights." Contains consolidated information on pilot light assemblies and small lamps, working tables, data, photographs, and product information.

Also write for file of latest Catalogues

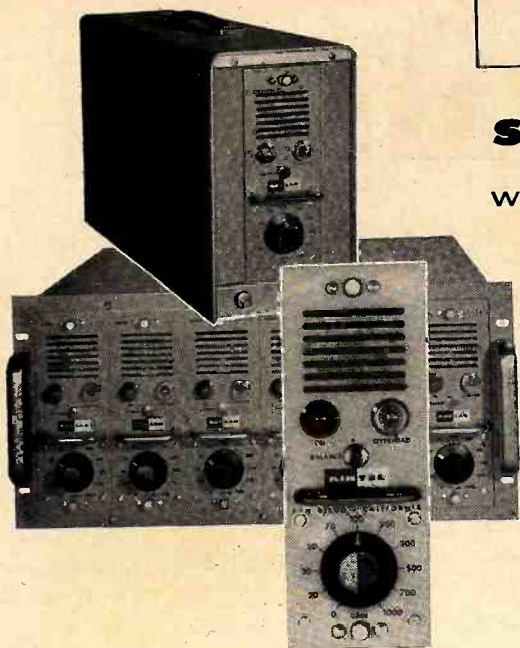


PLANT AT BROOKLYN, N. Y.

Foremost Manufacturer of Pilot Lights

# DIALIGHT CORPORATION

60 STEWART AVE. • BROOKLYN 37, N. Y. • HYACINTH 7-7600



### STABILITY



*Locked in!*

### WITH CHOPPER AMPLIFIERS

- $\pm 2$  Microvolt Drift
- Extremely Low Noise
- High Input Impedance
- Low Output Impedance
- $\pm 35$  Volt,  $\pm 40$ ma Output
- 10 Accurate Gain Ranges
- 6 Unit Rack-Mounting
- Integral Power Supply

### AMPLIFY MICROVOLTS WITH STABILITY

KIN TEL Model 111A amplifiers provide the lowest drift of any commercially available wideband DC amplifiers. They utilize KIN TEL's proven chopper amplifier circuitry to provide unsurpassed dynamic performance — unaffected by load or gain changes.

### OPERATIONAL AMPLIFIER

The Model 111AO is an operational version of the Model 111A amplifier. In this unit, the "0" gain position is an open loop position, and the user may employ his own external networks to provide up to 100% resistive or capacitive feedback around the amplifier. By choosing the proper attenuator, input, and feedback components the user may obtain whatever amplifier characteristics are desired, such as limiting the gain or bandwidth, performing integrations, and generating complex linear transfer functions.

### FLOATING INPUT AMPLIFIER

The Model 111AF is a floating input version of the Model 111A which permits its use with transducers, particularly thermocouples, which are grounded at the pickup location. The Model 111AF differs from the Model 111A only in that it eliminates the problem of ground loops resulting from grounding at both the amplifier and the pickup location.

### APPLICATIONS

These amplifiers make dynamic, high-accuracy, low-level DC instrumentation systems practical. In comparison to AC systems, DC strain gage systems offer greater accuracy, wider bandwidth, operational simplicity, reduced maintenance, and eliminate capacitive balance problems. In one installation alone, KIN TEL DC amplifiers have logged over a million hours of accurate, trouble-free operation. The Model 111 series is ideally suited to telemetering, data reduction and all types of instrumentation facilities utilizing transducer measuring systems. They are excellent as scope preamplifiers, recorder and galvanometer driver amplifiers, or general purpose laboratory amplifiers.

### SPECIFICATIONS

Gain (Phase Inverting).....	0, 20, 30, 50, 70, 100, 200, 300, 500, 700, 1000
Gain Accuracy.....	$\pm 1\%$ , DC to 2 KC; $\pm 3\%$ , DC to 10 KC; $\pm 30\%$ , DC to 40 KC
Input Impedance.....	100,000 ohms
Output Impedance.....	Less than 1 ohm in series with 25uh
Equivalent Input Drift.....	$\pm 2\text{uv}$ when used with regulated line voltage, $\pm 10\%$ change in AC input causes less than $\pm 5\text{uv}$ change. 10 minute warm-up period required.
Equivalent Input Noise.....	0 to 3 cps, less than 5uv peak to peak. 0 to 750 cps, less than 5uv RMS. 0 to 50 kc, less than 12uv RMS.
Chopper Intermodulation.....	Less than 0.1%
Maximum Output Cable Capacity.....	0.02uf (external)
Linearity.....	Better than 0.1% to 2KC
DC Output Capability.....	0 to 35v where RL > 1000 ohms 0 to 40 ma where RL is 10 to 400 ohms
Frequency Response.....	0.3 db ( $\pm 3\%$ ) DC to 10KC, less than 3 db down at 40KC
Rise Time.....	Less than 10 u sec.
Phase Shift.....	Less than 5° to 2KC
Overload Recovery Time.....	Less than 3 seconds
Dimensions:	
Amplifier Unit.....	27 $\frac{1}{8}$ " wide, 7 $\frac{5}{8}$ " high, 14 $\frac{5}{8}$ " deep
Unit in Cabinet.....	5 7/16" wide, 10" high, 18 $\frac{1}{4}$ " deep
Rack Adapter Module for 6 Units.....	19" wide, 8 $\frac{3}{4}$ " high, 18 $\frac{1}{4}$ " deep (Width of cabinet behind 19" front panel is 17 $\frac{5}{8}$ " )
Net Weight (Amplifier).....	11 pounds
Price:	
111A Amplifier.....	\$550.00*
111AO Amplifier.....	\$560.00*
111AF Amplifier.....	\$575.00*
111CF Cabinet for single 111A, AO, or AF Amplifier, with fan and connector.....	\$105.00
111RF Rack Adaptor Module for six 111A, AO, or AF Amplifiers, with fans and connectors.....	\$200.00

\* Amplifier must be used with cabinet or rack adapter module.

Representatives in all major cities — Write today for literature or demonstration.

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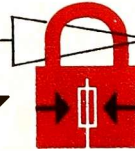
### KIN TEL

[KAY LAB]



MODEL 203

**STABILITY**



*Locked in!*

WITH CHOPPER AMPLIFIERS

**The ONE Universal Meter**

MICROVOLTS TO KILOVOLTS - MICROAMPS TO MILLIAMPS

- 100uua to 100ma Full Scale
- 100uv to 1000v Full Scale
- High, Fixed Input Impedance
- 15 Voltage, 10 Current Ranges
- Zero Center Meter
- Use as 80db DC Amplifier

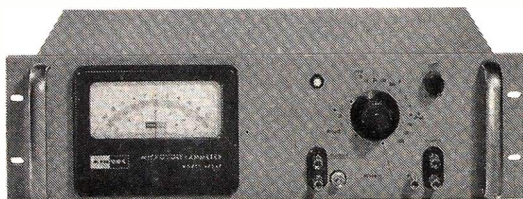
The Model 203 microvolt-ammeter-amplifier utilizes KIN TEL's unique chopper circuit to provide accurate measurement of DC from 10uv to 1000 volts or 10uua to 100ma. A zero-center, mirrored scale provides instant polarity indication. It may also be used as an exceptionally stable

DC amplifier with up to 80db gain, high input impedance, low output impedance, and only 10uv drift. The Model 203 is the ideal general purpose laboratory meter, production test set, null meter, or amplifier for extending the range of recording instruments.

**SPECIFICATIONS**

Voltage Range (full scale).....100uv to 1000v  
 Current Range (full scale).....100uua to 100ma  
 Input Impedance.....10 megohms below 10 mv, 30 megohms at 30 mv, 100 megohms above 30 mv  
 Impedance Accuracy.....± 1.5%  
 Accuracy on all Ranges.....± 3% of full scale

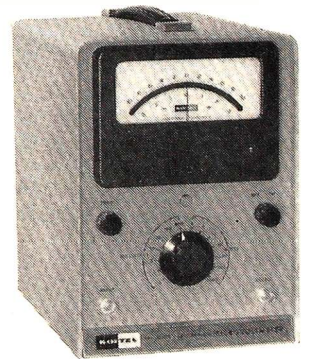
Maximum Gain as Amplifier.....80db ± 1.5%  
 Output Rating.....1 v across 1000 ohms  
 Output Impedance.....Less than 2 ohms  
 Drift (after 15 min. warm-up).....10uv equivalent input  
 Price.....\$550.00



MODEL 203AR

The Model 203AR is an extremely compact, 5¼" x 19", rack mountable version of the Model 203 microvolt-ammeter-amplifier. Specifications and operating features are the same as the Model 203 except current ranges are 1 milli-microamp to 1 amp in 19 ranges and, as an amplifier, output capability is 1 volt output into 500ohms. PRICE \$550.00.

The Model 202B is a combination microvoltmeter and amplifier for use where the lowest voltage range and the current ranges of the Model 203 are not required. Fourteen DC voltage ranges cover from 300 microvolts to 1000 volts full scale.



MODEL 202B

Drift, after 15 minute warm-up, is less than 15 microvolts equivalent input; maximum gain as a DC amplifier is 70 db; and output capability is 1 volt across 2000 Ω. Other operating features are the same as the Model 203. PRICE \$350.00.



MODEL 204A

**New Electronic Galvanometer**

- DC Null Detector
- Micro-Microammeter
- Microvoltmeter
- Microvolt Level DC Amplifier

Functionally equivalent to suspension galvanometers, the Model 204A is ideal for DC null detection in low-level bridge and potentiometer circuits, production testing, or low-level DC amplification. KIN TEL's chopper stabilized, all transistor circuit combines extreme sensitivity with immunity to shock, microphonics or overload. Current sensitivity is 20 times greater than high quality, mechanical current galvanometers. As a voltage galvanometer, its extremely high power sensitivity makes the 204A superior to low impedance moving coil instruments.

**SPECIFICATIONS**

Sensitivity.....± 10uv to ± 10 volts or ± 0.001ua (20uua/div.) to ± 1 ma full scale. Positions provided for shorted input (Zero) and open input (Inf.)  
 Power Sensitivity.....10-14 watts, full scale  
 Input Resistance.....Constant 10,000 ohms except on "Zero" and "Inf."  
 Response Time.....Approx 2 sec FS  
 Source Resistance.....No restrictions  
 Zero Adjust.....± 15uv equivalent input on 10 and 100 uv ranges; ± 15% of FS on other ranges.  
 Zero Drift.....< 2 microvolts

Output as amplifier.....± 1 volt at 1 ma (Inverting)  
 Noise Level.....1uv P-P equivalent input on 10uv range  
 Accuracy.....3% of FS on 2 lower ranges, 4% above  
 Isolation.....Very high isolation from line and chassis  
 Over-Range.....100 volts on highest range, 100 times full-scale on other ranges.  
 Dimensions:  
 204A.....9½" H x 6½" W x 12" D  
 204AR.....5½" H x 19" W x 11" D  
 Price.....\$325.00



**STABILITY**



*Locked in!*

WITH CHOPPER AMPLIFIERS



MODEL 301

**DC SUPPLIES PROVIDE STANDARD CELL ACCURACY**  
**0.01% Stability - 0.002% Regulation - Lowest Ripple**

### New DC Standard and Nullmeter

The Model 301 is a combination variable DC secondary standard, DC voltmeter, and high accuracy null voltmeter. KIN TEL's chopper stabilized circuit constantly compares the output with an internal standard cell to provide stability, accuracy, and excellent dynamic characteristics. Excellent for production calibration of precision measuring instruments and power supplies or as a versatile precision reference for laboratories.

### SPECIFICATIONS

Output Voltage.....	1.00 to 501 volts, Dial Selection
Output Current.....	.0 to 20 ma
DC Supply Output & DC Input Meter Ranges.....	±500, 50 volts
DC Null Meter Ranges.....	±50, 5, 0.5, 0.05 volts
Long Time Stability.....	±100 parts per million
Short Time Stability (several hours).....	±50 parts per million
Output Voltage Calibration.....	±0.02% or 2mv
Output Hum and Noise.....	Less than 100uv RMS

Load Regulation.....	0.002% no load to full load
Line Regulation.....	0.002% for ±10% line voltage change
Meter Accuracy.....	4% of full scale
DC Output Impedance.....	0.01 ohm
Response Time.....	0.2 millisecond
Net Weight.....	29.5 pounds
Price.....	\$625.00

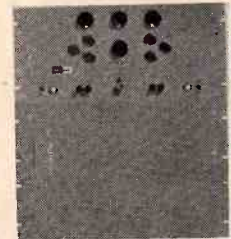
### SPECIFICATIONS

	Model M30B-1Z	Model M10A-10*	Model M100A-20*
Long Time Stability	±0.01%	±0.01%	±0.01%
Regulation for ±10% line voltage change	.002% or 0.5mv	±0.01% of FS	±0.01% of FS
Hum and Noise	Less than 0.5mv	Less than 2mv	Less than 2mv
Voltage	1.02-302	0-100	0-1000
Current	0-20ma	0-100ma	0-200ma
Calibration Tolerance	0.02%	0.05%	0.05%
Price	\$495.00	\$1190.00	\$1950.00

\* Both current and voltage regulated.

### Meter Calibrators

Meter calibrators utilize KIN TEL's unique chopper circuit to continuously compare the output against internal standard cell, providing unequalled stability, accuracy, and dynamic characteristics—regardless of line or load changes. Calibrated dials permit instant voltage selection. Excellent for all laboratory and production calibration.



MODEL M100A-20

### Power Supplies

Merely dial the voltage desired, and, regardless of load changes, KIN TEL absolute DC power supplies instantly provide the desired voltage to an accuracy normally attained only with standard cells. Ideal in the design of complex electronic circuitry or wherever a precision voltage source with unequalled dynamic characteristics is required.

### SPECIFICATIONS

Long Time Stability.....	±100 parts per million
Short Time Stability.....	±50 parts per million
Output Voltage Calibration.....	±0.02% or 5 millivolts
Output Voltage Variation.....	Variable in 100, 10 and 1v steps; between 1v steps with a potentiometer
Output Impedance.....	DC impedance, less than 0.01 ohm, AC impedance, up to 200 kc, less than 0.5 ohms
Output Hum and Noise.....	Less than 0.5 millivolt
Load Regulation Factor.....	±0.01%
Line Regulation Factor.....	±0.002% or 0.5 millivolt
Response Time.....	0.2 millisecond



MODEL 30B-25

### VARIABLE SUPPLIES\*

Model	Voltage Range	Current 0.0 to	Filament Current Amps (6.3V AC)	Price
3B-200	2-32	2 amp	0	\$1,045.00
30B-25†	1.02-302	250 ma	5	725.00
30B-50†	1.02-302	500 ma	10	830.00
30B-100†	1.02-302	1 amp	10	940.00
50B-25†	1.02-302	250 ma	5	780.00
50B-50†	1.02-502	500 ma	10	940.00
50B-100†	1.02-502	1 amp	10	1,080.00
100B-50	1.02-1002	500 ma	0	2,050.00
200D-2	100-2010	20 ma	0	1,725.00

\* Most models also available as fixed supplies, factory preset to desired output.  
† Provide variable bias 0 to -150v at 10 ma.

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[KAY LAB]





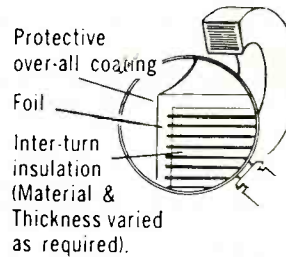
**Good-ALL**

# FLIGHTWEIGHT

## FOIL WOUND COILS

**Higher Operating Temperatures, Smaller Size and Lighter Weight are the outstanding characteristics of GOOD-ALL Foil Wound Coils. Foil Construction permits maximum design flexibility, eliminates Hot Spots and offers increased resistance to shock and vibration.**

- ✓ **TEMPERATURE**—as high as 200°C
- ✓ **SIZE**—50% SMALLER than equivalent wire wound coils
- ✓ **WEIGHT**—up to 80% LIGHTER
- ✓ **MECHANICAL**—any configuration—drilled or slotted
- ✓ **THERMAL PROPERTIES**—each turn is exposed



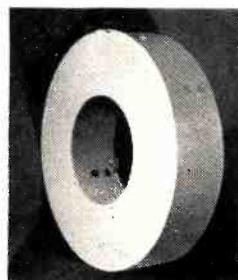
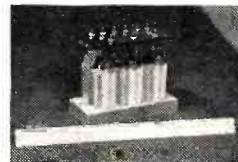
FOIL WINDING TECHNIQUES lend themselves more readily to low voltage, high current applications. Coils may be wound from less than 1" to more than 7' in diameter. Foil designs make possible many coils not now available in wire wound designs. When replacing wire wound coils foil is applicable only for wire sizes of 26 AWG and larger. Coils may be housed or potted. Each turn is exposed to a cooling medium, eliminating hot spots and making higher operating current possible.

**ALUMINUM FOIL** is suggested for applications requiring medium flux density from a moderate amount of power. Substantial Weight and Volume Savings are possible.

**COPPER FOIL** is suggested where higher flux densities and minimum volume are required.

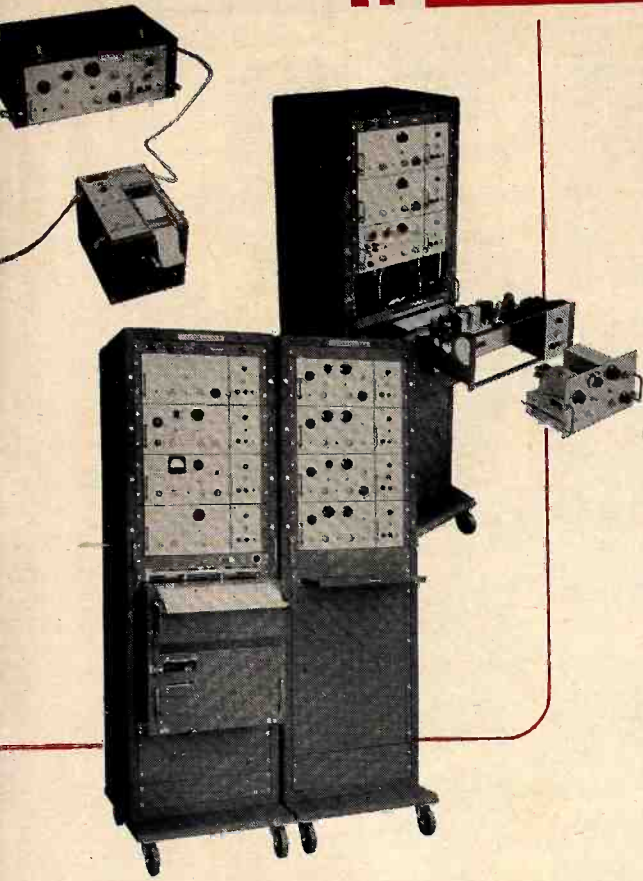
Initial costs of foil wound coils are from one to three times greater than equivalent wire wound coils, although ultimate engineering and production savings have been proven thru reduced packaging costs and improved engineering designs.

*Our engineers are ready to work with you on any component problem or application. Write, wire or phone today for more information.*



**GOOD-ALL ELECTRIC MFG. CO.,** OGALLALA, NEBRASKA  
ELECTRICAL-MECHANICAL DIV. • TWX 82 2 • PHONE 900

## 1. SYSTEMS



BASIC "150" assemblies housed in either vertical mobile cabinets or separate portable cases are available in 1-, 2-, 4-, 6- and 8-channel models. Each is equipped with driver amplifiers of current feedback design and regulated power supplies for *each* channel, and a recorder featuring *nine* extremely accurate paper speeds on 2- to 8-channel models, five on single channel units. Appropriate plug-in preamplifiers quickly and efficiently equip a basic assembly for recording virtually any 0-100 cps phenomena.

**new 6- and 8-channel analog readout systems**  
In addition, complete Sanborn systems from 2- to 8-channels are available for recording analog computer outputs. These are equipped with dual-channel DC amplifiers for single-ended or push-pull signals — input impedance 5 megohms each input lead to ground — drift less than 0.5 mm/hr. — frequency response down 2 db at 60 cycles for all amplitudes to 4 cm peak to peak. Newest of the computer readout recorders are the 6- and 8-channel console systems (8-channel illustrated). The Model 183 Programmer in a Model 184 case, shown top right, is optional for use with the 6- and 8-channel consoles. The Programmer automatically turns on chart drive, feeds calibrated signals to all channels, reads computer DC levels, determines the length of record, and shuts off the paper drive.



# SANBORN

## OSCILLOGRAPHIC RECORDING EQUIPMENT



## 2. PREAMPLIFIERS

## 3. UNIT INSTRUMENTS

All Sanborn Preamplifiers and Recorders, as well as various other units, are available separately for specialized applications or use as "original equipment" in other apparatus. Instruments include the Model 150-300/700 Wide Band Driver Amplifier and Power Supply, for use with low power galvanometer elements, a 'scope and/or panel meter. When equipped with suitable "150" preamplifier, this amplifier provides a portable indicator for strain, force, pressure, temperature, AC watts, audio level, etc. Other units include the Model 150-1900 Master Oscillator Power Amplifier; Model 150-3100 Triplexer; Model 601 and 602 galvanometers; Model 150-2900 Dual-Channel DC Amplifier.



A choice of *twelve* "150 Series" plug-in preamplifiers is now available, to equip systems for any of numerous recording problems. Improved control of input signals results from attenuator ratios of 1, 2, 5, etc., and calibrated zero suppression on AC-DC, Carrier, and Low Level DC Coupling, Frequency Meter, and Chopper Stabilized DC models. Other "150" preamplifiers include: Servo Monitor, Log-Audio, AC Wattmeter, RMS Volt/Ammeter, 400 cycle Frequency Deviation, and Triplexer.

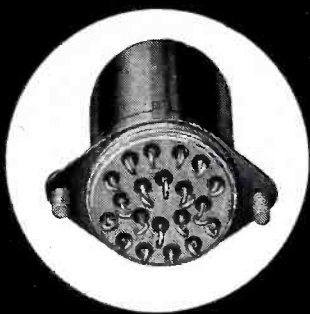
Added to these three aspects of Sanborn Oscillographic Recording Equipment are the basic advantages of inkless recording in true rectangular coordinates, to provide accurate, easily interpreted records; high torque galvanometer (10 ma develops 200,000 dyne cm.); one percent linearity resulting from current feedback driver amplifiers and high torque galvanometers (maximum error is 1/4 mm in middle 4 cm of chart, 1/2 mm across entire chart); controls for timing, manual and remote coding.

Take advantage of the scope and flexibility of Sanborn equipment to answer your recording requirements. Sanborn engineers will be glad to provide further information and application assistance whenever you wish. Contact your local representative or write to the main office below.

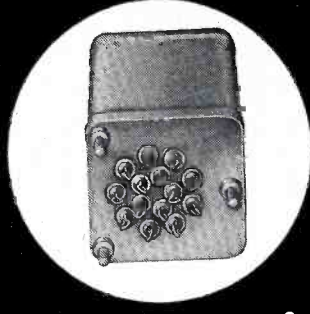
**SANBORN COMPANY**  
INDUSTRIAL DIVISION  
175 WYMAN ST. WALTHAM 54, MASS.



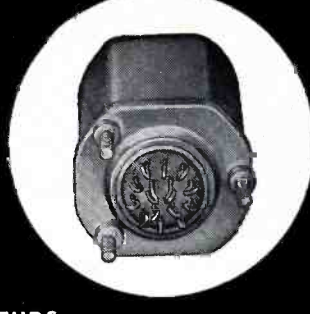
# TYPES OF MOUNTINGS AND TERMINALS



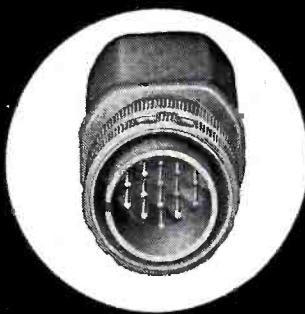
2 STUDS



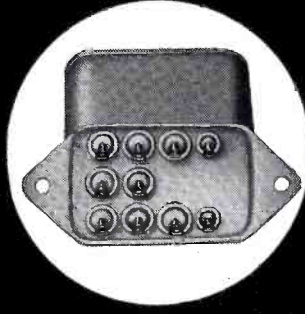
3 STUDS



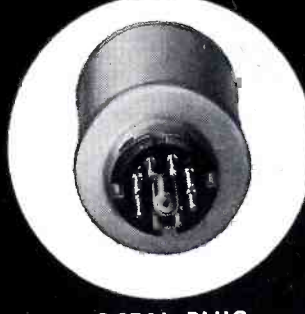
4 STUDS



"AN" PLUG-IN



2 HOLE

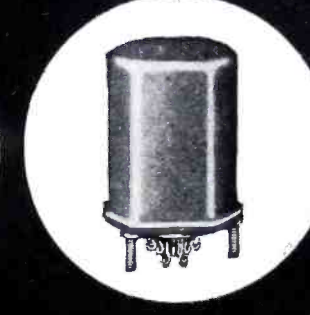
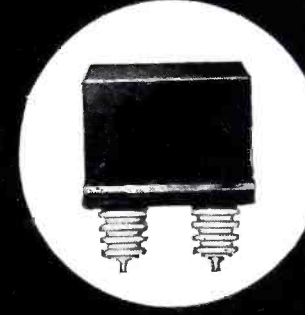
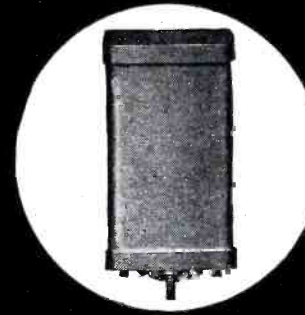
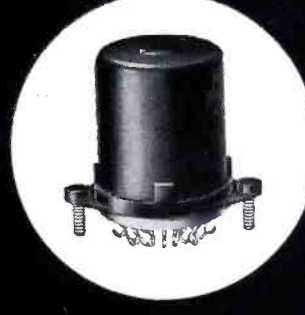
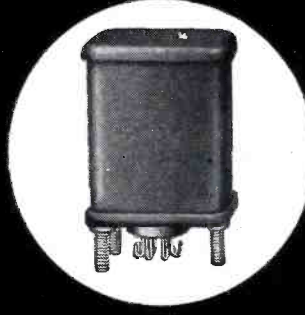
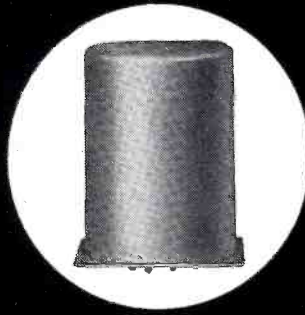


OCTAL PLUG

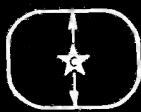


14 PIN PLUG-IN

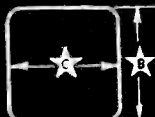
# TYPES OF HOUSINGS



OUTLINE DIMENSIONS:



OCTAGON

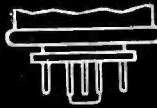


RECTANGLE OR SQUARE

TYPE TERMINALS:



SOLDER TERMINAL

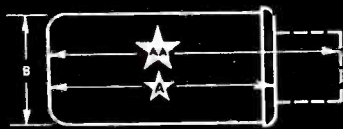


OCTAL 8 PIN PLUG

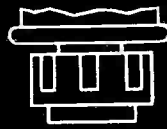
MOUNTING DIMENSIONS:



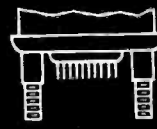
ROUND



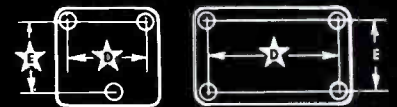
SIDE VIEW



"AN" CONNECTOR



14 PIN PLUG-IN



# ALLIED CONTROL



ALLIED CONTROL COMPANY, INC., 2 EAST END AVENUE, NEW YORK 21, N. Y.



# Reliability in power electron tubes

Continuing research and development adds constantly to the Eimac products list.  
For latest information, contact our Technical Services Department.

## RECTIFIERS

TYPE	HIGH VACUUM TYPES				
	FILAMENT VOLTAGE	FILAMENT CURRENT AMPS.	PEAK INVERSE VOLTAGE	PEAK PLATE CURRENT AMPS.	AVERAGE PLATE CURRENT MA
2-01C	5.3	0.4	1,000	0.010	1
2-25A	6.3	3.0	25,000	1.0	50
2-50A	5.0	4.0	30,000	1.0	75
2-150D	5.0	13.0	30,000	3.0	250
2-240A	7.5	12.0	40,000	4.0	500
2-450A	7.5	26.5	25,000	8.0	1000
2-2000A	10.0	25.0	75,000	12.0	750
250R	5.0	10.5	60,000	2.5	250
253	5.0	10.0	15,000	2.5	350
8020(100R)	5.0	6.5	40,000	1.5	100
2CL40A	6.0	2.1	8,000 or 16,000+	10.0	120+
2X1000A*	26.5	2.25	25,000	25.0*	1250
2X3000F	7.5	51.0	25,000	12.0	3000
MERCURY VAPOR TYPES					
KY21A****	2.5	10.0	11,000	3.0	750
RX21A	2.5	10.0	11,000	3.0	750

## AIR SYSTEM SOCKETS & CHIMNEYS

### SOCKETS (WITHOUT CHIMNEY)

- SK-100** For Klystrons with oxide coated cathodes such as the 3K3000LQ.
- SK-110** For Klystrons with bombardment heated cathodes such as the 3K50000LQ and 4K50000LQ.
- SK-200** Cathode end socket for klystrons such as the 3K2500SG.
- SK-300** 4CX5000A (No Screen By-pass Capacitor).
- SK-400** 4-400A, 4-250A, 4-125A.
- SK-500** 4-1000A.
- SK-600** 4X150A, 4X150D, 4X250B, 4X250F, 4W300B (Cathode Terminals Not Grounded).
- SK-602** 4X150A, 4X150D, 4X250B, 4X250F, 4W300B (Modification of SK-600—Shield slotted between pins 1 & 2).
- SK-610** 4X150A, 4X150D, 4X250B, 4X250F, 4W300B (Cathode Terminals Grounded).

- SK-620** 4X150A, 4X150D, 4X250B, 4X250F, 4W300B (Cathode Terminals Not Grounded—Screen By-pass Capacitor Plastic Sealed)
- SK-630** 4X150A, 4X150D, 4X250B, 4X250F, 4W300B (Cathode Terminals Grounded—Screen By-pass Capacitor Plastic Sealed).
- SK-640** 4X150A, 4X150D, 4X250B, 4X250F, 4W300B (Cathode Terminals Not Grounded—No Screen By-pass Capacitor).
- SK-700** 4CX300A (Cathode Terminal Not Grounded).
- SK-710** 4CX300A (Cathode & One Heater Terminal Grounded).

### CHIMNEYS

- SK-406** (For use with SK400 Air System Socket).
- SK-506** (For use with SK-500 Air System Socket).
- SK-606** (For use with SK-600 series and SK-700 series Air System Sockets).

## HEAT DISSIPATING CONNECTORS

TYPE	HOLE DIA.
HR-1	.052
HR-2	.062
HR-3	.070
HR-4	.102
HR-5	.125
HR-6	.359
HR-7	.125
HR-8	.570
HR-9	.570
HR-10	.510

## SK-601 TUBE EXTRACTOR

**SK-601**  
A spring steel extractor for use with the 4X150 series and 4X250 series.

## VACUUM SWITCH

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

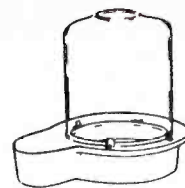
Type  
VS-2  
VS-5  
VS-6  
Coils  
12V  
24V

## PREFORMED CONTACT FINGER STOCK

A prepared strip of spring material slotted and formed into a series of fingers designed to make sliding contact.

Single Edge	Width	Double Edge	Width
CF-100	17/32	CF-200	13/16
CF-300	31/32	CF-400	1-17/32
CF-500	1-3/8	CF-600	2-1/4
Klystron Types		Width	
CF-700	17/32	CF-800	13/32 x 5/16

Used as contact between klystrons and klystron amplifier circuit assemblies.

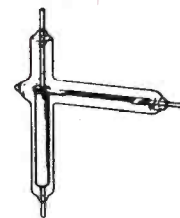


## AIR SYSTEM SOCKETS

SK-100	SK-600	SK-700
SK-110	SK-602	SK-710
SK-200	SK-610	SK-406
SK-300	SK-620	SK-506
SK-400	SK-630	SK-606
SK-500	SK-640	

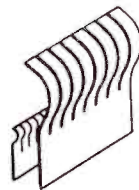


## HR HEAT DISSIPATING CONNECTORS



## VACUUM SWITCH

VS-2, 5, 6



17/32 13/16  
31/32 1-17/32  
1-3/8 2-1/4

## TUBE EXTRACTOR

SK-601

\*Grid Controlled



**EITEL-McCULLOUGH, INC.**  
SAN BRUNO, CALIFORNIA

# Motor - Gear - Trains

3:1 to 150,000:1 Ratio Range • Up to 18 Foot Pounds Torque

- Motors available: DC, 60 or 400 cycle, PM, split series, series, shunt, single phase and 2-phase. All are reversible.
- Available with either governor or brake.
- 1000 hour life minimum.
- Designed to meet MIL-E-5272A.
- Precision gearing throughout.
- Can be furnished up to 125°C.
- Designed for continuous duty or intermittent duty applications.

**Oster**®



MOTOR GEAR TRAIN										Size	Overall Length Inches-Max.	Motor Type	Mounting	Oster Type
Gear Ratio	No-Load Speed	Nominal Voltage D.C.	Voltage Range D.C.	No-Load Current	Normal Speed	Normal Load OZ.IN.	Normal Current	Operating Temp. Range						
5.68:1	1800	28	24-32	0.4	1800	5.0	1.0	-55° To +85°C		13	3.777	P.M. GOVERNOR	FACE	13R-9102-08
17.9:1	600	28	24-32	0.4	600	12.0	1.0	-55° To +85°C		13	3.930	P.M. GOVERNOR	FACE	13R-9102-06
32.3:1	300	28	24-32	0.4	300	12.0	1.0	-55° To +85°C		13	3.935	P.M. GOVERNOR	FACE	13R-9102-02
67:1	150	28	24-32	0.4	150	12.0	0.6	-55° To +85°C		13	4.092	P.M. GOVERNOR	FACE	13R-9102-05
85:1	150	27.5	-	.25	130	50.0	0.7	-55° To +85°C		13	4.095	P.M.	FACE	13R-9101-11
109:1	100	28	24-32	0.4	100	32	0.6	-55° To +85°C		13	4.094	P.M. GOVERNOR	SYNCHRO	13R-9102-12
109:1	180	27.5	-	0.4	175	30	0.5	-55° To +100°C		13	2.843	P.M.	FLANGE	13R-9104-01
125:1	75-90	28	-	.25	70-85	20	0.3	-55° To +71°C		13	3.920	P.M.	FACE	13R-9101-13
157:1	60	28	24-32	0.4	60	12.0	0.6	-55° To +85°C		13	4.095	P.M. GOVERNOR	FACE	13R-9102-03
285:1	48	35	-	.25	40	160	0.6	-55° To +71°C		13	4.038	P.M.	FACE	13R-9103-01
333:1	30	28	24-32	0.4	30	12.0	0.6	-55° To +85°C		13	4.317	P.M. GOVERNOR	FACE	13R-9102-04
410:1	15	27	25-29	0.3	15	8.0	0.3	-55° To +85°C		13	4.400	P.M. GOVERNOR	FACE	13R-9102-11
1043.8:1	5-10	27	24-30	0.15	7	30	0.2	-55° To +71°C		13	4.450	P.M. BRAKE	FACE	13R-9105-01
1044:1	5-10	27	24-30	0.15	7	30	0.2	-55° To +71°C		13	3.910	P.M.	FACE	13R-9101-12
2214:1	3-4	6	-	1.2	3.4	30	1.2	-55° To +71°C		13	4.454	P.M.	FACE	13R-9101-04
3241:1	5.5	35	-	.35	5.5	18	0.4	-55° To +71°C		13	4.454	P.M.	FACE	13R-9101-03
5933:1	1.3	30	-	.13	1.3	30	0.15	-55° To +71°C		13	4.816	P.M.	FACE	13R-9101-10
21,707:1	2-3	120	-	.25	2-3	12	0.25	-55° To +71°C		13	3.475	P.M.	FLANGE	13R-9101-16
322:1	80	110	-	0.2	30	240	0.3	-55° To +71°C		15	3.815	SPLIT SERIES	FLANGE	15R-9201-01
407:1	22	27	-	0.2	20	8	0.2	-20° To +50°C		15	3.989	SPLIT SERIES	SYNCHRO	15R-9201-03
433:1	30	26	-	0.6	25	260	1.2	-50° To +80°C		15	3.110	SHUNT	FACE	15R-9201-02
955:1	33	27	-	0.6	12-18	420	1.0	-55° To +50°C		15	4.419	SPLIT SERIES	FLANGE	15R-9201-08
26:1	240	27.5	24-29	0.65	240	40	1.3	-18° To +71°C		17	5.315	SHUNT GOVERNOR	SYNCHRO	17R-9251-01
4.26:1	1800	28	-	0.6	1800	12	1.85	-30° To +55°C		24	4.640	SHUNT GOVERNOR	FACE	24R-9451-01

Speed tolerance on governed motors is  $\pm 2\%$  over voltage and an ambient temperature range. Closer speed tolerance units can be designed to fit the particular application.

Many other variations available. There is an Oster motor-gear-train to fit your exact specification. Consult Oster specialists today, sending your detailed requirements.

Other products include servos, synchros, AC drive motors, DC motors, servo mechanism assemblies, synchro indicators, servo torque units, reference and tachometer generators, actuators, motor driven blower and fan assemblies and fast response resolvers.

BURTON BROWNE ADVERTISING

When ordering or seeking information please mention Electronics Buyers' Guide.

**John Oster** MANUFACTURING COMPANY  
Your Rotating Equipment Specialist  
AVIONIC DIVISION  
Racine, Wisconsin

Engineers For Advanced Projects:  
Interesting, varied work on designing transistor circuits and servo mechanisms.  
Contact Mr. Zelazo, Director of Research, in confidence.

# CINCH

## NEW DEVELOPMENTS IN PRINTED CIRCUIT SOCKETS:

These sockets for the three types of receiving tubes. Miniature, Flat Press and Button.

The contacts are so spaced that they can be mounted in an incremental drill pattern. This fact together with the exact precision and uniformity of Cinch sockets make them ideal for automatic assembly.

**No. 22920**—7 contact miniature molded vertically mounted socket with JAN type shield base. Mica insulation. Silver plated phosphor bronze contacts drop through .062" dia. clearance holes arranged on a .1" X and Y axis.

**EXP-9553** — 8 contact button base subminiature molded, vertically mounted socket. Mica insulation. Silver plated beryllium copper contacts drop through .070" dia. clearance holes arranged on a .1" X and Y axis.

**EXP-9553A**—Same as above except insulation to withstand temperatures above 200° Centigrade.

**No. 22024**—7 contact flat press subminiature molded, vertically mounted socket for conventional wiring. Assembled with a special shield base to accept a subminiature shield with the "J" lock. Flat sided retaining nuts and screws are provided for mounting. Mica insulation. Silver plated beryllium copper contacts.

**No. 22023**—Same as above except insulation to withstand temperatures above 200° Centigrade.

**No. 22022** — 8 contact button base subminiature molded vertically mounted socket for conventional wiring. Assembled with special shield base to accept a subminiature shield with the "J" lock. Mica insulation. Silver plated beryllium copper contacts.

**No. 22021**—Same as above except insulation to withstand temperatures above 200° Centigrade.

**EXP-9542**—7 contact miniature molded right angle socket with JAN shield base. Mica insulation. Silver plated beryllium copper contacts drop through .062" dia. clearance holes arranged on a .1" X and Y axis.



EXP-9542

**EXP-9561** — 7 contact flat press subminiature molded right angle socket. Mica insulation. Silver plated beryllium copper contacts drop through .046" dia. clearance holes arranged on a .1" X and Y axis.

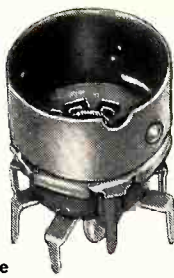
**EXP-9561A**—Same as above except insulation to withstand temperatures above 200° Centigrade.

**EXP-9562**—8 contact button base subminiature molded, right angle mounted socket. Mica insulation. Silver plated beryllium copper contacts drop through .046" dia. clearance holes arranged on .1" X and Y axis.

**EXP-9562A** — Same as above except insulation to withstand temperatures above 200° Centigrade.

EXP-9561

EXP-9562



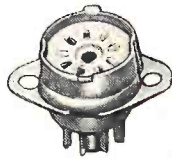
No. 22920



EXP-9553



No. 22024



No. 22022



22468



20928



20248



22485



22455

## QUICK, EASY ASSEMBLY WITH CINCH TRANSISTOR SOCKETS:



22452



16995



14273



17431



14148



22317



22674



20782



22555

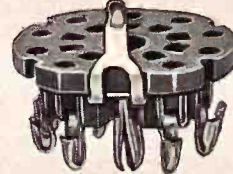
**NEW MOLDED RIGID TAIL PRINTED CIRCUIT SOCKETS:** Snap in type contact. Can be stacked for automatic assembly. Can be furnished with integral twist lock telescopic shield. General purpose Mica or Alkyd insulation.



24264 9 Pin with center post Mica



24261 7 Pin with center post Mica



24265 9 Pin with ground strap and center post Alkyd



24262 7 Pin with ground strap and center post Alkyd

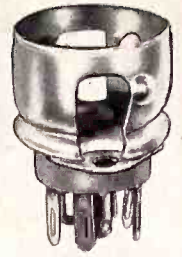
24263 9 Pin with telescopic shield

24260 7 Pin with telescopic shield

# SOCKETS

## MINIATURE SOCKETS

Saddles and shield bases of these Cinch miniature sockets are brass, nickel plated. All contacts are silver plated; tails are hot tin dipped. Molded castings are type MFE material; ceramic castings are grade L4B material or better.

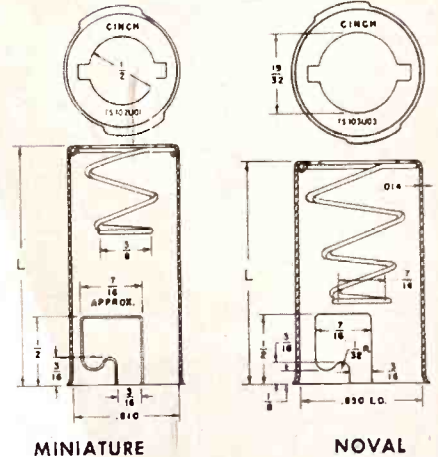


## NOVAL SOCKETS

The saddles and shield bases of Cinch noval sockets are brass, nickel plated. Contacts are silver plated; tails are hot tin dipped. Molded castings are type MFE material; ceramic castings are grade L4B or better.

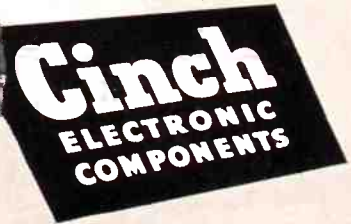


## CINCH MIL SOCKETS MEET AND SURPASS RIGID MILITARY REQUIREMENTS. MIL SHIELDS:



Part No.	Type Designation	L
For Miniature Sockets		
13A22388	TS102U01	1 3/4
13A22389	TS102U02	1 3/4
13A22390	TS102U03	2 1/4
For Noval Sockets		
13B22385	TS103U01	1 1/2
13B22386	TS103U02	1 3/4
13B22387	TS103U03	2 1/4

Descriptive circular with complete information on CINCH MIL sockets, shields and shield inserts available on request.



## CINCH MANUFACTURING CORPORATION

1026 South Homan Ave., Chicago 24, Illinois  
Subsidiary of United-Carr Fastener Corporation, Cambridge, Mass



# JONES

## JONES PLUGS AND SOCKETS



Jones 300 Series are small in size with good separation between contacts. Made in two to thirty three contacts. Plugs and sockets are polarized. A popular, inexpensive connector adaptable to a thousand uses. Phosphor bronze "knife switch" socket contacts engage both sides of heavy brass plug contacts for positive connections. Molded Bakelite insulation. Can also be supplied with contacts that will take the Faston or Quick Connect solderless terminals.



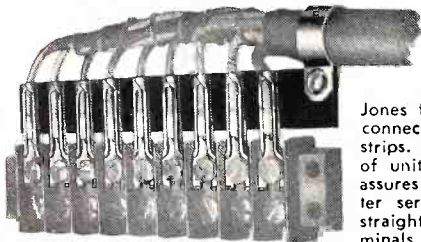
Jones 2400 Series are designed for highest electrical and mechanical efficiency. Ideal for Public Address, Radio, Electronic Controls, Vending Machines, or wherever a quality connector is required. Maximum creepage distances between contacts and contact to ground makes this series a must when Underwriter label is required. Made in 2, 4, 6, 8, 10 and 12 contact. Molded Bakelite insulation. Caps are of steel with black wrinkle finish.



Jones 202 Series: Shielded type low loss plugs and sockets for high frequency connections. Ideal for antenna connections, photo-cell work, microphone connections. Phosphor bronze knife-switch type socket contacts engage both sides of flat plug contact—double contact area. Plugs and sockets have molded Bakelite insulation.



## JONES FANNING STRIPS



Jones fanning strips simplify connections to the barrier strips. Makes the replacement of units an easy matter and assures correct connections after servicing. Supplied with straight or right angle terminals.

The steadily expanding variety of plugs and sockets produced at the JONES Division has a wide range of the highest quality electrical and mechanical parts to efficiently fill every need.

## JONES MEANS PROVEN QUALITY!

Hundreds of standard JONES terminal panels available; complete latest equipment for specials, send your specifications for prompt quotation.



No. 6-172

Jones 172 Series—A miniature barrier strip  $\frac{3}{8}$ " wide with terminals mounted on  $\frac{1}{4}$ " centers. Screw size: 2-56 x  $\frac{1}{4}$ ". Molded Bakelite insulation. Made in one to fourteen contacts. Also supplied in the  $\frac{3}{4}$ W and W types.



No. 6-173

Jones 173 Series—A small single contact barrier strip with terminals mounted on  $\frac{3}{8}$ " centers. Made in one to eight contacts. Screw size: 4-40 x  $\frac{5}{16}$ ". Molded Bakelite insulation.

The components are shown here for variety, types and uses, and are not necessarily in comparative size.

**HOWARD B. JONES DIVISION**  
**CINCH MANUFACTURING CORPORATION**

36-4200-85



36-4100-8P

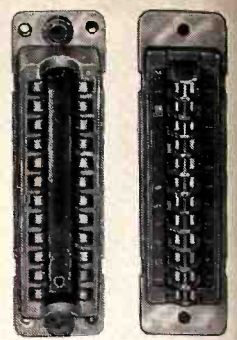


The ribbon contact principle, with dielectric guide and support eliminates the possibilities of damaged or bent contacts and prevents difficulties of plug-in. No dependence on contact arrangement or visual alignment is necessary.

36-4200-24S

36-4100-24P

36-4100-24S (345)



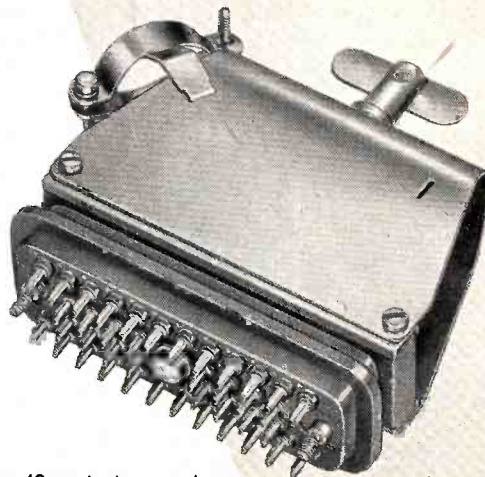
36-4100-24P (345)

## BLUE RIBBON CONNECTORS

### Barrier Polarization Type Insure Quick Positive Contact With Ease

The Wedge principle with the strong spring action of the contacts holds the connector in positive contact, and provides ease of insertion and withdrawal. The protective barriers between ribbon contacts insure the spacing.

(Above) Improved Military Type; design of plug and socket casting eliminate any possible breakage.



40 contact connector "A" style for applications where plug is "live voltage" side.

# CINCH

## COMPRESSION TYPE MICRO CONNECTOR

28, 32, 40, 48 and 52 contacts. Center engaging screw with wing nut or screw driver slot and spring action contacts — permits easy, quick and reliable engagement and disengagement. Receptacle side available for pressurized applications.



52 contact connector "B" style for applications where receptacle is "live voltage" side.



**Cinch**  
ELECTRONIC  
COMPONENTS

## BARRIER TYPE TERMINAL STRIPS, PLUGS, SOCKETS, FANNING STRIPS



No. 2-141



No. 2-141-Y



No. 2-141- $\frac{3}{4}$ -W

JONES Barrier Terminal Strips: Increased insulation, better connections. Leakage path is increased—direct shorts from frayed terminal wires prevented by Bakelite barriers placed between terminals. Binder screws and terminals brass, nickel plated. Insulation, black molded Bakelite. Finest construction. Add much to equipment's effect.

DPA 32-34P

DPA 32-33S

DB-25P

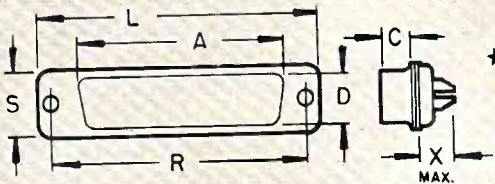


DPA CONNECTORS

### ★ CANNON D SUB-MINIATURE, DPA and DPX SERIES CONNECTORS

(Right) D Sub-Miniatures; Standard Pin and Socket Inserts:

Insert arrangements  
—5 plus coaxials in  
15, 25, 37 and  
O contacts. Insula-  
tion material—Zytel  
D1 or DIALL. Pola-  
rization — Key-  
one cornered shell.  
Operating tem-  
perature —67° to  
-310°F.



★ Manufactured by agreement with Cannon Electric Company  
Send for illustrated Catalog No. 157 with details of "D" Sub-Miniature, "DPA" and "DPX" Series.



DB-25S

# GRAPHIK CIRCUITS

Graphik Circuits Reduce Wiring Costs • Cut Down Assembly Time • Eliminate Errors • Miniaturize • Guarantee Uniformity

Solderless wrapped connections. CINCH Graphik Circuits is tooled to provide wire wrap terminals on etched circuit boards. Reduction in cost of component assembly is accomplished by speeding up production and the elimination of soldering. Complete facilities for engineering production design, drafting, artwork, development, prototyping and manufacturing photo-printing, silk screen, etching, machining and punching, fabricating, mechanical assembly, electrical assembly, encapsulating, quality control, and fluoroscopic inspection.

Developed and produced for right angle application. The right angle board accommodates all of the CINCH socket sizes, and can be bonded with epoxy resin or snapped in and retained by newly developed CINCH hardware. All units meet or exceed Military Specifications. Sockets, terminals and other hardware installed to customer specifications using the latest equipment in automatic assembly.

## GRAPHIK CIRCUITS

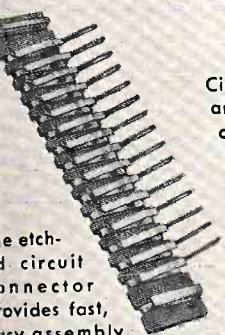
Division of Cinch Manufacturing Corporation  
221 So. Arroyo Parkway  
Pasadena 1, Calif.

# CONNECTORS

## "50" EDGE CONNECTORS

Cinch 50M Edge Connectors are available in any number of contacts from one to 56. The contacts are on standard 5/32" centers. A polarizing guide may be assembled at any contact position.

etch-  
d circuit  
connector  
provides fast,  
easy assembly.  
Does not require precision  
tolerances on board thick-  
ness. Eliminates moisture  
trap. Allows greater flexi-  
bility of configuration.  
Lower cost.



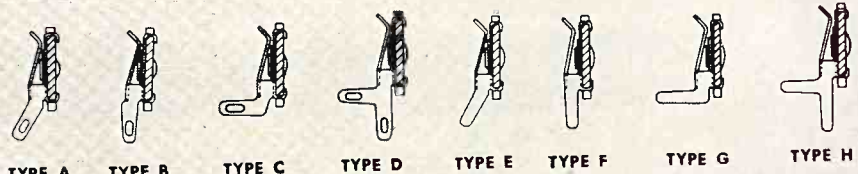
TYPE B MOUNTING



TYPE R MOUNTING



TYPE P MOUNTING



TYPE A TYPE B TYPE C TYPE D TYPE E TYPE F TYPE G TYPE H

Eight different contact tail terminations provide for use of A.M.P. "78" or "98" solderless taper tab connections. A standard solder slot is also provided.

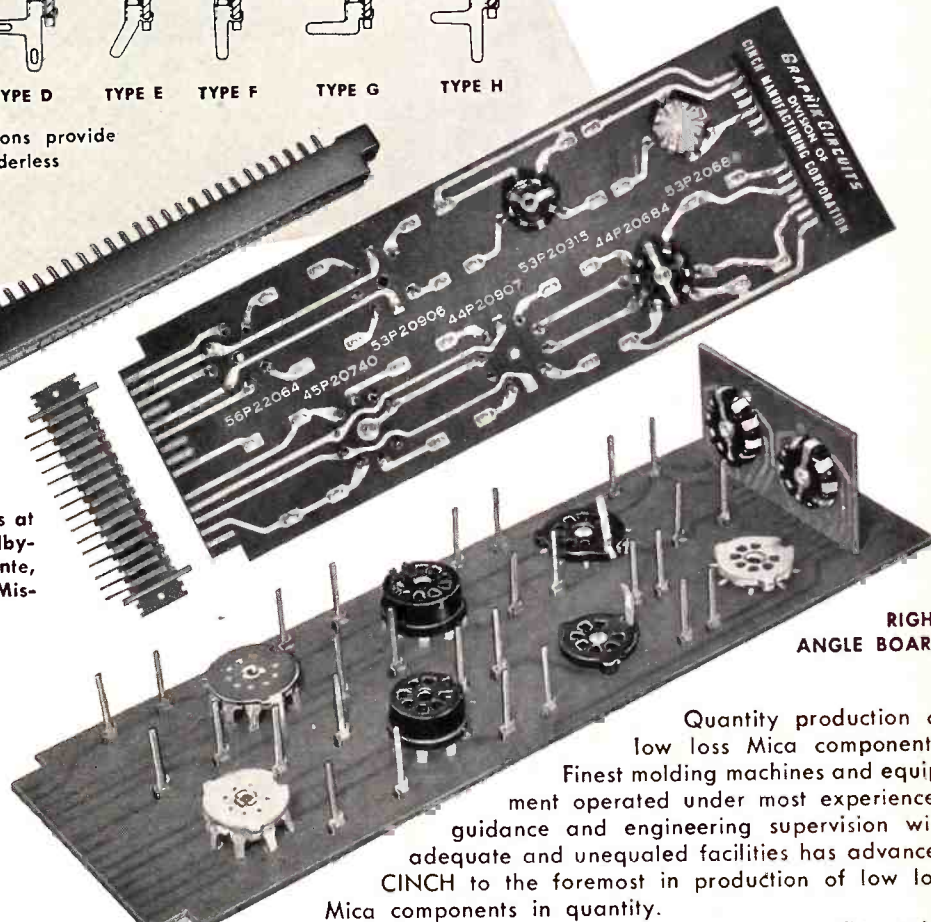
The 25 contact printed wiring edge connector.



Centrally located plants at Chicago, Illinois; Shelbyville, Indiana; LaPuente, California; St. Louis, Missouri.

## BARRIER STRIPS FOR SOLDERLESS TERMINALS.

The 164, 141 and 142 series are now available for the solderless "Faston" or "Quick Connect" terminals. Illustration shows various angles that the terminals can be supplied. The terminal is of the extruded type so that it can be tapped making the addition of screw terminals. A most flexible line of barrier strips for every requirement.



RIGHT ANGLE BOARD

Quantity production of low loss Mica components. Finest molding machines and equipment operated under most experienced guidance and engineering supervision with adequate and unequalled facilities has advanced CINCH to the foremost in production of low loss Mica components in quantity.

CINCH will design, or re-design, components to fit specific needs, and will assist in the assembly of components through proven automation technique.



# Cinch

ELECTRONIC COMPONENTS

## CINCH MANUFACTURING CORPORATION

1026 South Homan Ave., Chicago 24, Illinois

Subsidiary of United-Carr Fastener Corporation, Cambridge, Mass.

# cppe

# for ALL Types

## SIZE 8

Weight 32 gms.  
Dia. .750 in.

Actual Size



## SIZE 10

Weight 50 gms.  
Dia. .937 in.

Actual Size



## SIZE 11

Weight 82 gms.  
Dia. 1.062 in.

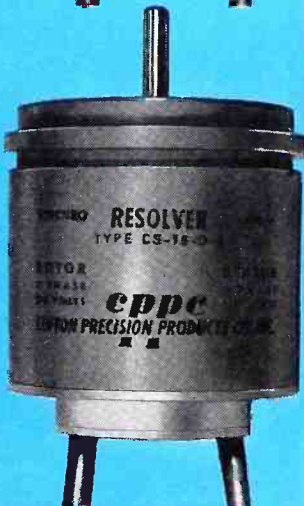
Actual Size



## SIZE 15

Weight 126 gms.  
Dia. 1.437 in.

Actual Size



### STANDARD UNITS

### ROTOR AS PRIMARY

### STATOR AS PRIMARY

SYNCHRO FUNCTION	CPPE TYPE	Input Voltage (400 ~)	Input Current (Amps.)	Input Power (Watts)	Output Voltage (Volts)	Sensitivity (MV/deg.)	Phase Shift (deg. lead)	Input Voltage (400 ~)	Input Current (Amps.)	Input Power (Watts)	Output Voltage (Volts)	Sensitivity (MV/deg.)	Phase Shift (deg. lead)
Torque Transmitter	CGC-8-A-7	26	.100	.5	11.8	206	8°	—	—	—	—	—	—
Control Transformer	CTC-8-A-1	—	—	—	—	—	—	11.8	.090	.23	23.5	410	8.5°
Control Transformer	CTC-8-A-4	—	—	—	—	—	—	11.8	.029	.08	22.5	390	8°
Torque Receiver	CRC-8-A-1	26	.100	.5	11.8	206	8°	—	—	—	—	—	—
Electrical Resolver	CSC-8-A-1	26	.039	.43	10.6	185	20°	11.8	.084	.27	23.2	400	11°
Control Differential	CDC-8-A-1	—	—	—	—	—	—	11.8	.085	.21	11.8	206	9°
Vector Resolver	CVC-8-A-1	26	.057	.34	11.8	206	10.2°	—	—	—	—	—	—

### STANDARD UNITS

### ROTOR AS PRIMARY

### STATOR AS PRIMARY

SYNCHRO FUNCTION	CPPE TYPE	Input Voltage (400 ~)	Input Current (Amps.)	Input Power (Watts)	Output Voltage (Volts)	Sensitivity (MV/deg.)	Phase Shift (deg. lead)	Input Voltage (400 ~)	Input Current (Amps.)	Input Power (Watts)	Output Voltage (Volts)	Sensitivity (MV/deg.)	Phase Shift (deg. lead)
Torque Transmitter	CGC-10-AS-4	26	.142	.61	11.8	206	5	—	—	—	—	—	—
Control Transformer	CTC-10-AS-1	26	.033	.23	11.2	200	10	11.8	.081	.19	23.5	410	8
Control Transformer	CTC-10-AS-4	26	.009	.06	11.2	200	10	11.8	.021	.05	23.5	410	8
Control Differential	CDC-10-AS-1	11.8	.082	.23	11.2	200	11	11.8	.080	.19	10.8	195	8
Torque Receiver	CRC-10-AS-1	26	.086	.42	11.8	206	6.5	—	—	—	—	—	—
Electrical Resolver	CSC-10-AS-1	26	.036	.35	11.8	206	18	11.8	.072	.21	24	418	25
Vector Resolver	CVC-10-AS-1	26	.049	.25	11.8	206	7	11.8	.092	.33	22.8	398	12
Vector Resolver	CWC-10-AS-1	26	.040	.28	11.8	206	10	11.8	.080	.26	21.0	365	10

### STANDARD UNITS

### ROTOR AS PRIMARY

### STATOR AS PRIMARY

SYNCHRO FUNCTION	CPPE TYPE	Input Voltage (400 ~)	Input Current (Amps.)	Input Power (Watts)	Output Voltage (Volts)	Sensitivity (MV/deg.)	Phase Shift (deg. lead)	Input Voltage (400 ~)	Input Current (Amps.)	Input Power (Watts)	Output Voltage (Volts)	Sensitivity (MV/deg.)	Phase Shift (deg. lead)
Torque Transmitter	CG-11-B-2	26	.168	.69	11.8	206	4	—	—	—	—	—	—
Control Transmitter	CG-11-B-7	26	.089	.36	11.8	206	3.5	—	—	—	—	—	7
Torque Transmitter	CG-11-B-6	115	.042	.71	11.8	206	3.4	—	—	—	—	—	—
Control Transformer	CT-11-B-2	26	.058	.32	11.8	206	6	11.8	.138	.29	23.5	410	5
Control Transformer	CT-11-B-8	—	—	—	—	—	—	11.8	.098	.18	23.5	410	5
Control Transformer	CT-11-E-7	26	.015	.102	11.8	206	6	11.8	.035	.09	22.7	400	5
Control Differential	CD-11-B-2	—	—	—	—	—	—	11.8	.150	.38	11.8	206	5
Torque Receiver	CR-11-B-2	26	.095	.41	11.8	206	4	—	—	—	—	—	—
Electrical Resolver	CS-11-B-2	26	.050	.32	12.4	220	8.5	12.6	.092	.23	23.5	410	5.5
Vector Resolver	CV-11-B-2	3	.108	.36	3.1	54	3.5	3.2	.072	.05	24.5	427	8.5

### STANDARD UNITS

### ROTOR AS PRIMARY

### STATOR AS PRIMARY

SYNCHRO FUNCTION	CPPE TYPE	Input Voltage (400 ~)	Input Current (Amps.)	Input Power (Watts)	Output Voltage (Volts)	Sensitivity (MV/deg.)	Phase Shift (deg. lead)	Input Voltage (400 ~)	Input Current (Amps.)	Input Power (Watts)	Output Voltage (Volts)	Sensitivity (MV/deg.)	Phase Shift (deg. lead)
Torque Transmitter	CG-15-D-1	26	.221	.75	11.8	206	3.0	—	—	—	—	—	—
Torque Transmitter	CG-15-D-4	26	.100	.35	11.8	206	3.5	—	—	—	—	—	—
Torque Transmitter	15CX4a	115	.067	.70	90	1560	2.5°	—	—	—	—	—	—
Torque Transmitter	CG-15-MS-1	115	.067	.70	90	1560	2.5°	—	—	—	—	—	—
Control Transformer	CT-15-D-1	—	—	—	—	—	—	11.8	.125	.24	23.4	410	4.5
Control Transformer	CT-15-D-4	—	—	—	—	—	—	11.8	.032	.06	23.4	410	4.5
Torque Receiver	CR-15-D-1	26	.100	.35	11.8	206	3.5°	—	—	—	—	—	—
Electrical Resolver	CS-15-D-1	26	.055	.31	11.8	206	7.5°	11.8	.110	.25	23	400	5°
Vector Resolver	CW-15-D-1	32	.005	.03	15	260	5.0°	15	.010	.03	28.5	495	5.5
Control Differential	CD-15-D-1	11.8	.122	.33	10.8	188	9°	11.8	.120	.24	11.0	192	4.5

# CLIFTON PRECISION PRODUCTS

CLIFTON HEIGHTS,

# of SYNCHROS

D.C. RESISTANCE		IMPEDANCE			ACCURACY			Length in Inches
Rotor (Ohms)	Stator (Ohms)	Z <sub>0</sub> (Ohms)	Z <sub>90</sub> (Ohms)	Z <sub>180</sub> (Ohms)	Max. Null Voltage (MV)	Max. Error (Min.)	Max. Error Spread (Min.)	
37	12	54 + j260	12 + j45	80 + j20	30	7	14	1.240
143	25	220 + j740	28 + j110	246 + j60	30	7	14	1.240
389	64	560 + j1860	90 + j340	640 + j190	30	7	14	1.240
37	12	54 + j260	12 + j45	80 + j20	30	—	30	1.240
230	27	280 + j600	38 + j136	70 + j136	30	7	14	1.240
36	25	38 + j122	27 + j120	48 + j14	30	7	14	1.240
78	27	103 + j440	8 + j30		30	7	14	1.240

D.C. RESISTANCE		IMPEDANCE			ACCURACY			Length in Inches
Rotor (Ohms)	Stator (Ohms)	Z <sub>0</sub> (Ohms)	Z <sub>90</sub> (Ohms)	Z <sub>180</sub> (Ohms)	Max. Null Voltage (MV)	Max. Error (Min.)	Max. Error Spread (Min.)	
16	7.2	35 + j180	8 + j31	47 + j16	30	—	12	1.241
140	24	205 + j752	32 + j128	234 + j81	30	—	15	1.241
566	100	807 + j2950	115 + j481	945 + j325	30	—	15	1.241
32	25	34 + j119	31 + j123	57 + j17	30	—	15	1.281
34	12	58 + j300	13 + j51	80 + j27	30	—	30	1.241
215	28	273 + j668	41 + j159	308 + j71	1 mv/v	—	15	1.281
68	28	107 + j527	40 + j123	170 + j59	1 mv/v	—	15	1.241
111	28	177 + j625	91 + j143	215 + j70	1 mv/v	—	15	1.241

D.C. RESISTANCE		IMPEDANCE			ACCURACY			Length in Inches
Rotor (Ohms)	Stator (Ohms)	Z <sub>0</sub> (Ohms)	Z <sub>90</sub> (Ohms)	Z <sub>180</sub> (Ohms)	Max. Null Voltage (MV)	Max. Error (Min.)	Max. Error Spread (Min.)	
10.4	3.6	24 + j153	5 + j24	28 + j14	30	—	12	1.600
18	7.7	45 + j288	9 + j48	48 + j22	30	—	12	1.600
180	3.8	410 + j2700	5 + j24	50 + j21	100	—	12	1.600
45	8.5	94 + j436	15 + j72	81 + j40	30	—	12	1.600
47	13	100 + j620	19 + j100	—	30	—	12	1.600
196	35	454 + j1670	74 + j283	320 + j163	30	—	12	1.600
12	8.5	14 + j67	17 + j66	62 + j28	30	—	12	1.640
20	8.5	40 + j260	10 + j40	50 + j21	30	—	30	1.600
80	13.6	128 + j503	27 + j136	126 + j43	1 mv/v	—	12	1.640
18	64	39 + j293	10 + j41	—	1 mv/v	—	12	1.600

D.C. RESISTANCE		IMPEDANCE			ACCURACY			Length in Inches
Rotor (Ohms)	Stator (Ohms)	Z <sub>0</sub> (Ohms)	Z <sub>90</sub> (Ohms)	Z <sub>180</sub> (Ohms)	Max. Null Voltage (MV)	Max. Error (Min.)	Max. Error Spread (Min.)	
6.5	3	12 + j115	3.9 + j19	28 + j11	30	—	10	1.600
15.5	5.7	35 + j260	7.1 + j40	40 + j23	30	—	10	1.600
65	161	163 + j1690	175 + j894		125	12	24	2.000
65	161	163 + j1690	175 + j894		75	—	10	2.000
37	10	80 + j490	15 + j80	74 + j50	30	—	10	1.600
180	37	360 + j1870	63 + j320	338 + j203	30	—	10	1.600
15.5	5.7	35 + j260	7.1 + j40	40 + j23	30	—	30	1.600
74	13	110 + j520	23 + j120		1 mv/v	—	10	1.640
540	156	1100 + j6300	300 + j1600	1180 + j602	1 mv/v	—	10	1.600
17	9.2	22 + j81	17 + j83	27 + j13	30	—	10	1.640

- ★ Extreme Reliability
- ★ Light Weight
- ★ Highest Accuracy
- ★ Tight Coupling
- ★ Environmentally Qualified
- ★ Low Nulls
- ★ Low Phase Shift
- ★ High Torque
- ★ Matched Impedances
- ★ Low Friction
- ★ Low Heat Rise
- ★ Early Delivery
- ★ Special Units
- ★ Cost No More

SYNCHROS  
*are our business*

In addition to the wide variety of standard units shown, we also produce an equally large number of special units on special order in production quantities for which we are already tooled.

For more complete information on our synchros including Typical System Measurements, write for booklet SC-3 or phone MADison 6-2101 (Suburban Philadelphia).

## NAVY BuOrd SYNCHROS



1/2 Actual Size

Contact Clifton Precision for standard Navy BuOrd units. If your specification requires conformance to BuOrd drawings and your system can take advantage of exceptional accuracy, CPPC can hold extra close error spread and accuracy tolerances. See CG-15-MS-1 in the tables.

## PRECISION RESOLVERS

Precision Computing Resolvers with functional accuracies of the order of .1% and transformation ratios 1:1 are currently being constructed in the size 15 class for special applications. Contact CPPC for applications involving the use of Precision Resolvers in all sizes.



1/2 Actual Size

**COMPANY, INC.**  
P E N N A .

# SIGMA SENSITIVE RELAYS

Prices shown are list, for quantities from 1-19. Discounts are available for quantities above 19, unless otherwise noted. Price range is stated, since the price of a particular relay depends on coil resistance, mounting style, enclosure, etc., and is subject to change.

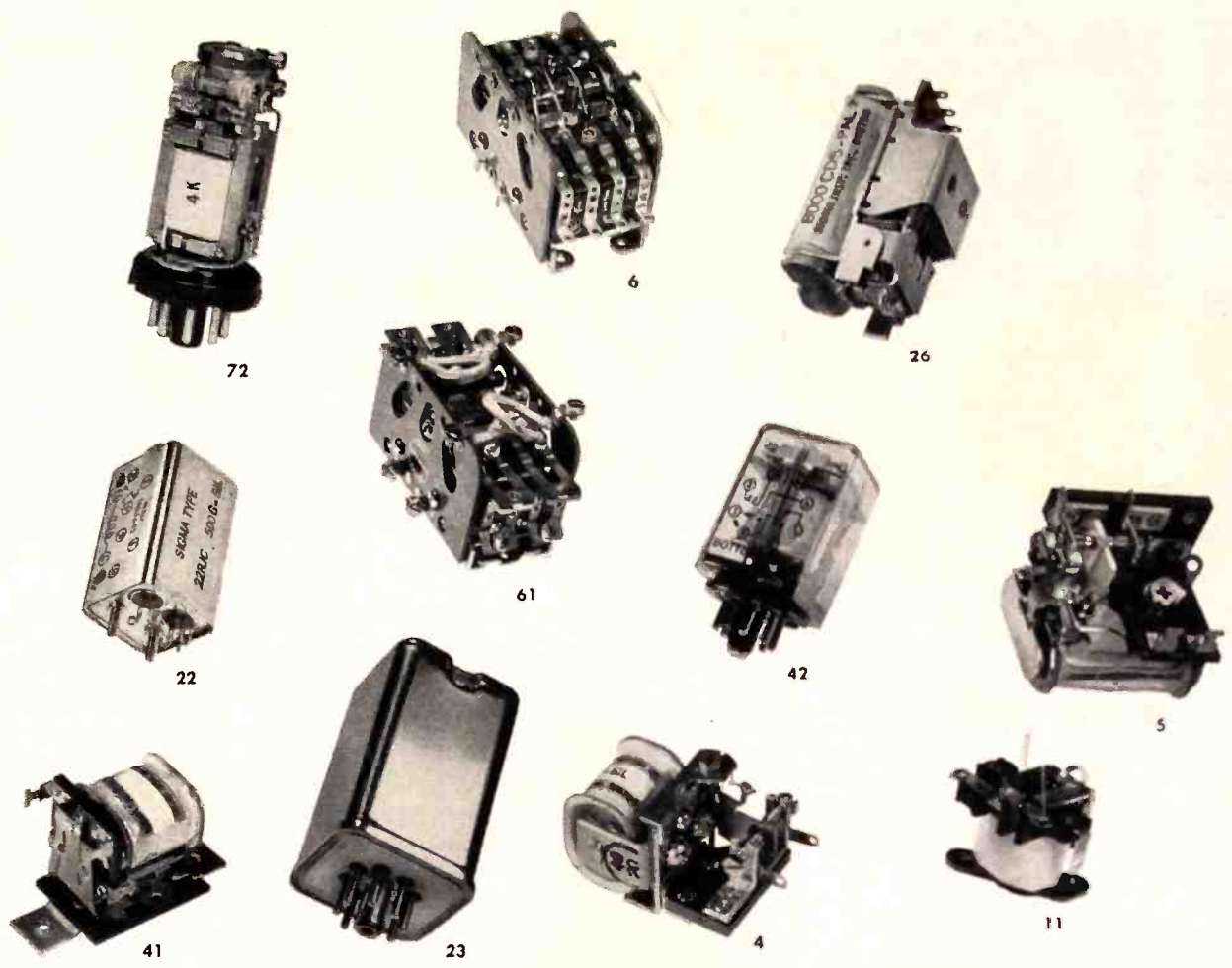
GENERAL CLASSIFICATION	SIGMA SERIES	ELECTRICAL CHARACTERISTICS				APPLICATION NOTES
		Maximum Contact Arrangement	Contact Rating (amp.)	Sensitivity Range (mw. unless specified)	Price Range (List)	
General Purpose Sensitive DC	4	SPDT	2.0	20 or 50	5.50-11.50	Medium price, sensitivity, and precision.
	5	SPDT	.25-3.0	1-100	7.50-22.25	High sensitivity, shock resistance, stability, and vibration resistance.
	11	SPDT	1 or 5	50 or 200	1.50- 2.20	Low price, small, light, four mounting styles, including one for printed circuits. Unenclosed form only.
	41	SPDT	1-5	35-200	3.50-10.15	Low price, long mechanical life.
	42	DPDT	2 or 5	100 or 200	5.75-13.75	Double-pole version of Series 41 with many of its features.
Miniature General Purpose DC	22	SPDT or DPDT	1 or 2	20-80	16.00-22.50	Miniature hermetically sealed relay. Vibration and shock resistant.
	26	SPDT	.5-2	4-20	6.80-13.80	"Stripped down" 22; can be used without enclosure; small, considering sensitivity.
Sensitive AC	5	SPDT	0.5-3	20-150	10.00-19.75	Series 5 DC with internal rectifiers for various AC voltages.
	41	SPDT	2 or 5	.06-0.4 v-a	3.50- 9.45	Sensitive shaded pole, low price, long life, extremely quiet; voltage or current-operated, 16 — 400 cycle versions.
	42	DPDT	2 or 5	0.3 or 0.5 v-a	5.75-16.00	More economical of power than most competitive types; (Also, see note above.)
Polar 3 Position (Null-seeking, center-stable)	6	4PDT	2 or 5	8-44	22.00-38.00	High gain (ratio of controlled power to input power); also available as spring biased (Form Y) and latching or side-stable (Form Z).
	23	SPDT or DPDT	2.0	6-24	30.00-36.00	Compact, sensitive; center-stable by virtue of magnetic configuration; also available biased polar (Form Y).
	72	SPDT	1.0	0.2-1.0	30.00 up	Center-stable version of high speed pulse relay. Best for "dithering" systems. Proportional armature motion without detent.
High Speed	41	SPDT	1.0	35-150 (static)	3.50-10.15	Keying relay; clean, bounce-free pulses on normally open circuit at speeds up to 100 pps.
	72	SPDT	0.5	0.15-1.5 (static)	30.00 up	Polar, side-stable (Form Z). Fast clean switching up to 500 operations per second for telegraphy, computers, etc. Life of 500,000,000 operations at 60 ma. 120VDC inductive load without maintenance.
25 Amp. Sensitive Contactors	51	SPST (NC)	25	100	9.00- 9.50	Developed for switching 10 amp. incandescent lamp loads, with inrush ratio of 10:1. Coil circuit signal failure closes circuit, thus useful in fail safe alarms. Unenclosed only.
	61	DPDT	20	225 or 450	18.00-26.50	Polarized permanent magnetic latching contactor; useful in battery-energized control systems, production machinery controls, etc.
Relays for Radio-Controlled Models, Toys, etc.	4F	SPDT	2.0	20 or 50	5.50- 6.50	Medium sensitivity, high reliability, easy mounting and adjustment. Balanced armature — operates in any position.
	5F	SPDT	.025-3	1-100	7.50-12.50	Extreme precision; rugged — undamaged by 500 g shock. Good in condenser time delay circuits, holding during pulse trains.
	11F	SPDT	1 or 5	50 or 200	1.50- 2.20	Midget, low cost DC relay. For its ratings, a good combination of high quality and low cost.
	26F	SPDT	0.5	4	6.80- 9.80	New, miniature version of Series 5 designed especially for low power R-C circuits. Rugged, weighs 2 oz., allows use of less plate current thus prolonging tube life.
	41F	SPDT	1 or 5	35-200	3.50- 4.85	More switching capacity than 11F. Special versions to handle even higher load currents.



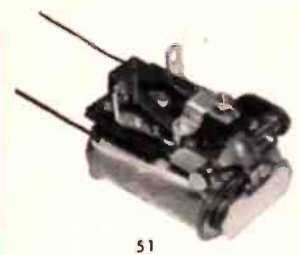
## OTHER SIGMA PRODUCTS

DEFINITION	SIGMA DESIGNATION	PRICE RANGE (List)	BASIC DESCRIPTION
High Speed electrically-operated counter	Cyclonome* Pulse Counter Series 9	85.00 up	Counting speed 8000/min. (max.). Stepping motor with one moving part drives 6-figure Veeder-Root register.
Stepping Motor	Cyclonome* Stepping Motor Series 12	35.00 up	Used in Series 9 Counter above. Analogous to synchronous AC motor capable of starting and stopping each half cycle, at frequencies from 0-130 cps. Can be arranged to operate on DC pulses.
Magnetic-Amplifier Relay	Series 8000	60.00 up	Magnetic amplifier combined with Sigma relays. For control of 1 amp. outputs on inputs too low to operate relays directly, in the order of .1 microwatt.
CdS Photocell-Relay Unit	CdS Photorelay, Model 1	12.00	Tubeless, plug-in control package consisting of broad area cadmium sulfide cell and Series 41 relay. For "light-no light" applications such as flame-out controls, elevators, automatic bottle washing machines.
Telegraph Relay Test Set	Model 4501 Test Set	325.00 net only	For operational checking of Sigma Series 72, 7; WE 255A, WE 215, and similar telegraph relays. Measures operating values, bias, contact efficiency, insulation. Standard relay rack panel.

\*Trademark



**SIGMA SENSITIVE RELAYS**



51



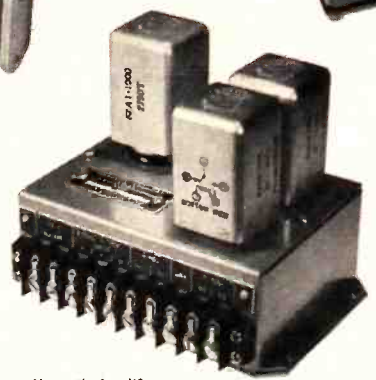
Stepping Motor



High Speed electrically-operated counter



CdS Photocell-Relay Unit



Magnetic-Amplifier Relay



Telegraph Relay Test Set

**SIGMA INSTRUMENTS, INC.**  
 180 Pearl Street, So. Braintree 85, Massachusetts

# Celco

*Design, Development*

## DEFLECTION YOKES TRANSFORMERS

**For... Military and Commercial Avionics**

Leading system manufacturers now depend on CELCO for their difficult and critical applications on many of these components.

Our design development, production and quality control experience — combined with CELCO's highly skilled operators, production foremen and engineers — comprises a team that has proven their outstanding performance for quality components.

Apply the CELCO "know-how" to your production requirements!

**Celco**

We specialize in the design and manufacture of **PRECISION DEFLECTION YOKES** for military and commercial applications. CELCO can give you immediate engineering evaluation on your critical display problems.



**Celco**

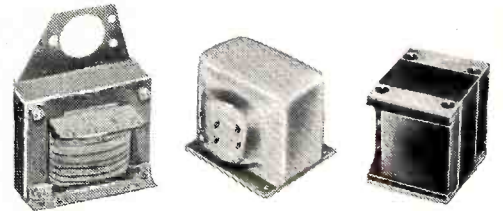
**COILS FOR TRAVELING WAVE TUBES** — precision wound for minimum transverse magnetic fields. High temperature windings are a CELCO engineering development —

Unit illustrated is 12" long.



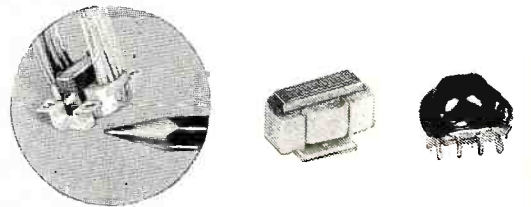
**Celco**

**HIGH TEMPERATURE TRANSFORMERS** — high temperature windings and impregnations on CELCO TRANSFORMERS permit high operating temperature with reduced size and weight.



**Celco**

**MINIATURE TRANSFORMERS & SATURABLE REACTORS** — specially produced for the Transistor and Plug-in type amplifier assembly. CELCO designs these units wherever reduction in size and weight must be made.



**Celco**

**TOROIDAL COILS** — CELCO is equipped to cover an extremely wide range of toroidal windings.

No. 50 wire on a .062" ID Toroid

No. 15 wire on 9" OD Toroid



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*Constantine Engineering Laboratories Co.*

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**MAGNETIC AMPLIFIERS**—encapsulated with epoxy resins or silicone rubber. CELCO experience with proper treatment of Toroidal Coils assures designed performance.



**Celco**

**TOROIDAL COMPONENTS** — for use in system assemblies. Sub-assemblies of chokes, Transformers and Saturable Reactors are manufactured at CELCO for packaging into a single unit.



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**PRECISION TRANSFORMERS** — CELCO develops Precision Transformers for such applications as Computer Components with high accuracy of turns ratio and output voltages.



**Celco**

**HERMETICALLY SEALED MAGNETIC AMPLIFIERS & TRANSFORMERS** — with various types of terminations, evacuation and inert gas pressurization give CELCO components minimum weight with high-breakdown voltage resistance.



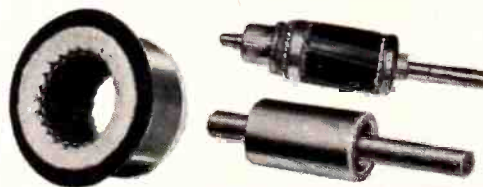
**Celco**

**R.F. CHOKES, TRANSFORMERS**—specialized universal winding types of coils and assemblies. These CELCO windings are used when minimum distributed capacitance is required and space does not permit use of mechanical supports.



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**MOTOR COMPONENTS**—Centrifugally cast squirrel cage rotors for low inertia motors, armatures, stators, field coils and special type rotor coils — are a CELCO production specialty.



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# DESIGN ACHIEVEMENTS WITH SUPRAMICA\* ceramoplastics

## SUPRAMICA ceramoplastics . . . . .

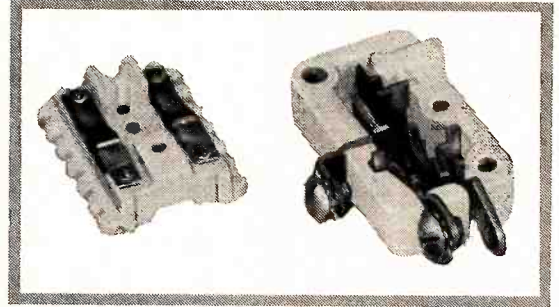
### MOLDED OR MACHINABLE HIGH TEMPERATURE INSULATION

Supramica ceramoplastics, the world's most nearly perfect high temperature insulations, are formulated with SYNTHAMICA\* synthetic mica. Supramica possesses high temperature and thermal shock resistance, and complete dimensional stability. Thermal expansion coefficients are the same as steel. They have low electrical loss, excellent arc resistance, high dielectric strength, and are impervious to moisture, oil and organic solvents, with permanent resistance to radiation.

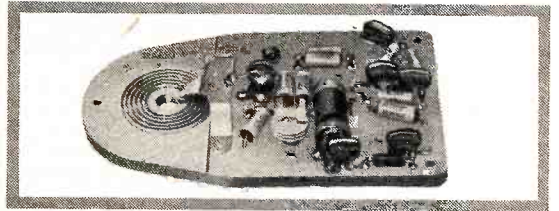
**SUPRAMICA\* 560** — New insulation for continuous operation at 500° C (932° F). Lightweight material can be precision molded with fragile inserts . . . specified for conditions which no other material can meet! Specific gravity similar to that of aluminum or mineral-filled polyesters . . . perfect for relay bases, connectors, radomes, tube sockets and other components for high temperature use.

**SUPRAMICA\* 555** — Precision-molded ceramoplastic having high-temperature endurance up to 750° F. Moldable with or without inserts.

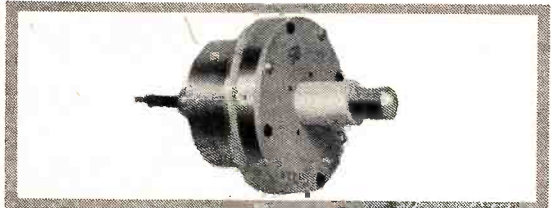
**SUPRAMICA\* 500** — Compression-molded ceramoplastic sheets and rods for use at temperatures up to 900° F. Readily machinable; not precision moldable. Inserts must be cemented.



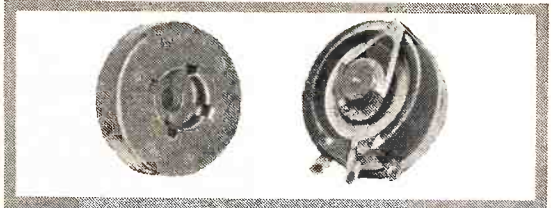
High-temperature relay and switch parts precision molded of SUPRAMICA 560 ceramoplastic



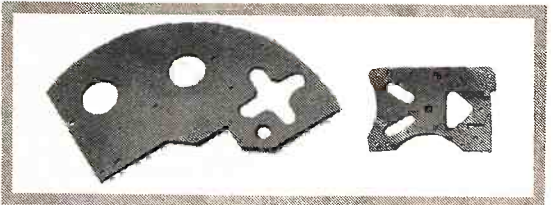
Stable tuner base precision molded from SUPRAMICA 555 ceramoplastic with fragile silver ribbon insert



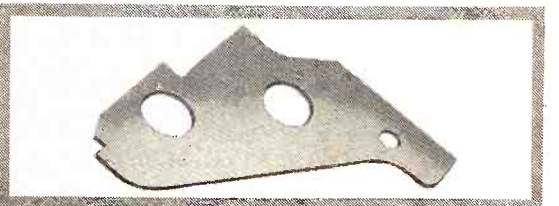
Insulated spark gap cover plate fabricated from SUPRAMICA 500 ceramoplastic



High shock potentiometer parts precision molded with steel supporting inserts — MYCALEX 410 glass-bonded mica



Radar insulating parts fabricated from MYCALEX 400 glass-bonded mica



Circuit breaker arc chute fabricated from MYCALEX 385 glass-bonded mica

## MYCALEX\* glass-bonded mica . . .

### MOLDED OR MACHINABLE ELECTRICAL INSULATION

Mycalex glass-bonded mica formulations have been recognized for many years as high-temperature, high-frequency insulation . . . impervious to oil and water, resistant to high temperatures, with total, permanent dimensional stability and thermal expansion coefficient equivalent to that of insert metals . . . resistant to radiation.

**MYCALEX 410\*** Glass-bonded mica precision-molded with or without inserts, for applications involving temperatures up to 650° F.

**MYCALEX 400\*** Standard compression molded glass-bonded mica for operating temperatures to 850° F. Readily machinable, but not moldable. Inserts must be cemented.

**MYCALEX\* 385** Glass-bonded mica with excellent resistance to circuit breaker arcing and thermal shock, for continuous operating temperatures up to 700° F. Readily machinable, but not moldable in intricate shapes.

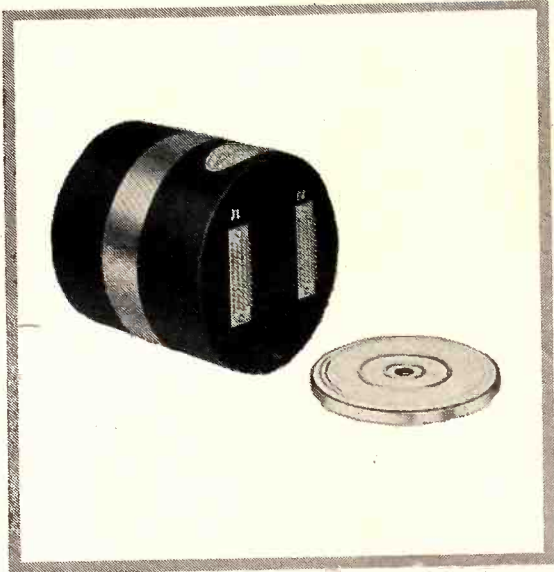
**MYCALEX\* K** (machinable) and **KM** (moldable) Glass-bonded mica capacitor dielectrics with higher dielectric constant indicated by numbers 10, 20, 30.

\* "SUPRAMICA", "MYCALEX", "400", "410", are registered trade-marks of MYCALEX CORPORATION OF AMERICA; "500", "555", "560" and "385" are trade-marks of MYCALEX CORPORATION OF AMERICA

"SYNTHAMICA" is a trade-mark of SYNTHETIC MICA CORPORATION, a subsidiary of MYCALEX CORPORATION OF AMERICA.



# AND MYCALEX\* glass-bonded mica . . . . .



MYCALEX TM Commutation Switch with commutator plates precision molded of SUPRAMICA 555 ceramoplastic. Plate is CP-346, 2-poles, 360 contacts.

## MYCALEX TM telemetering switches

WITH SUPRAMICA CERAMOPLASTIC COMMUTATOR PLATES ASSURE RELIABLE OPERATION UNDER EXTREME CONDITIONS

Precision-molded Supramica ceramoplastic commutator plates have introduced a degree of accuracy and sustained dependability never before approached in telemetry. Where warpage of only .0002" of the commutator plate will distort and destroy the value of the signal, these precision switches withstand extremes of temperature, altitude, shock and vibration and deliver a clean, unvarying signal . . . tests show completely satisfactory performance of these switches after more than 1000 hours at 1200 RPM.

In military and industrial applications, Mycalex TM Telemetering Switches with Supramica ceramoplastic commutator plates have made significant contributions to the reliability of electronic equipment.

MYCALEX ELECTRONICS CORPORATION

## SYNTHAMICA\* synthetic mica . . . .

Available in commercial quantities, as powder, flake or crystal, and in chemically bonded sheets for all applications in the electronic, communications and related industries. Manufactured from readily available native raw materials, Synthamica synthetic mica is an important contribution to the development of military and civilian electronics.

Synthamica synthetic mica is chemically pure, hydroxyl free, and will withstand temperatures almost twice as high as its natural counterpart. One of the outstanding properties of this crystal clear material is the freedom from outgassing at elevated temperatures and pressures.

SYNTHETIC MICA CORPORATION

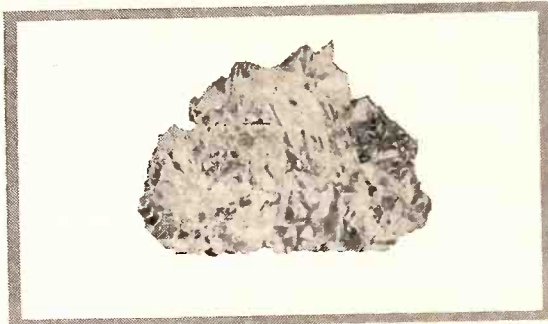
A Subsidiary of MYCALEX CORPORATION OF AMERICA

## MYCALEX tube sockets . . . . .

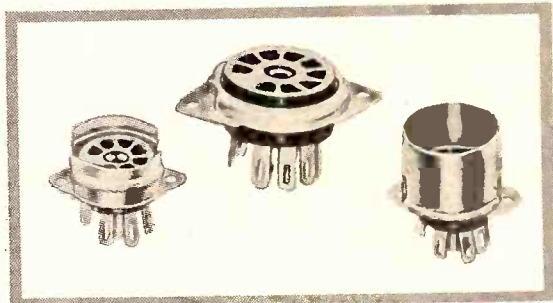
High temperature tube sockets made from Supramica ceramoplastic and Mycalex glass-bonded mica are produced under exclusive license of Mycalex Corporation of America.

Supramica 560 ceramoplastic tube sockets have successfully passed operating tests at 500° C.

MYCALEX TUBE SOCKET CORPORATION



Crystals of SYNTHAMICA synthetic mica



MYCALEX precision molded tube sockets withstand high temperatures and rugged service. Standard miniature and subminiature types.

Write today for complete technical information concerning any of the above products or materials.

**MYCALEX**  
CORPORATION OF AMERICA

GENERAL OFFICES AND PLANT:  
CLIFTON BOULEVARD  
CLIFTON, NEW JERSEY

EXECUTIVE OFFICES:  
30 ROCKEFELLER PLAZA  
NEW YORK 20, NEW YORK

SALES OFFICES:  
CHICAGO - DAYTON  
LOS ANGELES - MIAMI  
WASHINGTON

WORLD'S LARGEST MANUFACTURER OF GLASS-BONDED MICA AND CERAMOPLASTIC PRODUCTS

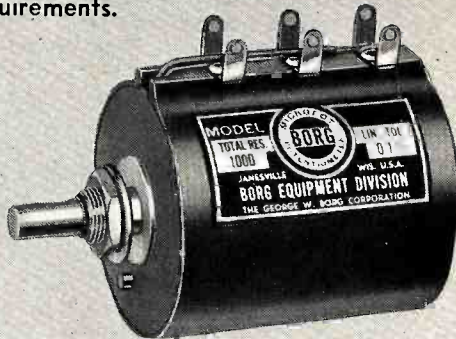
## PRECISION IS OUR BUSINESS

900  
series



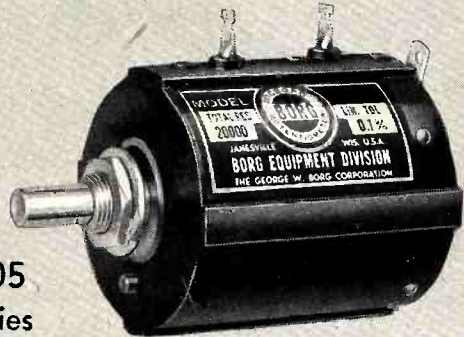
The new standard of high-precision potentiometers. Advantages include greater accuracy, finer resolution, lower torque, longer life and better performance under adverse environmental conditions. 48 standard models meet most special design requirements.

1100  
series



Precision potentiometers that offer your products a price advantage in today's competitive markets. Engineered for easy installation with readily accessible terminals. Accurate, dependable, long lived.

205  
series



Long a favorite for both military and commercial purposes. Has proved itself exceptionally rugged and dependable in years of use on many mobile and stationary applications.

# BORG MICROPOTS

*precision potentiometers with*

**UNLIMITED DESIGN APPLICATIONS...**

**MORE PROFITABLE PRODUCTION POSSIBILITIES**

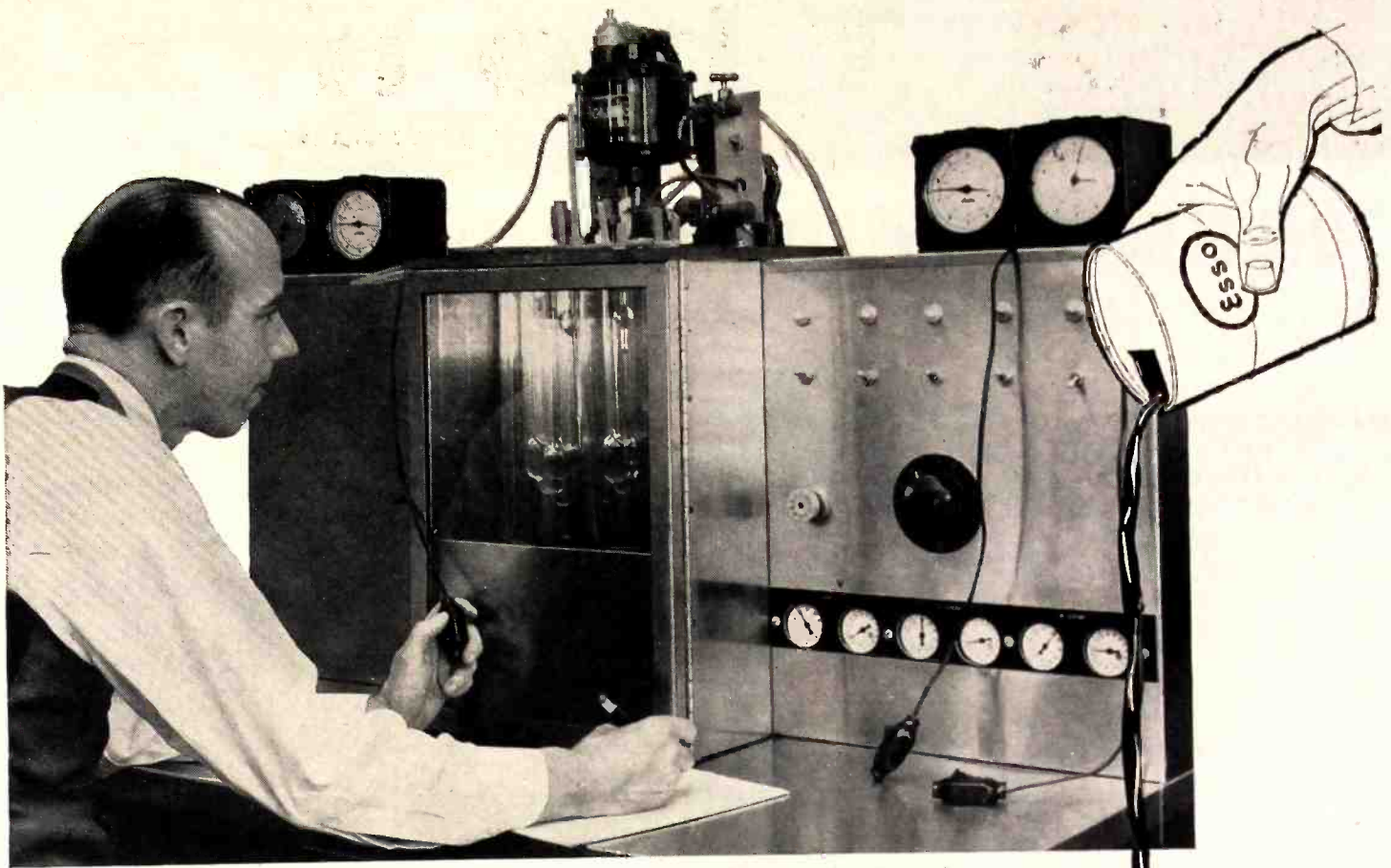
Your job is made easier when you use Borg Micropots. They're versatile... they're flexible. Standard models can be readily adapted to meet the special requirements of a wide variety of applications. What is more they have many exclusive advantages: — — absolute linearity, permanent accuracy, long life, and dependability. You can rely on them to meet your

most rigid commercial and/or military specifications. They're readily available too. Production has been stepped up to assure prompt delivery of any model in any quantity. We invite consultation with your Borg "Tech-Rep". His helpful advice can often save you time and money. Write us today for his name and address. It will pay you to know him.

**BORG EQUIPMENT DIVISION**  
The George W. Borg Corporation  
Janesville, Wisconsin

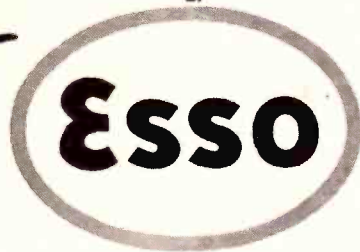


*Built by Borg*



*Helping determine the viscosity index of hydraulic oils and jet engine fuels for Esso Standard Oil.*

# Where Split Seconds Count ...



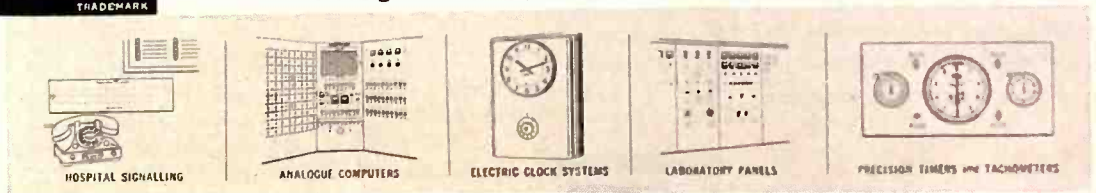
There you will find rugged, reliable Standard Electric Precision Timers playing an important part in laboratory and development research, in production and final inspection.

The Esso Standard Oil Company, General Electric, Bell Telephone, American Brass — among other giants of industry — depend on Standard Precision Timers for accurate measurement of elapsed time in split seconds.

Measure time as close as 0.001 of a second

**THE STANDARD** **ELECTRIC TIME COMPANY**  
TRADEMARK  
 67 Logan St., Springfield 2, Massachusetts

Send today  
 for Bulletin  
 No. 198



**EDISON ELECTRONIC CONTROLS AND COMPONENTS**

**STANDARD AND CUSTOM-DESIGNED MINIATURE, HI-TEMP SERVO SYSTEMS AND COMPONENTS**

The Edison Instrument Division is now offering design engineers an extensive line of miniature and subminiature Hi-Temp Servos Motors and Servo Components... in addition to a complete facility for custom designed units and servo sub-systems.

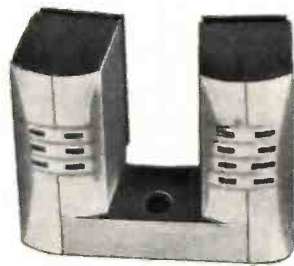
Precision production and rigid quality control inspection have made these "customized" components possible. In addition to these special units, Edison also manufactures an extensive line of standard servo motor and servo motor-generator combinations from size 8-up.



EDISON SIZE 8 SERVO MOTOR

**OPERATING CHARACTERISTICS:**

1. Type of motor: Two phase servo
2. No load speed (min. RPM): 6500
3. Stalled torque (min. oz. in.): .30
4. Power input at stall (nom. watts/phase): 3.1
5. Speed at max. power output (RPM): 4000
6. Torque at max. power output (oz. in.): .18
7. Theoretical acceleration at stall: 20,600 radians/sec.<sup>2</sup>
8. Time constant: .036 sec.
9. Duty: Intermittent at stall



TYPICAL EDISON MAGNETIC RECORDING HEAD

**SPECIFICATIONS:**  
Recomm. Max. Rec.

Track Width	Channel Spacing	Outline	Type	Gap Length	Induct. MH	Resis. Ohms	Bias MA.	Current MA.	Peak Freq. KC	At Tape Speed		Magnetic Shielding	No. Tracks Per Inch	
										7 1/2" / Sec.	Output OBD = 1mV			
.033	.100	C13497	Rec.	.00075	8.0	24	5	0.8				X	X	20
			Play	.00025	285	290			3	0	X	X	20	
.050	.140		Rec.	.00075	1.1	2.2	15	2.0				X	X	15
			Play	.00025	85	6.1			3	-3	X	X	15	
.250		A13351	Rec.	.00075	30	58	15	2.0					X	
			Play	.00025	500	320			3	+18		X		
.254		A11352	Erase	.006	0.40	0.40								



EDISON SYNCHRO CONTROL TRANSFORMER S211-2-1

**NOMINAL CHARACTERISTICS**

- Input Voltage: 11.8 volts, 400 cycles, single phase.  
Excitation supplied by the stator output voltage from a Presyn transmitter.
- Rotor Resistance: 90 ohms
  - Brush Contact Resistance: .5 ohm
  - Stator Resistance: 15 ohms
  - Rotor Output Voltage: 22.5 volts
  - Accuracy: 7 minutes max.
  - Operating Temperature: -55°C to +95°C
  - Friction at 25°C: 3 gm. cm.
  - Shaft End Play: .0015 inch max.
  - Shaft Radial Play: .0005 inch max.

Edison also manufactures a quality line of synchro transmitters, synchro receivers, synchro resolvers, and synchro differentials.

**HERMETICALLY SEALED THERMOSTATS**

Exact temperature control requirements can be fulfilled using Edison's precision-made, bimetallic thermostats. These hermetically sealed units, filled with an inert, arc quenching gas, are ideal for such critical applications as crystal oven ambient control and other electronic component requirements. Edison thermostats have been used for many years as fire detectors in marine and other industrial applications because of their lifetime protection from corrosion and contamination.



S1-1A  
S1-2A

**STANDARD TYPES**

- S1-1A**  
Manufacturing tolerance: ±0.5°C  
Control sensitivity: Will hold temperature within ±0.6°C at low contact load when properly applied  
Maximum load: 1.0 ampere  
Maximum voltage: 250 a-c  
Maximum temperature: 150°C  
Diameter: .388 inch  
Length: 2 1/2 inches
- S1-2A**  
Manufacturing tolerance: ±2.5°C  
Maximum load: 0.5 ampere;  
1.0 ampere in alarm service  
Maximum voltage: 250 a-c  
Maximum temperature: 190°C  
Diameter: .388 inch  
Length: 2 1/2 inches



D8-2A

- D8-2A**  
Manufacturing tolerance: ±2.5°C  
Maximum load: 8.0 amperes  
Maximum watts: 1000  
Maximum voltage: 250 a-c  
Maximum temperature: 320°C  
Diameter: .550 inch  
Length: 2 3/4 inches



MECHANICALLY SEALED MINIATURE TYPE MODEL 210

- Manufacturing tolerance: ±5°F  
Maximum load: 1 ampere at 115 volts a-c;  
0.5 ampere at 115 volts d-c  
Maximum voltage: 125 a-c or d-c  
Maximum temperature: 350°F  
Adjustability: ±60°F from original setting  
Diameter: .318 inch  
Length: 1 1/4 inches

When ordering any thermostat give following information:  
Operating voltage and current  
Temperature setting  
Contact arrangement — are contacts to open or close on rising temperature?  
Medium to be used in Load — resistive or inductive

# A. Edison

INSTRUMENT DIVISION WEST ORANGE N.J.

## FOR AIRCRAFT, MISSILES AND INDUSTRY

### NEW EDISON MINIATURE TIME DELAY RELAY - MODEL 250

One of the oldest names in relays continues to improve the state of the art . . . now from Edison, a new miniature time delay relay specifically designed for missile and jet aircraft applications. This vibration resistant unit incorporates many design features.



MODEL 250

#### SPECIFICATIONS:

- 1) virtual elimination of contact chatter up to 1500 cps at 10 g's.
- 2) no resonance to 500 cps.
- 3) ambient compensation between  $-65^{\circ}\text{C}$  and  $+85^{\circ}\text{C}$  . . . operation at higher temperatures when necessary.
- 4) contacts rated for 1 ampere at 27.5 VDC or 3 amperes at 115 volts AC.
- 5) extra-rigid construction for exceptionally high contact pressure.
- 6) can be mounted in any position without affecting operating characteristics. 7-pin plug-in or solder hook base.
- 7) hermetically sealed.

For more information, write for Bulletin #250.

### EDISON STANDARD OCTAL TIME DELAY RELAY - MODEL 501

Ten years of Edison research and engineering have produced a widely-accepted line of hermetically sealed thermal relays . . . more than a half million have already been manufactured for use in cathode protection circuits, autopilots, gyro stabilizers, and other electronic equipment.



MODEL 501

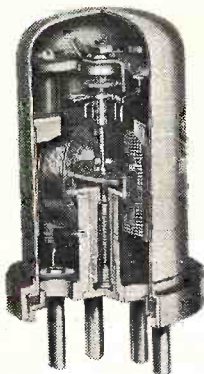
#### SPECIFICATIONS:

- Time delays: 2 seconds to 300 seconds  
Heater voltages: 6.3, 26.5, and 117 (intermediate voltages available in special circumstances)  
Heater input: 5 Watts nominal (continuous excitation)  
Contacts: SPST normally open or closed.  
Rated for 6 amperes max. at 450 volts a-c or d-c.  
Ambient: compensated for  $-60^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
Shock: resists impact of 50 g's  
Vibration: resists 1/16" overall amplitude at 55 cps  
Tolerances: heater voltage: positive contact operation with variation of  $\pm 10\%$ .  
Operating time at  $25^{\circ}\text{C}$ :  $\pm 15\%$  max.  
Weight: 1 1/4 to 2 1/4 oz.  
Sealed height: 3 1/4"  
Diameter: 1.275" max.  
Base: intermediate octal

For more information, write for Bulletin #2007.

### EDISON SENSITIVE MAGNETIC RELAY

Polarized operating characteristic of this magnetic DC Relay makes it ideal for use as a null detector in ordinary bridge circuits. It can operate directly from a thermocouple or photocell. Both coils brought out to separate pins in base make it easy to calibrate and versatile to apply. Hundreds of thousands of these relays are now in use in airborne control equipment.



MODEL 220

#### SPECIFICATIONS:

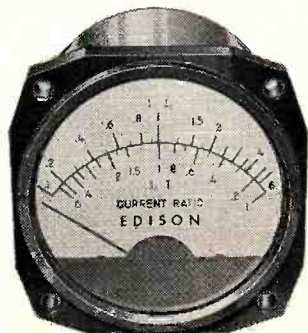
- Contacts: SPST or SPDT normally open or closed.  
Rated for 1/3 ampere at 28 volts d-c.  
Hermetically sealed: Model 220  
Gasket sealed: Model 219  
Vibration and shock resistant: relay unenergized will withstand shock of 50 g's in all planes without damage or change in calibration  
Closing current: contacts close on input currents from 30 microamperes d-c to 12.5 milliamperes d-c. Lower closing currents available in special circumstances.  
Coils: Formvar-coated copper. Resistances from 0.5 ohm to 23,600 ohms. Normal closing power may be increased 10,000 times without adverse effects.  
Weight: .15 lb. max.  
Sealed height: 2-1/32" max.  
Base: plug-in, printed circuit or solder hook

For more information, write for Bulletin #3037.

### EDISON CURRENT RATIO INDICATOR - MODEL 222-1J

Designed with a DC galvanometer type movement having fixed coils and a moving magnet, this meter indicates the ratio of two direct currents.

With equal current in both field coils the pointer will indicate unity ratio (1). Increasing one current over the other pulls the pointer right or left of center to indicate a ratio. A proportional increase or decrease in current through both coils does not affect the indication because the pointer assumes the resultant rather than the absolute measure of either magnetic field.



MODEL 222-1J

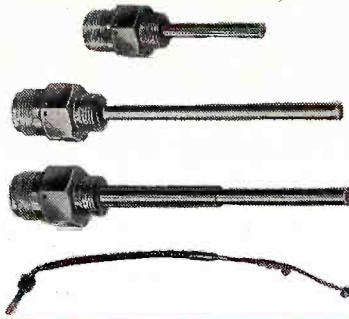
#### SPECIFICATIONS:

- Accuracy: Scale tolerances are based on an angular tolerance of  $1^{\circ}$ .  
Coil Current Strength: For accurate calibration the current in either coil should be between 2 ma. minimum and 50 ma. maximum.  
Depth: 3-1/16"  
Dial Diameter: 2 3/4"

# OTHER EDISON ELECTRONIC AND ELECTRICAL CONTROL COMPONENTS AND EQUIPMENT

## EDISON RESISTANCE TEMPERATURE DETECTORS

Edison RTD's are designed to measure temperature in all types of industrial and military applications. They form one arm of a Wheatstone bridge in ratio resistance temperature indicators, overtemperature alarm systems and systems for temperature control.



Model 232N90-2 (MIL-B-7990) hermetically sealed, stem-sensitive.  
Model 232N90-4 Temp. range:  $-70 +300^{\circ}\text{C}$ .

Model 176N90D (Dual winding) hermetically sealed, stem-sensitive.  
Temp. range:  $-70 +300^{\circ}\text{C}$ .

Model 179N90 (MIL-B-7370A) hermetically sealed, stem-sensitive.  
Temp. range:  $-70 +300^{\circ}\text{C}$ .

Model 233N50 tip-sensitive, cylinder head. Temp. range:  $-50 +300^{\circ}\text{C}$ .

## HERMETICALLY SEALED CURRENT LIMITING SWITCH

Designed particularly to protect input circuits of radio receivers from over-currents induced by nearby transmitting equipment, this SPST normally closed, hot wire switch limits the current flow through the wire when a critical value is revealed.

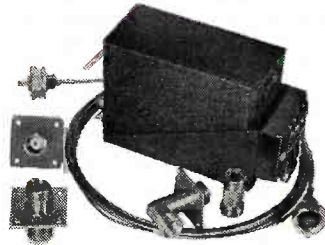


### SPECIFICATIONS:

Operating current: 125 milliamperes  $\pm 25$   
Ambient: Compensated for 0 to  $90^{\circ}\text{C}$   
Shock: No damage under 60 g in all directions  
Diameter: 9/16 inch nominal  
Length: 2 1/8 inches

## FIRE AND OVERHEAT SYSTEMS FOR AIRCRAFT

Edison Fire and Overheat Systems are available in three styles including continuous cable, thermocouple, and RTD's. Each style is approved for both military and civil aircraft in accordance with the latest applicable specifications.



## EDISON MONITORING SYSTEMS

### SPECIFICATIONS:

Control Assembly  
Voltage: 28 volts d-c\*  
Dimensions: 3 1/2 x 2 1/2 x 1 5/8 inches (approx.)  
Weight: 0.8 lb. (approx.)  
\* also available for 115 v. a-c 400 cycle power.

TYPE B CONTINUOUS CABLE FIRE DETECTION

(SAME CONTROL USED WITH RTD'S GIVES ALARM AND/OR INDICATION OF OVERHEAT CONDITIONS)

## PRESSURE INDICATING SYSTEMS FOR AIRCRAFT

This system gives the pilot a continuous indication of oil pressure for jet and/or reciprocating type engines. This non-electronic, shock proof unit can be mounted directly on the engine without external tubing connections. Pressure signal is carried through three copper wires to the indicator on the instrument panel.



### SPECIFICATIONS:

**SYSTEM**  
Power: 26 volts single phase 400 cps  
Accuracy:  $\pm 2.75\%$  full scale  
Pressure altitude: 85,000 ft. (0.65" Hg)  
Distance between components: 500 ft. of AWG20 lead wire between indicator and transmitter will affect reading no more than 1.0%

**TRANSMITTER, MODEL 218-100**  
Power consumption: 0.9 watt max.  
Weight: 2.0 lbs.  
Diameter: 2-3/16"  
Length: 4-13/16" overall  
Pressure range: 0 to 100 psi  
Environmental  
Max. temperature:  $+232^{\circ}\text{C}$   
Low temperature:  $-65^{\circ}\text{C}$   
Vibration: Passes MIL-E-5272, Procedure II 5.0 to 500 cps continuously changing  
Acceleration: 20 g

**INDICATOR, MODEL 217-100**  
Power consumption: 0.6 watt max.  
Weight: 0.5 lb.  
Dial: standard 2-inch diameter  
Length: 2 1/2" overall  
Pressure range: 0 to 100 psi  
Environmental:  
Max. temperature:  $+71^{\circ}\text{C}$   
Low temperature:  $-65^{\circ}\text{C}$   
Vibration: Passes MIL-E-5272, Procedure IV 5.0 to 55.0 cps, amplitude .018 to .020"

TRANSMITTER, MODEL 218-100

INDICATOR, MODEL 217-100

## OMNIGUARD TEMPERATURE INDICATING AND ALARM SYSTEMS FOR INDUSTRY

Omniguard is specifically designed for constant protection against damage caused by excessive temperatures throughout industry. This monitor unit is designed in modular units of 4 points each. A single indicator plugs into any point for temperature reading. This inherently simple system has no moving parts (except for alarm relay contacts), no electronic tubes and no expensive wiring between components. A small plug-in control box, an indicator and resistance temperature detectors make up the entire system.



### SPECIFICATIONS:

Voltage: 115 volts, 60 cycles  
Power drain: 25 VA maximum  
Voltage error:  $\pm 2^{\circ}\text{F}$  maximum from 100 to 130 volts  
External alarm: 1 per monitor. Contact rating 150 watts or 3 amp. non-inductive load.  
Indicator requires no electrical connections. Power and resistance reading is carried through reeled cord when plugged into jack in face of monitor.

FOR MORE INFORMATION ABOUT ONE OR ALL OF EDISON'S PRODUCTS, WRITE TODAY. PLEASE MENTION YOUR APPLICATION.

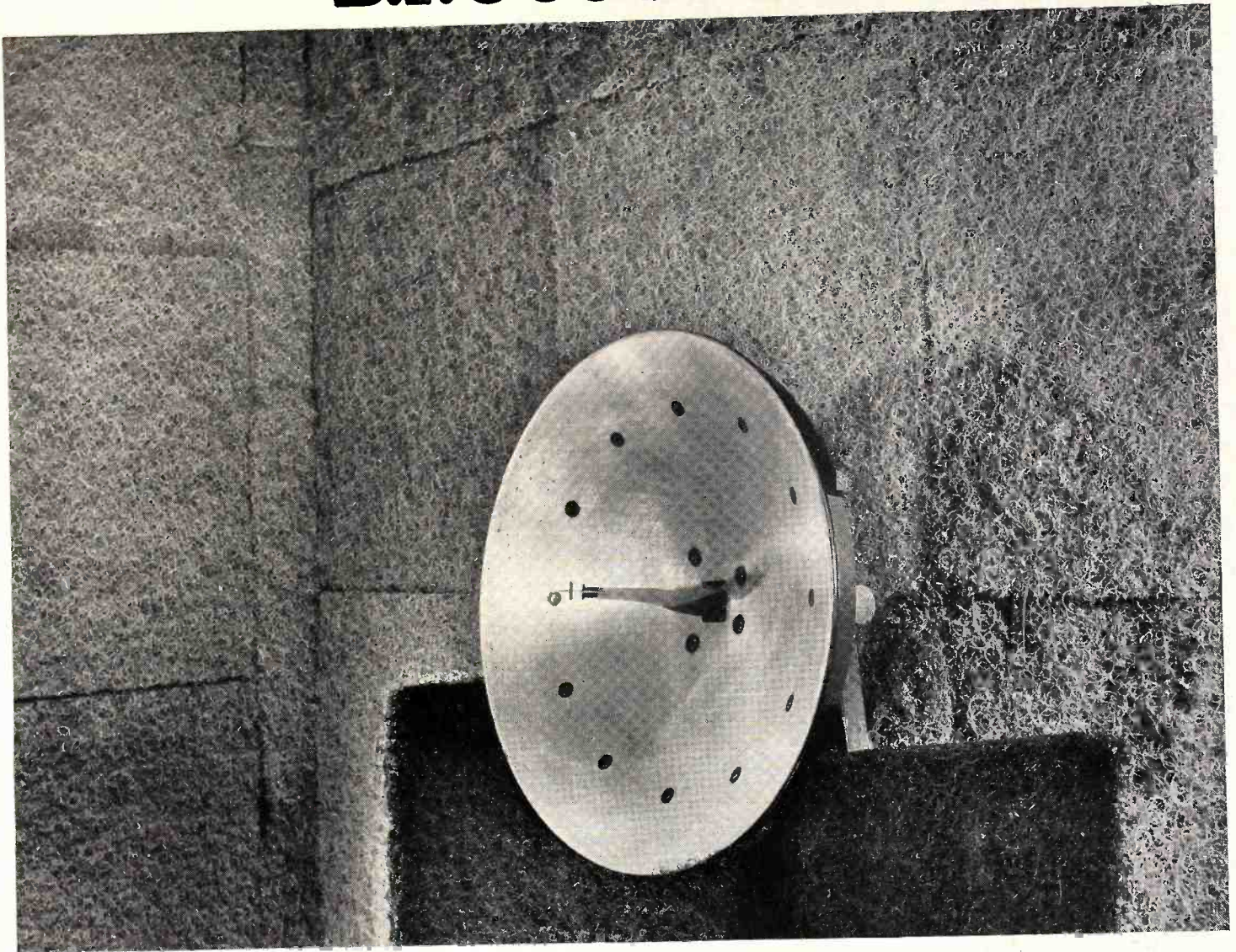
**Thomas A. Edison INDUSTRIES**

INSTRUMENT DIVISION  
61 LAKESIDE AVENUE  
WEST ORANGE, NEW JERSEY

PLANTS: WEST-ORANGE, NEW JERSEY  
ROSELAND, NEW JERSEY

**McGRAW EDISON**

# B.F. Goodrich



## Best long range investment for indoor antenna testing and free space chambers

Manufactured to Military Specifications ... B. F. Goodrich Microwave Absorbers provide the most accurate reflection-free rooms for the measurement of microwave antenna patterns. As a result of thorough quality control and factory testing, B. F. Goodrich Microwave Absorbers consistently duplicate free space conditions indoors better than any other product.

In addition to outstanding electrical qualities, our absorber is light-weight, fire-retardant, easy to install. It will not deteriorate in performance when walked upon and has excellent water and weather resistant properties.

The material is currently being produced in a number of thicknesses providing broadband operation as low as 50 megacycles. Material can be furnished

List of B. F. Goodrich Broadband Absorbers			
Designation	Lowest Frequency*	Thickness	Maximum Reflection
12 CM	2500 mc	1½"-2"	2%
12 CM - 1%	2500 mc	1½"-2"	1%
12 CM - 30db	2500 mc	1½"-2"	0.1% at X-band. 2% elsewhere.
6 CM	5000 mc	1"	2%
30 CM	1000 mc	3½"-4"	2%
30 CM - 1%	1000 mc	3½"-4"	1%
60 CM	500 mc	7"-8"	2%
60 CM - 1%	500 mc	7"-8"	1%
100 CM	300 mc	10"-11"	2%
200 CM	150 mc	26"	2%
600 CM	50 mc	69"	2%
8 CM-glass fiber	3600 mc	1"-1½"	2%
4 CM-glass fiber	7500 mc	¾"	2%

Most of the above absorbers can be furnished with 0.1% maximum reflection at selected points in the frequency band.

\*All perform up to 30,000 mc

having less than 0.1% reflection at specific frequencies. For darkroom use, a special white compound can be applied to the surface of the pads to increase light reflectance.

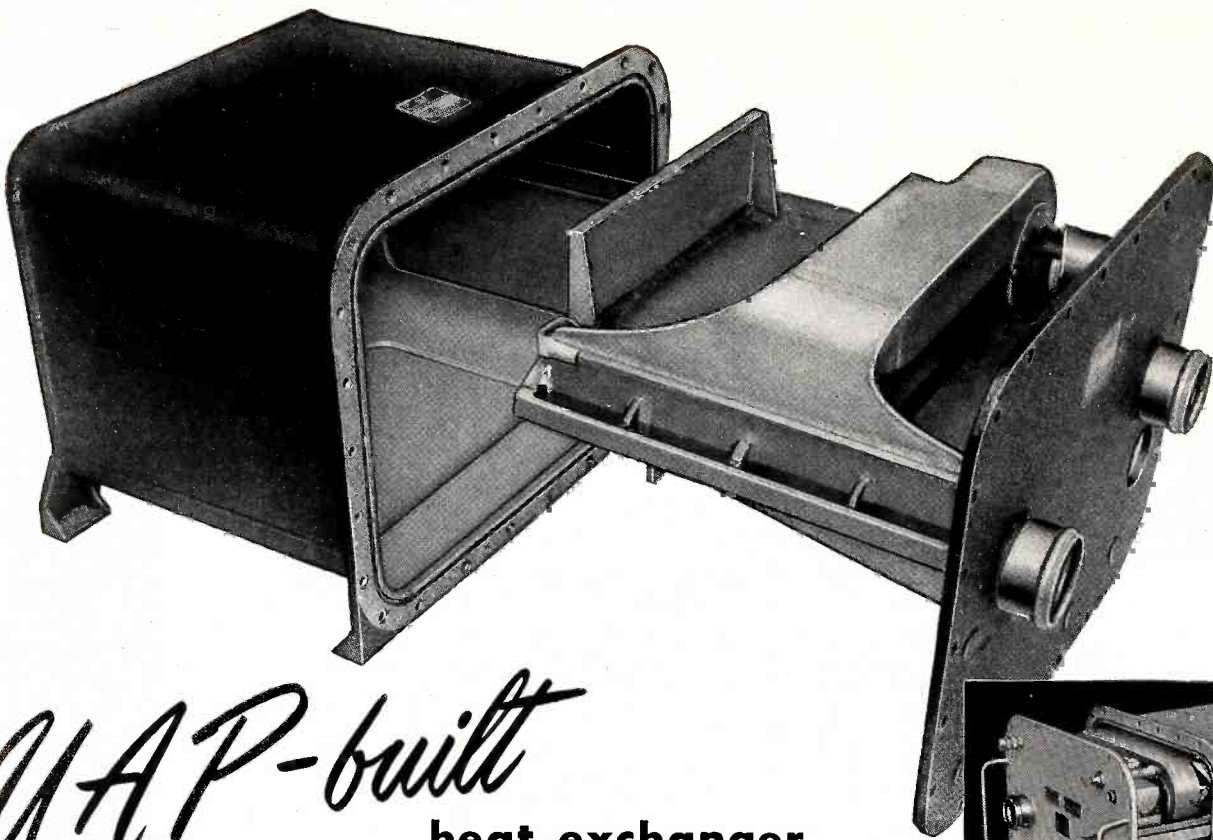
When you're investing thousands, start right—specify B. F. Goodrich—the company with the *longest* experience and record for *consistently* high quality microwave material.

For new booklet on these absorbers write B. F. Goodrich Sponge Products, a division of The B. F. Goodrich Company, 386 Derby Place, Shelton, Connecticut.

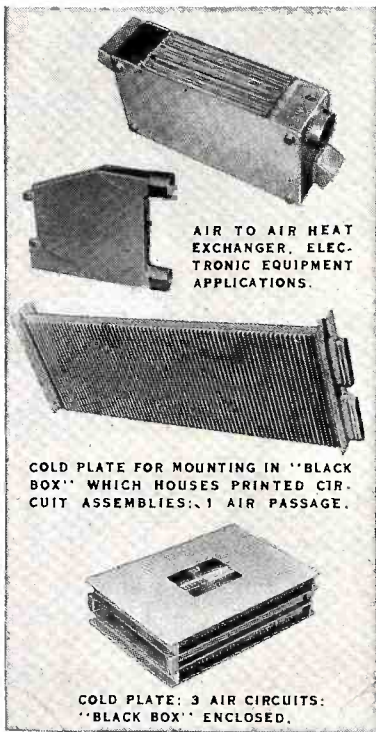
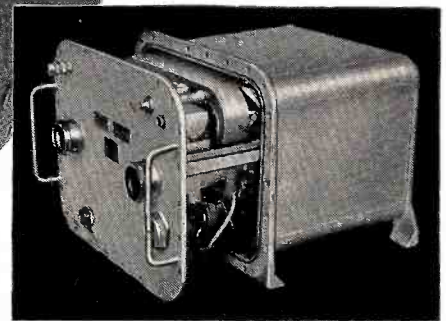


SPONGE PRODUCTS





*UAP-built*  
**heat exchanger,  
 chassis-case assembly for  
 compact pressurized airborne electronics\***



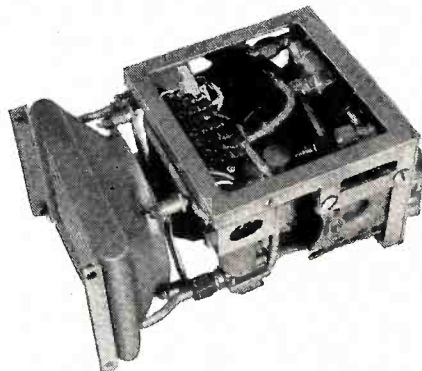
UAP dip-brazed heat exchanger is an integral part of the electronic components, chassis and principal structural member. All electronic components are mounted to the heat exchanger. Some assemblies dissipate heat from their surfaces to internal air circulated by a blower through the heat exchanger.

Others function as a "cold plate" by dissipating heat through their mountings by direct conduction to the cooling air flow. Ram air or refrigerated air may be used for cooling. The heat exchanger—electronic assembly may be removed from the case as a unit for ease of servicing.

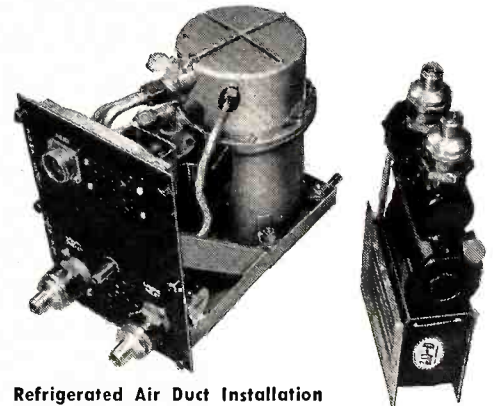
*\*Unit shown designed by Ohio State University Research Foundation  
 —Air Force Cooling Study Project, W. Robinson, Supervisor.*

For information concerning watt dissipation, and other types of UAP cold plates call or write the nearest UAP Contractual Engineering Office:

- CALIFORNIA • 1101 Chestnut St. • Burbank, Calif. . . . . VI 9-4236
- NEW YORK • 50 E. 42nd St. • New York 17, N. Y. . . . . MU 7-1283
- DAYTON • 1116 Bolander Ave. • Dayton, Ohio . . . . . MI 3841
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Ambient Installation



Refrigerated Air Duct Installation

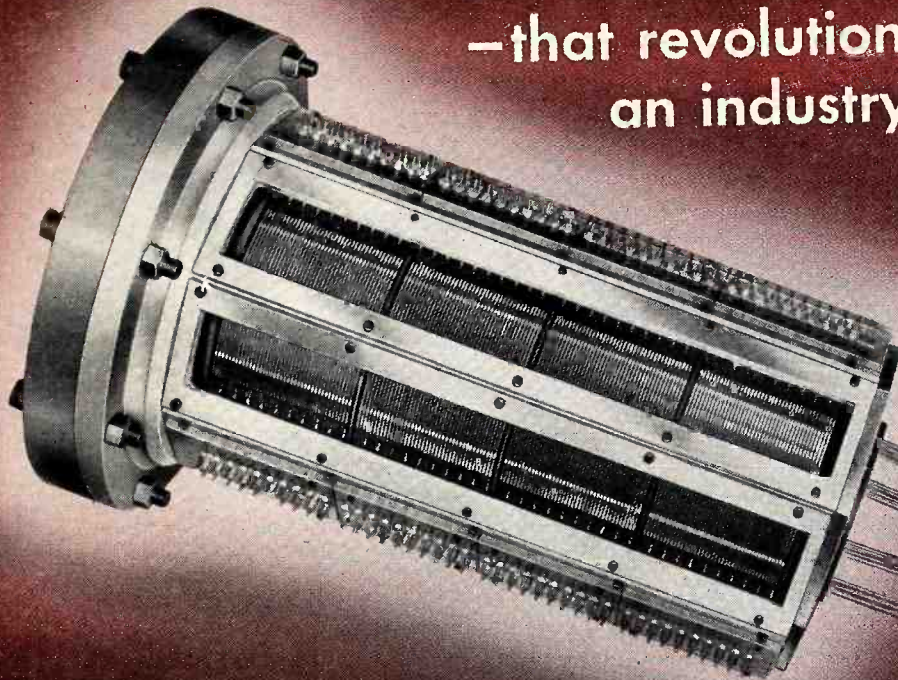


*a famous family of aircraft essentials since 1929*

**UNITED AIRCRAFT PRODUCTS, INC.**  
 1116 BOLANDER AVENUE, DAYTON, OHIO

# A DESIGN CONCEPT\*

—that revolutionized an industry!



## ELECTRO TEC

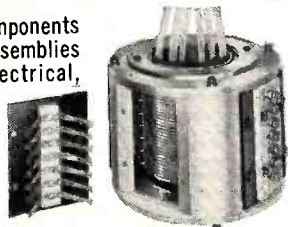
PRECISION MACHINED  
ONE-PIECE CONSTRUCTION

**SLIP RING &  
COMMUTATOR  
ASSEMBLIES**

Diameters of multi-ring  
assemblies from .035" to 36"



Individual components  
or complete assemblies  
to precise electrical,  
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### An Unmatched Record of Performance

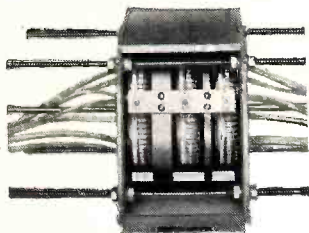
Today, Electro Tec Slip Ring and Commutator Assemblies are the choice of leading aircraft, instrument, and component manufacturers throughout the world. Our units are selected for Gyro and Servo applications, for Telemetry and Radar devices, for Guidance systems, and Automation equipment... where sustained and reliable performance is a requisite.

### Facilities Available to Serve You

Plants in South Hackensack, N. J., Blacksburg, Va., and Ormond Beach, Fla., are currently producing a wide variety of Slip Ring, Commutator, and Brush Block Assemblies, Precision Selector Switches, and Miniature Relays. Complete Engineering Facilities and Branch Sales Offices in Los Angeles, Minneapolis, Chicago, and Waltham, Mass. are geared to service your requirements.

Write for fully illustrated literature.

Uniformly hard rings,  
low noise, minimum  
friction and dimen-  
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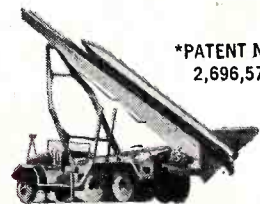


**ELECTRO TEC CORP.**  
SOUTH HACKENSACK, NEW JERSEY



PRODUCTS OF PRECISION CRAFTSMANSHIP

\*PATENT No.,  
2,696,570



# Looking for reliability?

Where there must be no slipups, there will be no slipups, if you depend on CTC.


These components are guaranteed unconditionally in quantities from one to millions.

For samples, prices, write CAMBRIDGE THERMIONIC CORPORATION, 438 Concord Ave., Cambridge 38, Mass. West Coast stocks maintained by E. V. Roberts & Associates, 5068 West Washington Blvd., Los Angeles 16 and 988 Market St., San Francisco, California.

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CAMBRIDGE THERMIONIC CORPORATION

makers of guaranteed electronic components  
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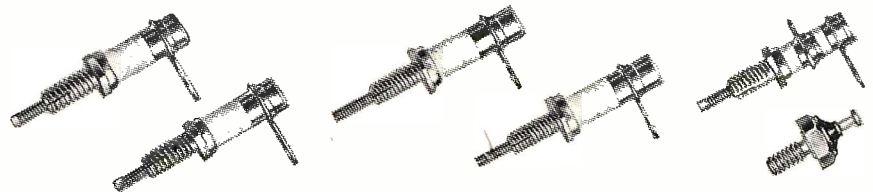
### CTC QUALITY SHIELDED COIL FORMS

Miniaturized. Highly shock resistant. Mechanically enclosed, completely shielded for maximum reliability.



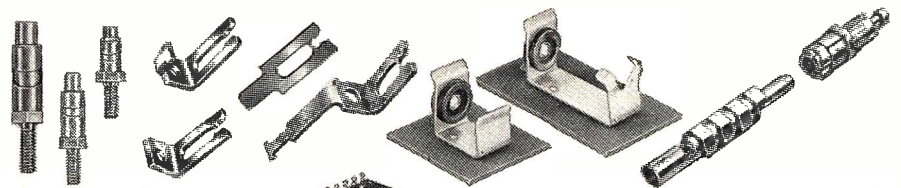
### CTC QUALITY CAPACITORS

Miniaturized Variable Ceramic Capacitors that outperform much bigger capacitors. (Extreme right): Stand-Off Capacitors with ceramic dielectric. Rugged R-F by-pass capacitors for high quality equipment. Shock-, vibration-, humidity-resistant.



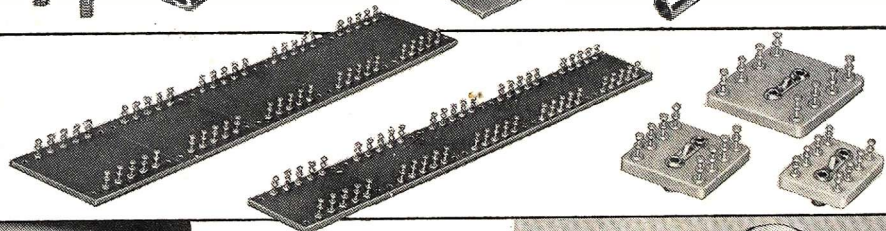
### CTC QUALITY DIODE CLIPS

Seven different types, including spring-loaded units primarily for holding fragile diode pigtail leads from .005" to .085" in diameter. CTC also offers lines of quality battery clips and miniature plugs and jacks.



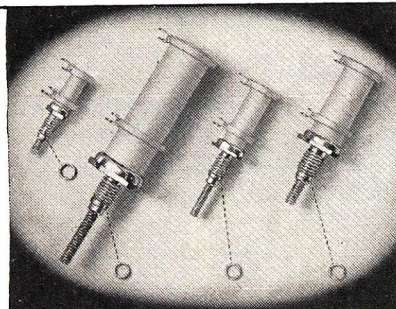
### CTC QUALITY TERMINAL BOARDS

Custom-made, standard all-sets, standard ceramics. Variety of materials available — paper, cloth, nylon, glass laminates — phenolic, melamine, epoxy, silicone resins. Moisture — and fungus-proofed.



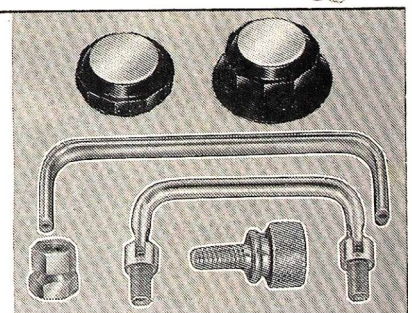
### CTC QUALITY PERMA-TORQ COIL FORMS

Constant-tensioning devices for tuning cores of standard CTC ceramic coil forms. Keeps coils tuned as set despite shock, vibration.



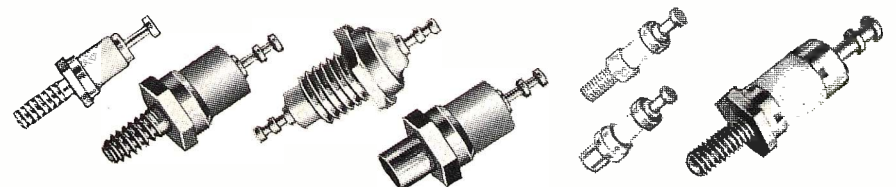
### CTC QUALITY KNOBS AND PANEL HARDWARE

Selected materials, carefully processed and finished. Metal parts polished before plating. Hard-wearing surfaces, lasting lusters.



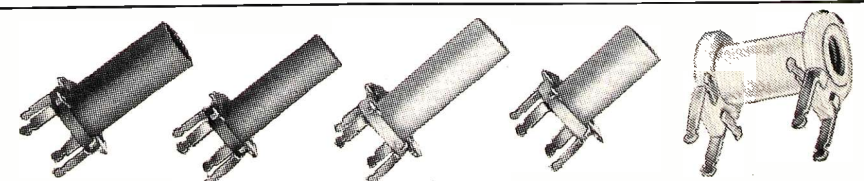
### CTC QUALITY INSULATED TERMINALS

Wide variety of stand-off and feed-through models in Teflon and ceramic. Extremely resistant to shock, vibration, moisture and temperature. Solder terminals hold even after prolonged soldering operations.



### CTC QUALITY PRINTED CIRCUIT COIL FORMS

Phenolic and ceramic types. Can be soldered after mounting. Available as forms alone or wound as specified. Two- to six-terminal models.



CONTROLLED POWER FOR RESEARCH AND INDUSTRY

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AC

- ELECTRONIC REGULATORS
- MAGNETIC VOLTAGE REGULATORS
- 400 CYCLE REGULATORS
- TUBELESS REGULATORS
- FREQUENCY CHANGERS
- VOLTAGE REFERENCE SOURCES

DC

- LOW VOLTAGE HIGH CURRENT
- HIGH VOLTAGE LOW CURRENT
- WIDE RANGE, ADJUSTABLE OUTPUT
- TUBELESS REGULATED SOURCES
- TRANSISTOR POWER SUPPLIES
- 400 CYCLE POWER SUPPLIES

**CONDENSED**

**STANDARD SPECIFICATIONS**

**SORENSEN & COMPANY, INC., • SOUTH NORWALK • CONN.**



Model E-6-15A

**NOBATRONS** (Reg. U.S. Pat. Off.)  
 (low-voltage, high-current, regulated DC sources).  
 Closely regulated, efficient and stable DC supplies ideally suited for laboratory and industrial applications.

Models available (numbers indicate voltage & current)  
 E-6-15A, E-6-40A, E-6-100A, E-12-5, E-12-15, E-12-50A, E-12-75, E-28-5, E-28-10, E-28-30, E-28-70, E-28-150, E-48-15, E-125-10, E-200-5.

**ELECTRICAL CHARACTERISTICS**

Input 95-130 VAC, 1  $\phi$ , 50-60 cycles.  
 190-260 VAC, 1  $\phi$ , for E-28-70.  
 120/208, 3  $\phi$ , 4-wire wye for E-28-150.  
 Reg. accuracy  $\pm 0.2\%$  against line (105-125 volts or 200-240 volts).  
 $\pm 0.2\%$  against load (1/10 to full)  
 Ripple 1% max. at 60 cycles (0.1% with Filter Sections available for units up to 50 amps.)  
 Output voltage adjustment range 6 volt units, 5.4 to 7.7 volts.  
 E-12-50A, 9.0 to 17.6 volts.  
 E-12-75, 10.0 to 15.5 volts.  
 E-200-5,  $\pm 50\%$ .  
 all others  $\pm 10\%$ ,  $-20\%$   
 Recovery time 0.2 seconds on all models but E-28-70 (0.25 sec.) and E-28-150 (0.3 sec.)



Model SR2

**NOBATRON-RANGERS**

(wide-range-variable regulated DC sources).

These versatile and popular instruments have electrical characteristics similar to the standard Nobatrons, except that output voltage is continuously adjustable.

**ELECTRICAL CHARACTERISTICS**

Input 95-130 VAC, 1  $\phi$ , 50-60 cycles for SR30 and SR100.  
 190-260 VAC, 1  $\phi$ , 50-60 cycles for the SR2.  
 Reg. accuracy  $\pm 0.25\%$  at any voltage setting  
 Ripple 1% RMS max.  
 Output: Model SR100 SR30 SR2  
 VDC 5-135 5-30 100-300  
 Amps 1-10 3-30 1-10



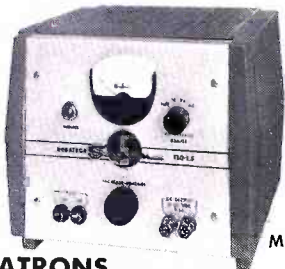
Model Q6-2

**ALL-TRANSISTOR DC SUPPLY**

Newest development in light, compact low-voltage power supplies. Completely transistorized, the Q6-2 is a well-regulated DC supply with excellent ripple and transient response characteristics. Two units may be racked side-by-side in standard 19" rack.

**ELECTRICAL CHARACTERISTICS**

Input 105-125 VAC, 50-60 cps  
 Output 6 VDC, adjustable  $\pm 10\%$ \*  
 0-2 amperes  
 Regulation  $\pm 0.25\%$  for any combination of line and load changes  
 Ripple 0.02% max.  
 Time constant 100 microseconds max.  
 \* $\pm 20\%$  adjustment possible at half load.



Model T50-1.5

**T-NOBATRONS**

Variable voltage, low cost tubeless supplies especially designed for transistor circuit work. Excellent line voltage regulation and transient response for line and load pulses. For normal line voltage surges, the DC output voltage will remain within regulation limits.

**ELECTRICAL CHARACTERISTICS**

Model	T50-1.5	T60-5	T120-2.5
AC Input (60 ~, 1 $\phi$ )	95-130	95-130	95-130
DC Output Voltage (three ranges)	0-10	0-10	0-25
	0-25	0-25	0-50
	0-50	0-60	0-120
Output Current (amps.)	0-1.5	0-5	0-2.5
Regulation, line: 105-125 V	$\pm 1\%$	$\pm 0.5\%$	$\pm 0.5\%$
for wider input	$\pm 2\%$	$\pm 1.0\%$	$\pm 1\%$
Internal Resistance, typical (ohms)			
low-voltage range	1.2	.35	1.3
middle range	2.1	.55	2.0
high range	4.5	1.0	4.0
Ripple (mv)	50 max.	50 max.	50 max.
Time Constant (line)	0.08 sec.	0.08 sec.	0.08 sec.
(load)	0.15 sec.	0.15 sec.	0.15 sec.

**400-CYCLE INPUT NOBATRONS**

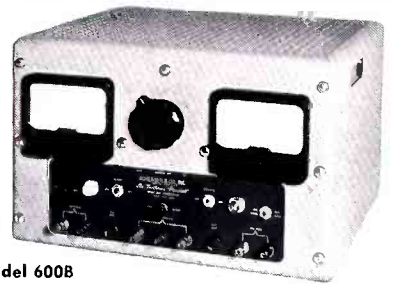
These instruments are not normal production items but are available on an extended delivery schedule.

**ELECTRICAL CHARACTERISTICS**

Output voltage and load range Model DE-6-40 — 6 VDC at 4 to 40 amperes.  
 Model DE-12-10 — 12 VDC at 1 to 10 amperes.  
 Model DE-28-10 — 28 VDC at 1 to 10 amperes.  
 Input voltage 105-125 VAC, 1  $\phi$ , 360-440 cycles.  
 Reg. accuracy  $\pm 0.25\%$ .  
 Ripple 1% RMS maximum.  
 Recovery time 0.2 seconds.

**FILTER SECTIONS FOR 50 & 60 CYCLE NOBATRONS**

The ripple voltage of all Nobatrons is 1% of the nominal output voltage setting, under worst conditions. This is adequate for most applications. If, however, less ripple is required, Filter Sections are available for use with units rated up to 50 amperes, which will reduce the ripple to 0.1%.



Model 600B

**B-NOBATRONS**

(high-voltage, low-current, regulated DC supplies).

Designed to meet the broadest technical and economical requirements. Conservatively rated, and requiring minimum service, these wide-range B-Supplies feature exceptional adaptability and rugged construction. The internal impedance figures given are from measurements in accordance with IRE specifications for measurement of power supply internal impedance.

**ELECTRICAL CHARACTERISTICS**

Model	300 B	325 BB	500 BB	500 BB	600 B	1000 BB
Output (VDC)	0-300	0-325	0-500	0-500	0-600	200-1000
Output (Ma)	0-150	0-125	0-200	0-300	0-500	0-500
Regulation	$\pm 0.25\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.25\%$	$\pm 0.5\%$
Ripple (OH-RMS)	5 max.	5 max.	5 max.	5 max.	3 max.	20 max.
Bias supply (VDC at 0.5 Ma)	none	0-150	0-150	0-150	0-150	none
Int. impedance (max.)	2.0 ohms	2.0 ohms	2.0 ohms	2.0 ohms	2.0 ohms	2.0 ohms
AC input range (50-60 ~, 1 $\phi$ )	105-125	105-125	105-125	105-125	105-125	105-125
AC voltage ( $\pm 2.5\%$ , C.F., unreg.)	6.3 at 5 amp*	6.3 at 6.3 at 5 amp*	6.3 at 6.3 at 5 amp*	6.3 at 6.3 at 5 amp*	6.3 at 6.3 at 5 amp*	6.3 at 6.3 at 5 amp*
Max. bias circuit impedance	25000 ohms	25000 ohms	25000 ohms	25000 ohms	50000 ohms	ohms

\*Two outputs, Series or Parallel



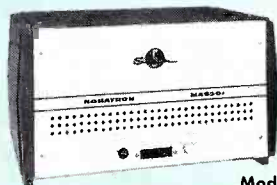
Model MA65A

**TUBELESS REGULATED DC SOURCES**

Designed for industrial applications and unattended installations, these regulated supplies utilize magnetic amplifiers and provide the utmost in long life and reliable maintenance-free service.

**ELECTRICAL CHARACTERISTICS**

Model	MA65A	MA640	MA1220	MA2850
Input (VAC, 60 ~)	105-125, 1 $\phi$	105-125, 1 $\phi$	105-125, 1 $\phi$	190-230, or 210-250, 3 $\phi$ 4 wire, wye
Output (VDC)	5.4-6.6, adj.	4.5-7.7, adj.	11-15 or 12-16, adj.	23-32, adj.
Load Range	0-5 amp.	0-40 amp.	0-20 amp.	0-50 amp.
Reg. accuracy	$\pm 0.2\%$ for line or load	$\pm 1.0\%$ for any combination of line and load		
Ripple	1% max.	1% max.	1% max.	3% max.
Recovery Time	0.15 sec.	0.20 sec.	0.30 sec.	0.50 sec.



Model MA6501

**PRECISION REGULATED TUBELESS DC SOURCE**

A transistorized precision regulated DC source utilizing magnetic amplifier principles. This highly-stable, temperature-compensated unit is Sorensen's new design for use with the Beckman Model DU Spectrophotometer.

**ELECTRICAL CHARACTERISTICS**

Input 105-125 VAC, 1  $\phi$ , 60 cycle.  
 Output #1 — 6 VDC adjustable internally  $\pm 5\%$ , 5 amperes load.  
 #2 — 6 VDC, 100 milliamperes load.  
 #3 — 2 VDC, 30-60 milliamperes  
 Reg. accuracy  $\pm 0.01\%$  against line  
 $\pm 0.1\%$  against load  
 Ripple 30 mv RMS max. on #1 and #2  
 10 mv RMS max. on #3  
 Stability Typical stability after a 30 minute warm-up is .01% for an eight hour period.



Model MR3215

**MAGNETIC RANGERS**

Rugged tubeless DC power supplies requiring negligible maintenance, Magnetic Rangers provide wide range, continuously adjustable, well-regulated voltage at high current. One versatile instrument can satisfy a wide variety of your DC needs.

**ELECTRICAL CHARACTERISTICS**

Input 105-125 VAC, 1  $\phi$ , 50-60 cycles  
 Output voltage 5-36 VDC, continuously adjustable  
 Output current MR3215: 0-15 amps  
 MR3230: 0-30 amps  
 Reg. accuracy  $\pm 0.5\%$  against line  
 $\pm 0.5\%$  against load  
 Ripple 1% RMS at 36 volts  
 Recovery time 0.2 sec.



Model 1000S

## AC REGULATORS (electronic).

Utilizing the original Sorensen circuit and incorporating the Safety Diode, these regulators are noted for accuracy, economy of operation, easy maintenance. Models available with capacities from 150VA to 15KVA, single phase.

Models available (Numbers denote VA capacities) 150S, 250S, 500S (-25 also), 1000S (-25 also), 2000S, 3000S (-25 also), 5000S (-25 also), 10000S (-25 also), 15000S (-25 also).

### ELECTRICAL CHARACTERISTICS

Input	95-130 VAC, 1 $\phi$ , 50 or 60 cycles $\pm$ 10%. 190-260 VAC in "-25" models.
Output	115 VAC adj. 110-120; 230 VAC with "-25" models.
Reg. accuracy	$\pm$ 0.1% against line, $\pm$ 0.1% against load.
P.F. range	Unity to 0.7 lagging.
Distortion	Varies to 3% max. under worst conditions.
Load range	0 to full load.



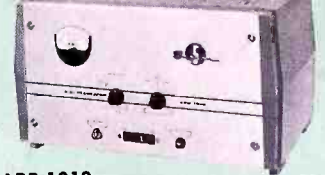
Model 2501

## PRECISION AC REGULATORS (electronic).

Giving ultra-precise,  $\pm$ 0.01% regulation, these instruments are rugged and serviceable, as proved by hundreds of applications in the field. Models available with capacities of 1000VA and 2500VA.

### ELECTRICAL CHARACTERISTICS

Input	95-130 VAC, 1 $\phi$ , 50 and 60 cycles.
Output	115 VAC, 1 $\phi$ , adj. 110-120.
Reg. accuracy	$\pm$ 0.01% against line, $\pm$ 0.01% against load.
Distortion	3% maximum.
P.F. range	Unity to 0.7 lagging.
Load range	0 to full load.



Model APR 1010

## TUBELESS MULTI-PURPOSE AC LINE REGULATOR

(Average, peak, or RMS regulation)

First regulator of its kind. Designed to regulate average, peak, or RMS value as selected. May also be used as DC controller. Saves space, eliminates instrument duplication, means greater economy. Five principal sensing arrangements: Internal, external, remote, constant current, DC.

### ELECTRICAL CHARACTERISTICS

Input	95-130 VAC, 1 $\phi$ (50 or 60 cps $\pm$ 10%)
Output	115 VAC, adj. 110-120 v. $\pm$ 0.1% against line, $\pm$ 0.1% against load
Reg. accuracy (RMS, average, or peak, switch selected)	$\pm$ 0.1% against line, $\pm$ 0.1% against load
Distortion	3% max.
Load	0-1000 VA
P.F. range	Unity to 0.7 lagging
Recovery time	0.1 sec.

## SPECIAL EQUIPMENT

Sorensen also manufactures a wide range of special equipment including computer power supplies and militarized units. For unusual climatic conditions, many standard and special designs are available with "Fosterited" or potted wound components.

### MILITARIZED UNITS

Over the years, many versions of standard Sorensen products have been designed for military applications. While there is no all-encompassing military specification for voltage regulators, Sorensen can provide equipment with MIL-preferred components throughout, designed to meet MIL-T-27A for wound components and in accordance with MIL-E-4158A or MIL-E-16400A. Typically, the newest militarized units to be featured as standard catalog items are the 500MIL and the soon-to-be-released 1500MIL. These are rugged 500 and 1500 VA militarized regulators conforming as above, and offering 1% total regulation accuracy against line, load, and frequency changes, with an ambient temperature range of  $-40^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .

### COMPUTER POWER SUPPLIES

In the design of standard and special equipment, Sorensen is outstanding in its application of alternate engineering approaches to the specific customer requirement. Rather than concentrate on any one particular design—electronic, tubeless magnetic amplifier, magnetic voltage regulator, etc.—Sorensen can draw

on all types without prejudice or limitation.

In the area of computer power supplies, for instance, broad experience has been gained in the design and production of regulated and semi-regulated supplies using each of these approaches, singly or in combination.

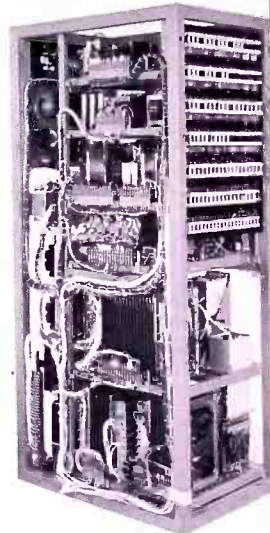
Let Sorensen apply its experience to your computer supply problems. We can provide a complete solution through our separate facilities, engineering, and production personnel specifically devoted to the design and volume production of computer power supplies.

### AIRBORNE ELECTRONIC FREQUENCY CHANGERS AND INVERTERS

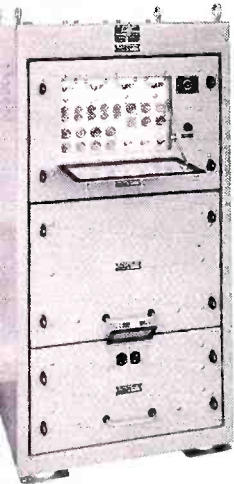
Sorensen has designed and built a wide variety of frequency changers and inverters for incorporation in military aircraft. For the most part, the changers convert variable (3200-1000~) input power to precision ( $\pm$ 0.05%) output frequency. Most models are also voltage regulated ( $\pm$ 1%) with minimum distortion (5-10%).

Airborne inverters are built to convert 28 VDC input to 400-cycle, 3-phase output, with output frequency accurate to 0.05% over wide ambients.

Sorensen's wide experience with commercial and military frequency changers may well supply the answer to your precision frequency problems. Our complete line of standard frequency changers is outlined on the next page.



Typical multi-voltage computer power supply



Typical militarized power supply



Model VRS-AC751

## AC VOLTAGE REFERENCE SOURCE

Provides highly stable AC voltage for many laboratory and industrial uses such as direct calibration of voltmeters and oscilloscopes, servo testing, amplifier gain checks. Compact, large power capacity, precisely regulated, finely calibrated.

### ELECTRICAL CHARACTERISTICS

Input	105-125 VAC, 1 $\phi$ , 60 $\pm$ 0.5 cps
Output	0.1 to 799.9 VAC in 0.1-volt steps
Load	240 VA
Output voltage accuracy	$\pm$ 0.25% (Much greater accuracy possible through correction curves)
Generated distortion	1% maximum



Model MVR1000

## MVR's (magnetic voltage regulators)

These low-cost magnetic voltage regulators are tubeless, give utmost reliability with good regulation. Very compact, they are ideally suited for incorporation as components. Available in capacities of 15, 30, 60, 120, 250, 500, 1000, and 2000 VA (designated MVR15, MVR30, etc.). Also available with 6.3 volt isolated output in 30, 60, and 160 VA capacity, (-6 models). For low-distortion requirements up to 120 VA, specify harmonic-filtered MVRH120 (less than 3% distortion). 12.6 volt MVR's and a more complete extension of 6.3 volt and harmonic-filtered lines will be available shortly.

Input	95-130 VAC, 1 $\phi$ , 60 cycles.
Output	115 VAC nominal (except 6.3 volt filament regulators)
Reg. accuracy	$\pm$ 0.5% against line.
Load range	0 to full load.



Model D2500SAN

## 400-CYCLE AC REGULATORS

Designed especially for airborne and ground testing installations for aircraft, missiles, gyros and related 400-cycle applications. Military type components and construction; all wound components are Fosterited. Available in models D250SAN, D500SAN, D1200SAN, D2500SAN (numbers 250, etc. denote VA capacities).

### ELECTRICAL CHARACTERISTICS

Input	95-130 VAC, 1 $\phi$ , 400 cycles $\pm$ 10%.
Output	115 VAC, 1 $\phi$ , adj. 110-120.
Reg. accuracy	$\pm$ 0.25% against line, $\pm$ 0.25% against load
Distortion	5% maximum.
P.F. range	Unity to 0.7 lagging.
Load range	0 to full load.

# CONTROLLED POWER FOR RESEARCH AND INDUSTRY

## FREQUENCY FLEXIBILITY

Sorensen electronic frequency changers convert 50 or 60 cycle line to well-regulated AC output at 60 cycles, 400 cycles, or a wide range of output frequencies. These convenient, portable sources have found general application in aviation, missile, automatic control and related fields.

## 1000VA FREQUENCY CHANGERS

Model FC 1000 (45-65 cps out.)  
Model FCD 1000 (360-440 cps out.)



Model FCD1000

### ELECTRICAL CHARACTERISTICS

Input	208 or 230 VAC $\pm 10\%$ 1 $\phi$ , 50 or 60 cycles
Output voltage	115 VAC, adj. 105-125V
Voltage regulation	$\pm 1\%$
Output frequency	(FCD 1000) 360-440 cps (FC 1000) 45-65 cps
Regulation accuracy	$\pm 1\%$ ( $\pm 0.01\%$ with auxiliary frequency standard fixed at 50, 60 or 400 cps.)
Load range	0-1000 VA

## WIDE RANGE FREQUENCY CHANGERS



Model FCR250

Latest, most versatile additions to the Sorensen line of regulated electronic frequency changers. Operating from 50 or 60 cycle line, these voltage- and frequency-regulated units permit simple dial selection of any frequency within a wide output range. Portable and practical, these instruments offer unique solutions to a wide variety of your laboratory, test, or production requirements.

	FCR100	FCR250
Input	105-125VAC, 1 phase, 45-65 cps	105-125VAC, 1 phase, 48-65 cps
Output voltage	115VAC, adj. 0-130V (specs below for 105-125V)	115VAC, adj. 105-125V
Output frequency	Range 1 45-300 cps Range 2 300-2000 cps	320-570 cps 560-1000 cps
Voltage Regulation	$\pm 1\%$ for line $\pm 1\%$ for load	$\pm 1\%$ for all variations
Frequency Regulation	$\pm 1\%$ (provision for ext. freq. standard of greater precision.)	$\pm 1\%$ ( $\pm 0.01\%$ with aux. freq. standard fixed at 400 cycles.)
Load range	0-100 VA	0-250 VA (up to 500 watts with improved reg. at 400 and 800 cps)

## CONTACT THESE LOCAL REPRESENTATIVES

Whatever your power control requirements—for industry, military applications or research—you will find a unit which meets your exact specifications in Sorensen's wide variety of instruments, coupled with the extensive line of high-voltage equipment produced by the Beta Electric Division. In addition to their many standard products, both

Sorensen and Beta have unusual experience in the engineering and production of special equipment to meet unique requirements. The authorized local representatives listed below are at your service; call the one nearest you for advice on Sorensen or Beta equipment.

CALIFORNIA—Palo Alto  
McCarthy Associates  
441 W. California Ave.  
Phone Davenport 5-6136

CALIFORNIA—Pasadena  
McCarthy Associates\*  
1055 E. Walnut  
Phone Sycamore 2-8272

CALIFORNIA—San Diego 1  
McCarthy Associates  
934 West Laurel St.  
Phone Belmont 9-4015

COLORADO—Denver 10  
Lahana & Company  
1886 South Broadway  
Phone Pearl 3-3791 TWX DN676

CONNECTICUT—Bridgeport  
Yewell Associates, Inc.  
110J East Main Street  
Phone Forest 6-3456

D. C.—Washington 9  
Horman Associates, Inc.\*  
2017 S. Street, N.W.  
Phone Decatur 2-5705 TWX WA559U

FLORIDA—Fort Myers  
Arthur H. Lynch & Assoc.  
35 West North Shore Ave.  
P. O. Box 466  
Phone Edison 4-4431

GEORGIA—Atlanta 5  
Bivins & Caldwell, Inc.\*  
3133 Maple Drive, N.E.  
Phone Cedar 3-7522 TWX 987U

ILLINOIS—Chicago 45  
Pivan Engineering Co.\*  
2820 Peterson Ave.  
Phone Briarcliff 4-9135

MARYLAND—Baltimore  
Horman Associates, Inc.\*  
635 St. Johns Road  
Phone Hopkins 7-2290

MASSACHUSETTS—Burlington  
Yewell Associates, Inc.\*  
Middlesex Turnpike  
Phone Burlington 7-2561

MICHIGAN—Detroit 35  
S. Sterling Company\*  
15310 W. McNichols Road  
Phone Broadway 3-2900

MINNESOTA—Minneapolis 3  
Pinkney & Hine  
1925 Nicollet Ave.  
Phone Federal 8-0523 TWX,  
Minn. Code FMR

MISSOURI—Kansas City 30  
Harris-Hanson Co.  
7916 Paseo Avenue  
Phone Hiland 6744 TWX KC448

MISSOURI—St. Louis 17  
Harris-Hanson Co.  
2814 So. Brentwood Blvd.  
Phone Mission 7-4350 TWX WEB237

NEW JERSEY—Asbury Park  
The I. E. Robinson Co. (branch)  
905 Main St.  
Phone Kellog 1-3150

NEW JERSEY—Bogota  
RMC Associates, Inc. (branch)  
114 E. Main St.  
Phone Diamond 3-5926

NEW YORK—New York  
RMC Associates, Inc.\*  
236 E. 75th Street  
Phone Trafalgar 9-2023 TWX NY 1-3805

NEW YORK—Rochester 18  
J. D. Ryerson Associates, Inc.  
105 Pickwick Drive  
Phone Greenfield 3-3706

NEW YORK—Syracuse 2  
J. D. Ryerson Associates, Inc.\*  
412 E. Genesee Street  
Phone 76-8344 TWX SS-312

NORTH CAROLINA—Charlotte  
James L. Highsmith Co.  
P. O. Box 1011  
Phone Franklin 5-6436

OHIO—Cleveland 21  
S. Sterling Company (branch)  
4311 Mayfield Road  
Phone Evergreen 2-4114

OHIO—Dayton 2  
S. Sterling Company (branch)  
379 West 1st Street  
Phone Fulton 8794

OREGON—Portland 16  
James L. Kearns Company†  
P. O. Box 5108  
Phone Belmont 6-2444

PENNSYLVANIA—Camp Hill  
The I. E. Robinson Co. (branch)  
2120 Market Street  
Phone Regent 7-6791

PENNSYLVANIA—Pittsburgh 36  
H. E. Ransford Co.  
5400 Clairton Blvd.  
Phone Tuxedo 4-3425

PENNSYLVANIA—Upper Darby  
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7404 West Chester Pike  
Phone Flanders 2-7017 TWX Flanders 533

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Earl Lipscomb Associates\*  
P. O. Box 7084  
Phone Fleetwood 8-1771 Teletype DL-411

TEXAS—Houston 5  
Earl Lipscomb Associates (branch)  
P. O. Box 6573  
Phone Jackson 4-9303

WASHINGTON—Seattle  
Hawthorne Electronics††  
107 Administration Bldg.  
Boeing Field  
Phone Mohawk 3962

WASHINGTON—Seattle  
James L. Kearns Company†  
Phone Mutual 4566  
Mail: Portland Office

HAWAII—Honolulu 17  
Gene Piety  
2030 Home Rule Street  
Phone 83105

CANADA—Ajax, Ontario  
Bayly Engineering, Limited\*  
1st Street  
Phones: Toronto Empire 8-6866, Ajax 118

CANADA—Vancouver 2, B. C.  
Arva  
229 Rogers Bldg.  
Phone Pacific 3367

MEXICO—Mexico City  
Electro Labs. S.A.  
Guanajuato #121  
Phone 11-60-94

\* Complete service facilities maintained for rapid local servicing of Sorensen and Beta equipment.

† Sorensen line only.  
†† Beta line only.

## WRITE FOR LITERATURE

Send for complete information, including specifications, performance data and quotations. Product data sheets are issued on all new units as they become available. Inquiries regarding special applications and specifications are invited. Address Sales Engineering Department, Sorensen & Co., Inc., Richards Ave., South Norwalk, Conn., or (for high voltage applications) write Beta Electric Division, 333 East 103rd Street, New York 29, New York; or contact the local representative shown above. In Europe, please contact directly Sorensen-Ardag, Eichstrasse 29, Zurich 3, Switzerland.

West Coast Field Office: 1055 East Walnut St., Pasadena, Calif.



SORENSEN & CO., INC. • RICHARDS AVE., SOUTH NORWALK, CONN.  
PHONE: TEMPLE 8-6571



### SERIES 200 PORTABLE HIGH VOLTAGE DC POWER SUPPLIES

0-30 KV, 2 & 5 ma  
**FEATURES:**  
 • Lightweight and Portable  
 • Air Insulation  
 • Reversible Polarity  
 • Safe and Reliable  
**SPECIFICATIONS:**  
**OUTPUT VOLTAGE**—0-30,000 volts DC, continuously variable.  
**OUTPUT CURRENT**—2.0 ma at 30 KV, 3 ma below 28 KV (Model 230-2); 5ma at 30 KV, 7 ma below 24 KV (Model 230-5).  
**HIGH VOLTAGE POLARITY**—Reversible  
**RIPPLE**—Approximately 1.0% per ma at 30 KV.  
**OUTPUT CAPACITANCE**—0.005 mf in series with 0.5 megohm, plus output lead capacitance (app. 150 mmf).  
**REGULATION**—Internal resistance 2.5 megohms.  
**METERS**—KV meter 0-30 KV DC,  $\pm 2.5\%$  initial accuracy. Ammeter 0-1 amp AC,  $\pm 3\%$  initial accuracy (Model 230-2), Load current meter 0-10 ma DC (Model 230-5).  
 In addition to standard models in this Series, BETA offers more elaborate versions for research, development and similar exacting work.



### MODEL 301-A ELECTRONIC MICROAMMETER

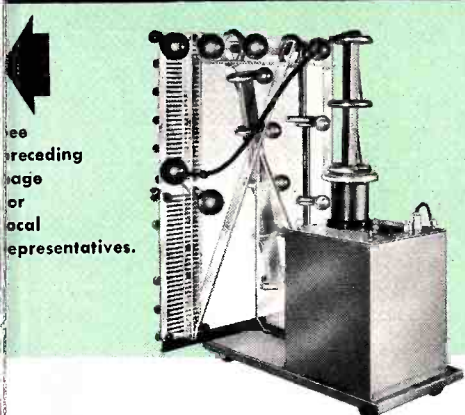
**FEATURES:**  
 • Highly sensitive  
 • Rugged; impervious to overloads  
 • No moving parts  
 • Self-calibrating  
**SPECIFICATIONS:**  
**POWER**—95-125 volts, 50-60 cycle AC, 60 VA.  
**RANGES** — 0.001/0.01/0.1/1.0/10/100  $\mu$ a, full scale.  
**ACCURACY**—5% full scale on 0.001 range. 3% on all other ranges.  
**INPUT VOLTAGE SENSITIVITY**—40 millivolts DC, full scale; constant for all ranges.  
**METER**—4"-square bakelite case, 50 dial graduations, 1.0  $\mu$ a full scale.



### SERIES 800 PORTABLE AC HIPOT TESTERS

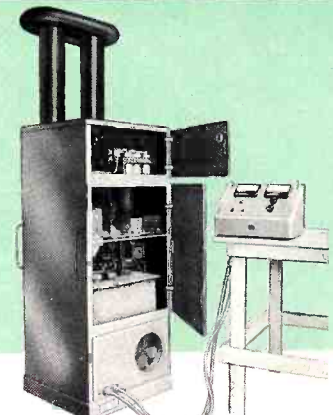
0-2 KV to 0-20 KV, 1-5 ma  
**FEATURES:**  
 • Automatically-limited maximum short circuit current  
 • High-speed overload cutoff relay  
 • Direct indication of insulation breakdown  
 • Direct reading kilovoltmeter across output  
**SPECIFICATIONS:**  
**WAVEFORM DISTORTION** — Less than 5% sine wave at no load.  
**METER**—4" square bakelite-cased,  $\pm 5\%$  full scale accuracy.  
**HV CONTROL**—On-Off pushbutton.  
**OUTPUT VOLTAGE & CURRENT**—0-2 KV, 1 ma; 0-5 KV, 2 ma; 0-10 KV, 3 ma; 0-15 KV, 4 ma; 0-20 KV, 5 ma.

# BETA HIGH VOLTAGE EQUIPMENT



### SERIES 4000 AIR-INSULATED, SELENIUM-RECTIFIED HIGH VOLTAGE POWER SUPPLIES

250 KV, 2 ma  
**FEATURES:**  
 • Lightweight, easily maneuverable  
 • Components unusually accessible for servicing  
 • Low corona  
 • Extremely long operational life  
**SPECIFICATIONS:**  
**INPUT VOLTAGE** — 105-125 volts, 50-60 cycles, single phase.  
**INPUT VOLTAMPERES**—Approximately twice rated maximum output power.  
**OUTPUT VOLTAGE** — Continuously variable from zero to 250 KV.  
**OUTPUT CURRENT**—2 ma can be drawn continuously at maximum voltage.  
**POLARITY**—Reversible via manual positioning of rectifier ladders.  
**REGULATION**—Unregulated, with internal impedance of 11 megohms; However, full-rated voltage and current are obtainable.  
 In addition to standard models in this Series, BETA offers more elaborate versions for research, development and similar exacting work.



### SERIES 6000 REGULATED HIGH VOLTAGE DC POWER SUPPLIES

**FEATURES:**  
 • Electrostatic generator  
 • Electronic voltage regulation and stabilization  
 • Unusually compact and lightweight  
 • Low-short-circuit current  
**SPECIFICATIONS:**  
**POWER INPUT**—220 volts, 50-60 cycle, 3 phase.  
**OUTPUT VOLTAGE** — 50-150 KV and 5-150 KV (cont. var.)  
**OUTPUT CURRENT**—2.4 ma maximum.  
**REGULATION**— $\pm 2\%$  (load) or  $\pm 0.2\%$  (load)  $\pm 4\%$  (line) or  $\pm 0.1\%$  (line)  
**POLARITY**—Negative (standard)



### SERIES 9000 "HI-SEL" DC POWER PACKS

5-15 KV, 2.5 & 5 ma  
**FEATURES:**  
 • Air-insulated  
 • Selenium rectifiers  
 • Low ripple in all current ratings  
 • Good dynamic load regulation  
**SPECIFICATIONS:**

OUTPUT VOLTAGE (KV)	OUTPUT CURRENT (ma)	DIMENSIONS	WEIGHT (lbs.)	RIPPLE (rms)
0-5	5	7 $\frac{3}{4}$ "h" x 4 $\frac{1}{4}$ "w x 3"d	6	1.5%
0-10	2.5	8"h x 6"w x 5"d	10 $\frac{1}{2}$	1.0%
0-10	5	8"h x 6"w x 5"d	10 $\frac{1}{2}$	2.0%
0-15	2.5	9"h x 8 $\frac{1}{2}$ "w x 6"d	13	0.5%
0-15	5	9"h x 8 $\frac{1}{2}$ "w x 6"d	13	1.0%

Models with ratings up to 30 KV available shortly.





### SERIES 1000 RACK-MOUNTED HIGH VOLTAGE DC POWER SUPPLIES

0-1 to 0-50 KV, 2-500 ma

#### FEATURES:

- Rugged construction
- Conservative design
- Fully self-protected
- Minimum operational hazards

#### SPECIFICATIONS:

**REGULATION**—Unregulated, but full rated current is available at maximum voltage. Regulation at maximum output voltage varies 15-50%.

**RIPPLE**—At maximum rated voltage and current in any voltage range, ripple is below 2.5% rms for the maximum current in that range.

**SELENIUM RECTIFIERS**—Employed in most designs with current ratings below 10 milliamperes.

**POLARITY**—Reversible standard, center-tapped on special order.

**METERS**—3½" output voltage and current meters, ±3% full-scale accuracy on all ranges.

**VOLTAGE & CURRENT RANGE**—0-1 KV, 500 ma; 0-3 KV, 200 ma; 0-5 KV, 10 ma; 0-5 KV, 50 ma; 0-5 KV, 100 ma; 0-10 KV, 2 ma; 0-10 KV, 10 ma; 0-10 KV, 50 ma; 0-15 KV, 2 ma; 0-15 KV, 5 ma; 0-15 KV, 10 ma; 0-30 KV, 2 ma; 0-30 KV, 5 ma; 0-30 KV, 10 ma; 0-50 KV, 2 ma; 0-50 KV, 5 ma.



### SERIES 2000 AIR AND OIL INSULATED HIGH VOLTAGE DC POWER SUPPLIES

0-1 to 0-250 KV, 5-3000 ma

#### FEATURES:

- Two-unit construction for remote operation
- Maximum personnel and equipment protection
- Conservatively rated
- Simple to operate

#### SPECIFICATIONS:

**POLARITY**: Reversible by interchanging links in the high voltage section.

**REGULATION**: Unregulated. However, full-rated voltage and current are obtainable from all units.

**OUTPUT VOLTAGE & CURRENT**: 0-1000 V, 3000 ma; 0-3000 V, 1000 ma; 0-5000 V, 400 ma; 0-10KV, 200 ma; 0-20 KV, 150 ma; 0-30 KV, 30 ma; 0-50 KV, 10 ma; 0-50 KV, 50 ma; 0-100 KV, 5 ma; 0-120 KV, 5 ma; 0-150 KV, 5 ma; 0-250 KV, 10 ma; 0-250 KV, 5 ma (Cockroft-Walton).

*In addition to standard models in this Series, BETA offers more elaborate versions for research, development and similar exacting work.*



### SERIES 3000 DC OVERPOTENTIAL TESTERS

0-30 to 0-150 KV, 1-5 ma

#### FEATURES:

- Minimum size and weight
- Non-destructive, qualitative and quantitative dielectric testing
- "Burn" currents available for positive fault identification
- Effective personnel and equipment protection

#### SPECIFICATIONS FOR ALL MODELS

**INPUT VOLTAGE** — 105-125 volts, 50-60 cycles, single phase.

**OUTPUT VOLTAGE** — Continuously variable from zero to maximum rated voltage, adjustable to 0.03% of maximum rating. 30KV, 5ma; 50KV, 5ma; 80KV, 2ma; 120KV, 1ma; 80KV, 5ma; 120KV, 5ma; 150KV, 5ma.

**OUTPUT CURRENT** — Maximum rated current can be drawn continuously at maximum voltage.

**POLARITY**—Reversible.



### SERIES PKV PEAK-READING KILOVOLTMETERS

0-20 to 0-50 KV

#### FEATURES:

- High accuracy and sensitivity
- High stability—dependable long-term readings
- Narrow pulsewidth measurement—as low as 1 μsec
- Optional despiking—eliminates wave overshoots

#### SPECIFICATIONS:

**DUTY CYCLE RANGE**—From DC (1.0) to as low as 0.00025.

**REPETITION RATE RESPONSE**—Charging time constant of less than 1 μsec and discharge constant of approximately 1 second, for repetition rates between 5 cps and all radio frequencies.

**ACCURACY** — ±1% or ±3% (optional), with 100 μa DC full-scale sensitivity.

**INPUT IMPEDANCE** — Approximately 8 mmf with high voltage positive, 38 mmf with high voltage negative.

**POLARITY** — Reversible via internal lead interchange.

**VOLTAGE RANGES**—0-20 KV, 30 KV and 50 KV.



### SERIES KV PORTABLE & SEMI-PORTABLE, SINGLE & DUAL RANGE KILOVOLTMETERS

0-15 to 0-200 KV

#### FEATURES:

- Linear scales
- Stabilized multipliers
- Ample overload factor
- Compact, Convenient, Rugged

#### LOW-DRAIN PORTABLE KILOVOLTMETERS

0-15 to 0-50 KV

**VOLTAGE RANGES** — 0-15, 0-30, 0-50, 0-15/30, 0-25/30 KV.

**SENSITIVITY**—25,000-50,000 ohms/volt.

**ACCURACY**—±1% or ±3% full-scale (optional).

#### LOW-DRAIN SEMI-PORTABLE KILOVOLTMETERS

0-100 to 0-200 KV

**VOLTAGE RANGES**—0-100, 0-150, 0-200 KV.

**SENSITIVITY**—10,000 and 20,000 ohms/volt.

**ACCURACY**—±3% full-scale, ±1% ⅓-scale.

# BETA

first in  
high  
voltage

Beta Electric has, for more than 10 years, specialized in the research, design, development and production of DC and AC high voltage equipment. The unique experience gained through these years of custom manufacture of compact, reliable equipment for specialized applications has resulted in efficient standardization of design, with the retention of flexibility and versatility inherent in custom design.

WRITE Sales Engineering Dept. for individual product data sheets, or for consultation on special requirements.

## BETA ELECTRIC

Division of Sorensen & Co., Inc.

333 EAST 103RD STREET  
NEW YORK 29, NEW YORK

**HAYDON**  
AT TORRINGTON

HEADQUARTERS FOR  
**TIMING**

# Precision Timing for SUPERIOR PRODUCT PERFORMANCE

## HAYDON TIMING MOTORS • HAYDON TIMING DEVICES

Recently re-designed and re-engineered for even finer performance, this is the most complete timing motor line ever offered. New models include the Clutch Type (exclusive with Haydon) and the Heavy Duty Inductor Type. Featuring slow rotor speed, controlled lubrication and total enclosure, all Haydon Timing Motors offer you the advantages of unusual compactness and small size, long life, dependability and quiet operation.

Built around the proved-by-performance Haydon Timing Motors, these timing devices offer the same advantages of compactness, accuracy, dependability and long life. They are available in a complete line for every type of military, commercial and industrial application.

### HYSTERESIS TYPE

... is a general purpose motor ideal for a very wide range of standard duty applications. Two torque ranges: 6 ounce inches with speeds from 1/60 to 60 rpm, and 10 ounce inches with speeds from 1 to 60 rpm. For 120 and 240 volts, 50 and 60 cps.

### INDUCTOR TYPE

... is compact, fast-starting and has the extra power (30 ounce inches torque) needed for display and similar heavy-duty applications where other timing motor types are inadequate. Speeds from 1 to 60 rpm. For 120 or 240 volt operation, 50 and 60 cps.

### CLUTCH TYPE

... exclusive with Haydon, is so designed that the rotor pinion, when de-energized, disengages from the gear train. This allows automatic resetting of the train without the use of external clutches. Speeds from 1/10 to 15 rpm. For 120 and 240 volts, 50 and 60 cps.

### REVERSIBLE TYPE

... is a hysteresis motor with 2 coils. When energized, each produces opposite rotation of the output shaft. Speeds from 1/60 to 60 rpm. For 120 and 240 volt operation, 50 and 60 cps.

### DIRECT-CURRENT TYPE

... utilizes permanent magnets with commutator and long-wearing brushes. Reversible by changing polarity. Speeds from 1/15 to 60 rpm. Windings available for 6 to 32 volts.

### 400 CPS TYPES

... offer an inherently accurate approach for instrumentation in military equipment. Two models: Miniature with 5 gram millimeters torque at rated voltage, and Heavy Duty with 18 gram millimeters. Speeds are 3000 rpm, 115 volts nominal.

### TIME DELAY TIMERS

... provide time delay or interval timing in various ranges up to 4.5 minutes maximum for such applications as protecting power tubes or timing parts of a complete operating cycle. For 120 and 240 volts, 50 and 60 cps.

### INTERVAL TIMERS

... incorporate heavy-duty, cam-operated switches and are used to directly control heavy loads in motor-operated food processing and laundry equipment, home appliances, battery chargers, etc. Intervals from 1 minute to 24 hours.

### CYCLE TIMERS

... repeat a set cycle or sequence of operations as long as the motor circuit is energized. Use of Haydon "Torque-Rated" Motors in a wide choice of speeds makes possible a very broad range of timing intervals. Up to 8 enclosed SPDT switches can be specified.

### ELAPSED TIME INDICATORS

... consisting of a synchronous motor and a non-resettable counter, register elapsed time in hours, hours and tenths, minutes, and minutes and tenths. Total register ranges up to 10,000 hours. For 120 and 240 volts, 50 and 60 cps.

## APPLICATION ENGINEERING SERVICE

Haydon is the only manufacturer of timing motors and devices that offers you both a complete product line and a complete Field Engineering Service . . . through the Haydon Representative conveniently located in your area. A specialist in Time and Timing, this man can help you save time and costs by helping you get the RIGHT TIME for your needs the FIRST TIME!

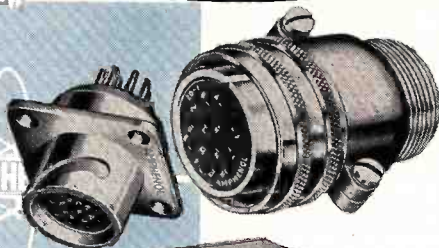
WRITE FOR DETAILED INFORMATION.

## HAYDON Manufacturing Company, Inc.

Subsidiary of GENERAL TIME Corporation  
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assured reliability  
**BEGINS** WITH

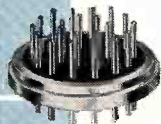
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RACK & PANEL CONNECTORS



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# BALLANTINE VOLTMETERS

Famous for **SENSITIVITY** • **ACCURACY** • **STABILITY**

## AUDIO to 150 kc MODEL 300

Voltage Range..... 1mv—100v  
Frequency Range..... 10cps—150kc  
Accuracy..... 2% ENTIRE RANGE  
Input Impedance..... ½ meg shunted by 30µf



## TRUE RMS INDICATION MODEL 320

Voltage Range..... 100 µv—320 v  
Frequency Range..... 5 cps—500 kc  
Accuracy..... 3% 15 cps—150 kc  
5% elsewhere  
Stability of Internal Calibrator..... 0.5%  
Input Impedance ..  
10 megs shunted by 25 µf below 10 mv  
10 megs shunted by 8 µf above 10 mv



## SUB-AUDIO to 150 kc MODEL 302C

Battery Operated

Voltage Range..... 100 µv—1000v  
Frequency Range..... 2cps—150kc  
Accuracy..... 3% 5cps—100kc  
5% elsewhere  
Input Impedance..... 2 meg shunted by 25 µf\*

\*Shunt capacitance, 10 µf on all ranges except two most sensitive ranges



## DC & AC PRECISION CALIBRATOR MODEL 420

Voltage Range..... 0-10 v RMS; Pk-to-Pk; or DC  
Frequency (Std. Model)..... 1 kc  
(other values on special order)  
Accuracy (long term)..... Better than 0.5% above 1 mv  
Distortion and Hum..... Less than 0.5%  
Setting Resolution... Approaches 0.01% above 10 mv  
Output Impedance (AC)..... 2-20 ohms depending on range setting



## PEAK-to-PEAK MODEL 305

Voltage Range..... 1mv—1000v pk-to-pk  
Frequency Range..... 10cps—100kc (sine wave)  
Pulse width..... 3µsec—250µsec  
Min Rep Rate..... 20 pulses per sec  
Accuracy..... 5% for pulses  
Input Impedance..... 2 meg shunted by 15 µf\*

\*Shunt capacitance, 8 µf on all ranges except two most sensitive ranges



## SENSITIVE INVERTER MODEL 700

For Measuring DC Voltages when combined with any AC Voltmeter

Voltage Range..... 1µv—100v DC  
Ratios DC Input to RMS Output..... 1:100 & 10:1  
Accuracy..... 1% 100µv—100v  
Input Resistance..... >10 meg for 1:100  
50 meg for 10:1



## AUDIO to 2 mc MODEL 310A

Voltage Range..... 100 µv—100 v  
Down to 40 µv at reduced accuracy  
Frequency Range..... 10 cps—2 mc  
As null detector 5 cps, < 4 mc  
Accuracy..... 3% 10 cps—1 mc  
5% elsewhere  
Input Impedance..... 2 meg shunted by 15 µf\*

\*Shunt capacitance, 8 µf on all ranges except two most sensitive ranges



## DECADE AMPLIFIER MODEL 220B

For Increasing the Sensitivity of any AC Voltmeter by 10 or 100 times

Voltage Range..... 10µv—50mv  
Frequency Range..... 10cps—150kc  
Accuracy..... 2% ENTIRE RANGE  
Input Impedance..... 5 meg shunted by 15µf



## AUDIO to 6 mc MODEL 314

Voltage Range..... 1mv—1000v  
(100µv—1mv without probe)  
Frequency Range..... 15cps—6mc  
Accuracy..... 3% 15cps—3mc  
5% elsewhere  
Input Impedance..... 11 meg shunted by 7.5 µf  
(1 meg shunted by 25 µf without probe)



## DIRECT READING CAPACITANCE METER MODEL 520

Capacitance Range..... 0.01 µf to 12 µf  
in 9 decade ranges covering over a billion to 1  
Accuracy..... 2% above 0.1 µf  
5% below 0.1 µf  
Capacitor Power Factor..... 0.15  
Test Frequency..... 1 kc



## INFRASONIC to 30 kc MODEL 316

Voltage Range..... 20 mv—200 v pk-to-pk  
Frequency Range..... 0.05 cps—30 kc  
(Down to .01 cps with corrections)  
Accuracy..... 3% ENTIRE RANGE  
Input Impedance..... 10 meg shunted by 19 µf  
or 40 µf depending on setting



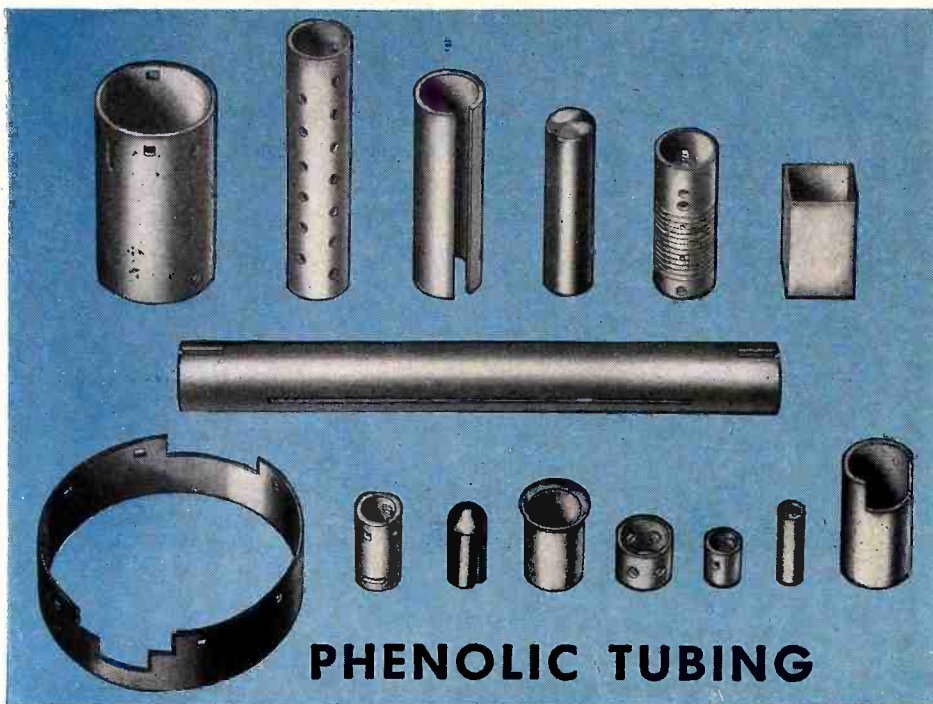
Each Ballantine Voltmeter has only one voltage scale, with decade range switching, which provides the same accuracy of reading at all points on the logarithmic voltage scale. A linear decibel scale is also provided for use by acoustical engineers. Each Voltmeter also may be used as a high gain wide band amplifier.

**ACCESSORIES** are available for all voltmeters to extend voltage measurements down to 20 µv and up to 10 kv, and to measure currents from 0.1 µamp to 10 amp, and to provide DC from the Model 300 Voltmeter to drive external recorders or remotely located meters.

WRITE FOR MORE DETAILED INFORMATION TO—

## BALLANTINE LABORATORIES, INC.

150 FANNY ROAD BOONTON, NEW JERSEY



**PHENOLIC TUBING**

**SPECIFY... CLEVELITE \*  
BECAUSE . . . . .**

It has high insulation advantages, uniformity and inherent ability to hold close tolerances which give you dependability.

CLEVELITE dependability is the answer for product performance at its best.

Also, ensure over-all economy by adding Clevelite reliability to your product.

Write for folder showing the various grades in which Clevelite is produced. Your inquiry will receive prompt attention.

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**ELECTRONIC  
DESIGNERS  
GO FIRST  
TO  
THE "GUIDE"**

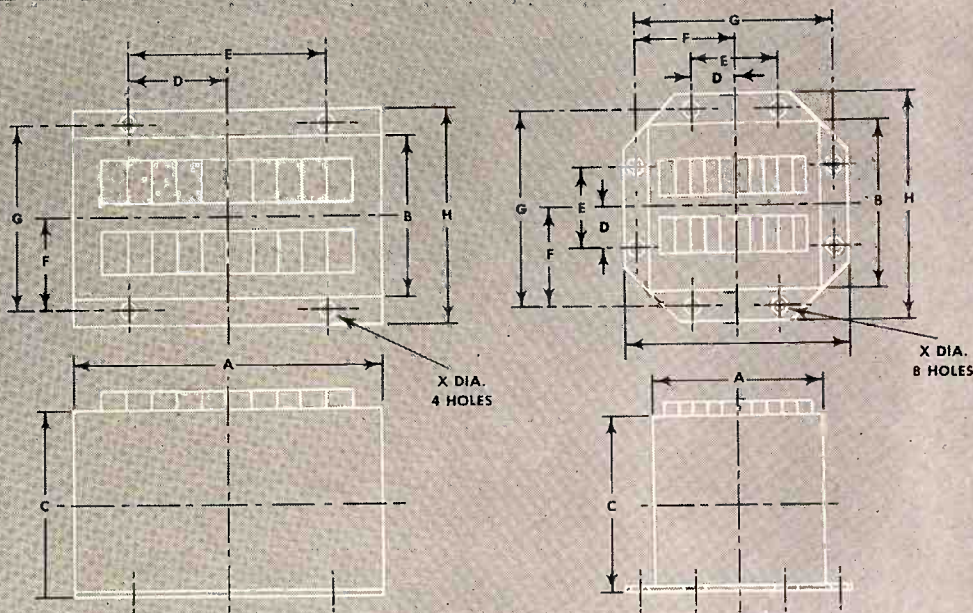
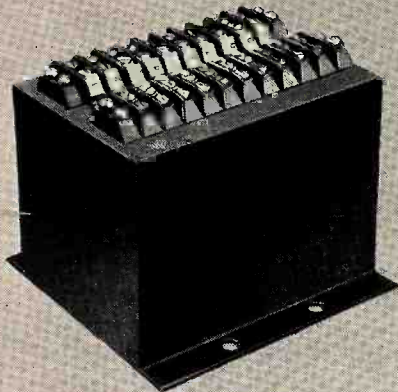
Wherever designers and specifiers have immediate need for readily accessible, necessary product information at their breadboards, there, year after year, will you find the **ELECTRONICS BUYERS' GUIDE**. "Who makes what product or provides what service?" "Where can I buy it?" "Where can I find complete and accurate product specs?" These are questions that are asked daily by the men who design-in electronic products; these are questions that have been answered for the past seventeen years by the "Guide," the accepted reference book of the industry.

Year after year, the designers of the industry have preferred the "Guide" for its *Simplicity of Style* (as easy to use as a telephone directory), for its *Accuracy* (the industry helps the Research Staff revise its listings every year) and its *Complete Product Specs* (advertisers have told their complete product stories in the "Guide" consistently).

*The key people of the industry—the buying influences—rely on the "Guide" for the answers to their product problems.*

**For Product Data . . .  
the electronics  
BUYERS' GUIDE**

# Here's how to order reliable CONTROL Saturable Reactors



## STANDARD LINE REACTOR ASSEMBLIES 240 VOLTS RMS 60 CPS SERIES

Type No.	PERFORMANCE USING SELENIUM RECTIFIERS						Area Available For Control Windings In Circular Mils	Weight In Pounds	Can Style	OUTLINE DIMENSIONS (5)				MOUNTING DIMENSIONS (5)					
	Rated Current In Amps (1)	Rated Load In Ohms (2)	NOMINAL AVERAGE D.C. OUTPUT (3)			K For Response Time Equation				D.C. Control In Amp Turns (4)	A	B	C	H	D	E	F	G	X
			Volts	Amps	Volts-Amps														
3902	0.46	375	160	0.41	60	.022	2.25	300,000	8	2	5.50	4.00	4.00	5.25	1.00	2.00	2.31	4.62	0.312
3903	0.61	290	160	0.54	85	.023	2.25	300,000	11	2	5.50	4.50	5.00	5.50	1.87	3.75	2.50	5.00	0.312
3904	0.89	200	160	0.80	130	.025	2.63	300,000	13	1	5.50	5.50	5.50	6.75	1.50	3.00	3.06	6.12	0.312
3905	1.38	130	160	1.23	200	.035	2.75	375,000	15	1	5.50	5.50	5.50	6.75	1.50	3.00	3.06	6.12	0.312
3906	1.87	95	160	1.67	260	.035	3.00	375,000	21	1	6.00	6.00	5.50	7.25	2.00	4.00	3.31	6.62	0.312
3907	3.00	60	160	2.67	430	.044	3.00	400,000	31	1	6.50	6.50	6.50	7.75	2.00	4.00	3.56	7.12	0.312
3908	3.64	50	160	3.25	530	.053	3.00	400,000	35	1	7.25	7.25	6.50	8.50	2.00	4.00	3.94	7.87	0.312
3909	4.30	42	160	3.80	610	.060	3.50	500,000	41	1	7.50	7.50	7.50	8.75	2.00	4.00	4.06	8.12	0.312
3910	6.14	29	160	5.45	860	.065	4.25	500,000	51	1	8.25	8.25	7.00	9.50	2.00	4.00	4.44	8.87	0.312
3911	7.20	25	160	6.32	1000	.055	4.25	500,000	64	1	9.00	9.00	8.00	10.25	2.00	4.00	4.81	9.62	0.312
3912	12.6	13	160	11.1	1650	.065	4.25	500,000	85	1	9.50	9.50	9.00	10.75	3.00	6.00	5.06	10.12	0.312

## STANDARD LINE REACTOR ASSEMBLIES 120 VOLTS RMS 60 CPS SERIES

4052	0.96	90	80	0.81	60	.030	2.25	300,000	8	2	5.50	4.00	4.00	5.25	1.00	2.00	2.31	4.62	0.312
4053	1.28	67	80	1.10	85	.023	2.25	300,000	11	2	5.50	4.50	5.00	5.50	1.87	3.75	2.50	5.00	0.312
4054	2.02	42	80	1.79	130	.030	2.63	300,000	13	1	5.50	5.50	5.50	6.75	1.50	3.00	3.06	6.12	0.312
4055	2.72	32	80	2.40	185	.032	2.75	375,000	15	1	5.50	5.50	5.50	6.75	1.50	3.00	3.06	6.12	0.312
4056	4.30	20	80	3.85	300	.042	3.00	375,000	21	1	6.00	6.00	5.50	7.25	2.00	4.00	3.31	6.62	0.312
4057	6.50	13.5	80	5.77	450	.064	3.00	400,000	31	1	6.50	6.50	6.50	7.75	2.00	4.00	3.56	7.12	0.312
4058	8.10	11.0	80	7.14	560	.060	3.00	400,000	35	1	7.25	7.25	6.50	8.50	2.00	4.00	3.94	7.87	0.312
4059	9.77	9.0	80	8.66	680	.073	3.50	400,000	41	1	7.50	7.50	7.50	8.75	2.00	4.00	4.06	8.12	0.312
4060	11.7	7.0	80	10.4	760	.046	4.25	400,000	51	1	8.25	8.25	7.00	9.50	2.00	4.00	4.44	8.87	0.312
4061	16.4	5.0	80	14.5	1050	.060	4.25	400,000	64	1	9.00	9.00	8.00	10.25	2.00	4.00	4.81	9.62	0.312
4062	25.0	3.2	80	21.9	1540	.050	4.25	400,000	85	1	9.50	9.50	9.00	10.75	3.00	6.00	5.06	10.12	0.312

1. Average DC output at 110% of nominal AC supply voltage.
2. Resistance for 40° C. ± 2° C. rise above 35° C. ambient at 110% of nominal AC supply

3. Taken at 120 volts AC supply for Types 4052 to 4062 and at 240 volts AC supply for Types 3902 and 3912.

4. Total control required to change the output voltage from 5 to 95 per cent of maximum.
5. All dimensions are in inches.

### RELIABILITY BEGINS WITH CONTROL

CONTROL, a division of Magnetics, Inc., manufactures a complete line of 240-volt and 120-volt standard high permeability magnetic devices which give designers greater flexibility in selection of equipment for their particular application.

**HOW TO ORDER:** To order standard reactor assemblies, the following information must be specified:

1. Reactor type number.
2. Voltage (number of turns on each control winding).
3. Current (wire size of each control winding).

To determine number of turns and wire size of each control winding:

1. Choose the size of reactor which will meet requirements.
2. From the table, select the ampere-turns of control needed to control the reactor from full-on to full-off. If additional forcing is required, please write CONTROL for reactor curves.
3. Divide the ampere-turns needed by the maximum control current needed to control the reactor. This is the number of turns needed to control the reactor.

4. Multiply maximum control current by 1,000 to determine circular-mil area of bare copper wire needed.

5. Select a wire size whose circular-mil area is equal to or greater than the calculated value.

**NOTE:** A maximum of eight control windings can be supplied, provided the total circular-mil area of the wire of the control windings does not exceed maximum mil area available as shown in the table.

For full details, write for Catalog R-10

**CONTROL**  
A DIVISION OF MAGNETICS, INC.

Dept. X-38 BUTLER, PA.







## MICROWAVE PROGRESS

At this time, in place of our usually scheduled scientific discussions, we'd like to introduce our specially skilled field representatives to you. These men are highly qualified engineers, capable and willing to sit down with you to discuss any microwave equipment problems you may have. They'll see to it that your problems are answered promptly and completely.

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Waverly 7-1820

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336 East Fourth Street  
Loveland, Colorado  
Normandy 7-1376

### *Midwest*

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### *New England and Upstate New York*

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### *PRD West Coast Sales Office*

737-41 North Seward Street  
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Hollywood 5-5287  
TWX LA1101



We've expanded our production runs to fill the increasing demand for our catalog products. Delivery on these items can now be made within 30 days (at the outside) from receipt of order.

The listing on the opposite page is a partial rundown of the PRD items in stock and available for immediate delivery.

If you don't see the product you want, contact our Engineering Representative nearest you (see Microwave Progress column), or write directly to us.

*P.S. We will always maintain the same high standards of product quality that started this increasing demand in the first place.*

Be sure your name's on our mailing list for:

- PRD Catalog... complete descriptions and specifications on PRD's microwave equipment. NEW CATALOG COMING SOON!
- PRD Reports... internationally famous, authoritative professional papers that give practical information on virtually every aspect of microwave research and engineering.

# PRD MICROWAVE TEST EQUIPMENT READY FOR IMMEDIATE DELIVERY!

PRODUCT	PRD TYPE #	FREQUENCY RANGE (kmc/sec)
Waveguide Termination	116-A	8.2 to 12.4
Fixed Coaxial Attenuator	130 Series	2.0 to 10
Fixed Coaxial Attenuator	1100 Series	DC to 4.0
Coaxial Termination	145-A	0 to 4.0
Precision Dial-Gauge Attenuator	185-B	7.0 to 10.0
Precision Dial-Gauge Attenuator	192-A	26.5 to 40.0
Precision Dial-Gauge Attenuator	195-B	8.2 to 12.4
Shielded Uncalibrated Variable Attenuator	154-A	8.2 to 12.4
Precision Dial Attenuator	196-C	8.2 to 12.4
Precision Dial Attenuator	196-D	8.5 to 9.6
Variable Cutoff Attenuator	180-A	8.2 to 10
Precision Coaxial Slotted Section	200-C	1.0 to 4.0
Precision Coaxial Slotted Section	205-A	4.0 to 10.0
Precision Waveguide Slotted Section	201-A	3.95 to 5.85
Precision Waveguide Slotted Section	203-E	8.20 to 12.4
Precision Waveguide Slotted Section	212-A	26.5 to 40.0
Rotary Standing Wave Detector	219	100 to 1,000 mc/s
Broadband Probe	250-A	1.00 to 12.4
Standing Wave Amplifier	277	350 to 2500 cycles
Waveguide Slide Screw Tuners	303-A	8.2 to 12.4
Double Stub Tuner	306-A	2.0 to 10.0
E-H Tuner	313-A	18.0 to 26.5
Waveguide-to-Coaxial Adapter	354-B	8.2 to 12.4
Waveguide-to-Coaxial Adapter	356-A	5.4 to 8.2
Directional Coupler	401	7.05 to 10.0
Directional Coupler	402	8.5 to 9.6
E-Plane Bend	462	8.2 to 12.4
H-Plane Bend	463	8.2 to 12.4
Frequency Standard Multiplier	500	3.25 to 10,000 mc/s
Heterodyne Frequency Meter	504	100 to 10,000 mc/s
Precision Direct Reading Frequency Meter	559 Series	8.20 to 10.0
Precision Direct Reading Frequency Meter	570 Series	26.5 to 32.0
Calibrated Precision Frequency Meter	560-S1	2.7 to 3.7
Calibrated Precision Frequency Meter	583-D	2.4 to 3.7
Direct Reading Frequency Meter	585 Series	8.2 to 10.0
Tunable Crystal and Bolometer Mount	621-A	18.0 to 26.5
Bolometer	610-A	0 to 12.4
Coaxial Tunable Crystal and Bolometer Mount	612-A	1 to 10
Broadband Coaxial Bolometer Mount	627-A	0.5 to 10
Broadband Coaxial Bolometer Mount	628-A	0.5 to 10
Broadband Bolometer	631 Series	0.5 to 10
Waveguide Thermistor Mount	643-A	8.2 to 12.4
Waveguide Thermistor Mount	646	5.4 to 8.2
Universal Power Bridge	650-B	---
Shielded Tube Mount	702	8.50 to 9.66
Universal Klystron Power Supply	801-A	---
Klystron Power Supply	809	---
VHF-UHF Noise Generator	904	30 to 1000 mc/s

## Polytechnic Research & Development Co., Inc.

202 Tillary Street • Brooklyn 1, N. Y. • Tel: UL 2-6800

Cable Address: MICROWAVE, NEW YORK

Teletype: Home Office: NY-23157 • Western Office: LA1101

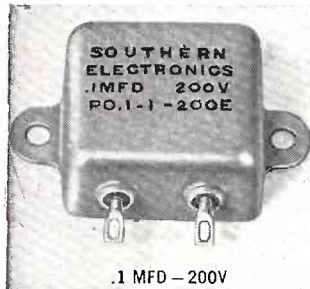


where precision counts — it's S.E.C. first!

# PLASTIC PRECISION CAPACITORS



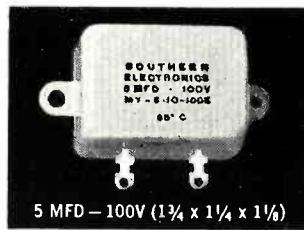
Tubular .1 MFD — 200V



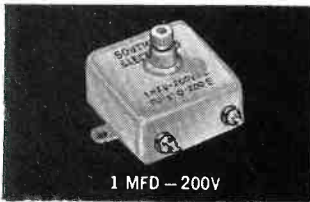
.1 MFD — 200V



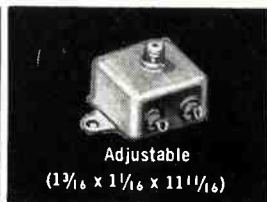
10 MFD ± 1% 200V  
(4 7/16 x 3 1/16 x 2 1/16)



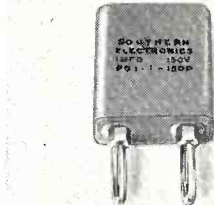
5 MFD — 100V (1 3/4 x 1 1/4 x 1 1/4)



1 MFD — 200V



Adjustable  
(1 3/16 x 1 1/16 x 11 1/16)



Plug in (1 MFD — 150V)

## I. POLYSTYRENE

with these outstanding properties:

- Tolerances as close as 0.1%
- Insulation Resistance as HIGH as  $1 \times 10^{12}$
- Dielectric Absorption as LOW as .0001
- Dissipation Factor as LOW as .0002
- Temperature Coefficient... 100PPM per °C
- Stability as close as .05% drift in 1 yr.
- Voltage Derating... none to 170°F.
- Hermetically sealed for enduring accuracy!

also available:

- Many other case styles or mounting brackets
- Any capacitance from .001 to 50 MFD (incl. special values)
- Voltages from 50 to 5000

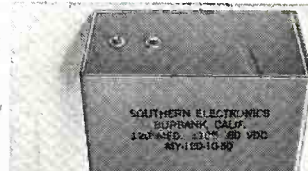
## 2. POLYESTER

with these outstanding properties:

- Tolerances as close as 1%
- Insulation Resistance as HIGH as  $1 \times 10^{11}$
- Dielectric Absorption as LOW as .001
- Dissipation Factor as LOW as .003
- Temperature Coefficient... 800 PPM per °C
- Temperature range..... to 150°C.
- Hermetically sealed for enduring accuracy!



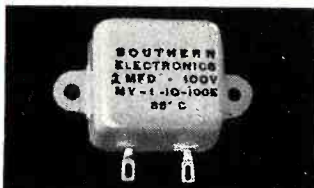
4 MFD — 300V (2 x 2 x 1)



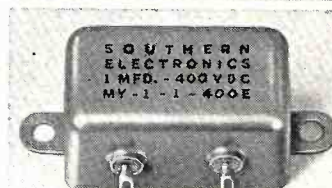
120 MFD ± 10% 50V



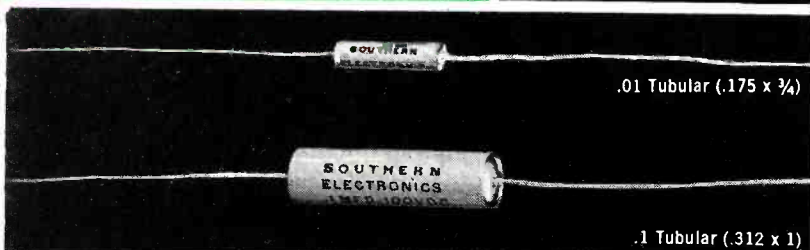
Plug in (4 MFD — 150V)



2 MFD — 100V (1 3/16 x 1 1/16 x 7/16)

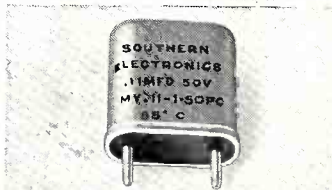


1 MFD — 400V (1 3/4 x 1 1/4 x 1)



.01 Tubular (.175 x 3/4)

.1 Tubular (.312 x 1)



Printed Circuit Small .11 MFD — 50V



10 MFD — 100V (2 x 2 x 1 1/8)

## 3. RC NETWORKS

- Close tolerances
- Hi-grade precision resistors

- Potted units
- Meet mil specs

Many other types of precision RC Networks available!

S.E.C. PRODUCTS HAVE BEEN SPECIFIED IN SEVERAL MISSILE APPLICATIONS!

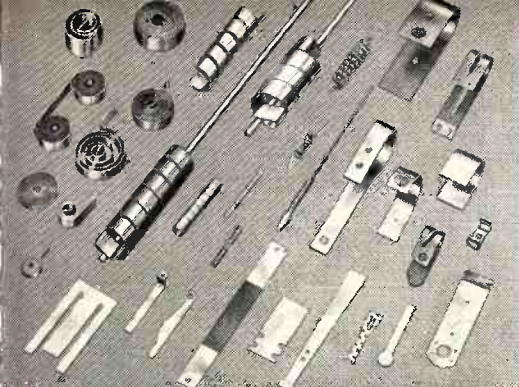
**SOUTHERN ELECTRONICS Corporation**



For your most exacting requirements — always specify S.E.C.

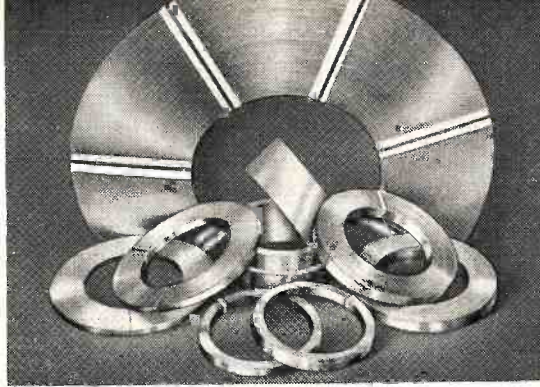
150 West Cypress Avenue, Burbank, California

PIONEERS IN CUSTOM PRECISION CAPACITOR ENGINEERING



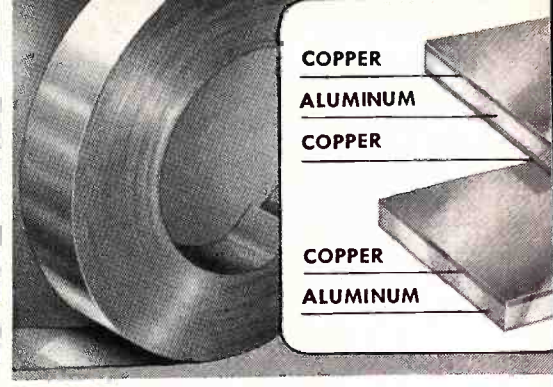
#### TRUFLEX THERMOSTAT METALS

TRUFLEX thermostat metals are manufactured in a wide variety of types, each with a different reaction to temperature. Uniformity of metal insures accurate and consistent performance. Precision parts fabricated to exact specifications.



#### CLAD METALS

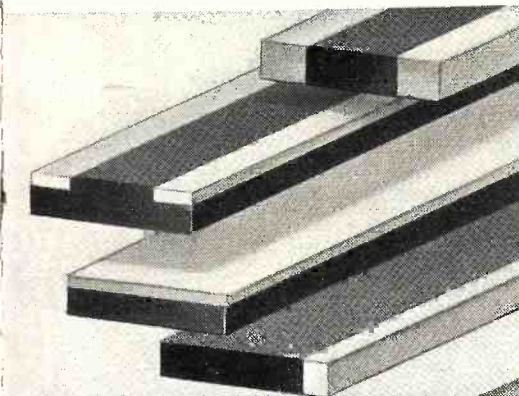
Available in practically any combination of precious to precious, precious to base or base to base metals. Combinations for electronics include aluminum-clad iron, nickel-clad iron for anode materials.



COPPER  
ALUMINUM  
COPPER  
COPPER  
ALUMINUM

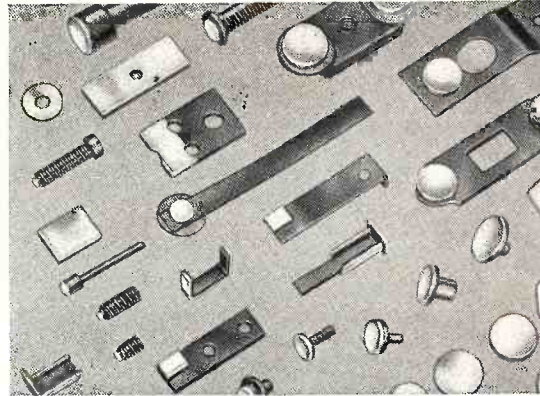
#### ALCUPLATE

Copper-clad aluminum for component cases or cans, chassis, cooling fins, etc., light weight, excellent conductivity. Copper surface is ideal for soft soldering and electroplating.



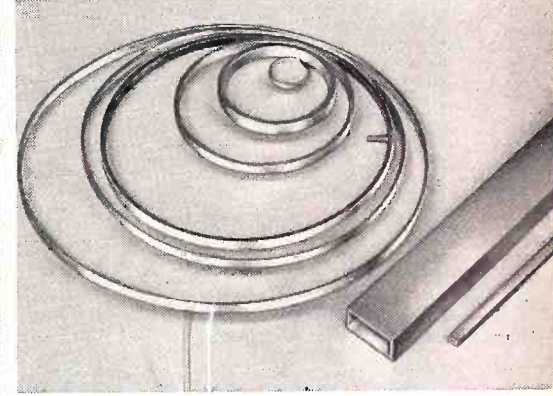
#### CLAD CONTACT MATERIAL

Precious metals and alloys bonded to base metals available in following types — overlay, single and double edgelay, single and double inlay, Top-lay, ready for you to fabricate into contacts.



#### CLAD CONTACTS

General Plate can supply all types of fabricated clad contacts, buttons, rivets, contact assemblies made to customer's specifications. These contacts give electrical conductivity and long life at reduced costs.



#### WAVE GUIDE and COLLECTOR RINGS

RECTANGULAR WAVE GUIDES. Solid silver, silver lined brass or aluminum. Sizes to government specifications.  
COLLECTOR RINGS. Solid silver or precious metal on base metal. All sizes.

# General Plate Products

## that solve your Electronic Design Problems

General Plate Clad Metals, made by metallurgically bonding one metal to another, are available in sheet, strip, tubing or wire in various widths, thicknesses and diameters.

Silver, gold and platinum-group metals bonded on base metals give solid precious metal performance at a fraction of the cost of solid precious metal. The precious metal provides specific performance requirements such as electrical conductivity and corrosion resistance while the base metal provides workability, strength, and solderability.

Clad base metals provide a new group of engineering metals with properties not available in solid metals. Their use frequently results in lower material costs as compared to solid metals.

In many electronic applications further economy results when General Plate supplies fabricated parts ready for assembly into your product. General Plate makes an infinite variety of fabricated parts, such as electrical contacts, collector rings and TRUFLEX thermostat metal parts to customer's exact specifications.

General Plate Engineers will gladly help you with your problems.

**You can profit by using General Plate Clad Metals**

**METALS & CONTROLS CORPORATION**

General Plate Division

31 Forest Street, Attleboro, Mass.

- **Alnifer®**, **Nifer®** — Aluminum and Nickel-clad steel for anode plates.
- **Alcuplate®** — Copper-clad aluminum for component cases, chassis, cooling fins, condenser blades, etc.
- **Alsiplate®** — Silver-clad aluminum for lightweight condensers, etc.
- **Clad Contacts and Contact Materials** — Increased strength and longer life at reduced cost.
- **Collector Rings** — Fabricated from solid precious metals or precious-clad base metals. Sizes ranging from fraction of an inch to few feet in diameter.
- **Truflex® Thermostat Metal** — Sheet strip, formed elements and assemblies produced to specification.
- **Thin Gauge Metals** — Beryllium copper, nickel, pure beryllium, Haynes Stellite alloys, etc.
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- **Bondwich** — Solder-clad brazing shim for carbide-tipped tools.
- **Bronco** — Phosphor Bronze-clad copper for high conductive springs.
- **Conflex** — Copper-clad spring steel for electrical and thermal conductive springs at low cost.
- **#720 Manganese Age-Hardening Alloy** — Corrosion resistant spring material for diaphragms, springs, finger stock, etc.
- **Rectangular Wave Guide Tubing** — Wide range of sizes to government specifications.

Write for catalog PR700.

**IMMEDIATE DELIVERY!!**  
 ALL MODELS FROM STOCK

**Computer-  
 Measurements**

electronic counting,  
 timing and controlling  
 instruments

- universal counter-timers
- frequency and period counters
- time-function translators
- preset controllers
- totalizing counters
- time interval meters
- decade counting units
- preset decade counting units

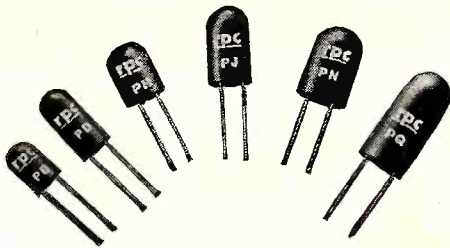
Write for all-new 1957  
 Short Form Catalog TODAY!!



**Computer Measurements Corporation**

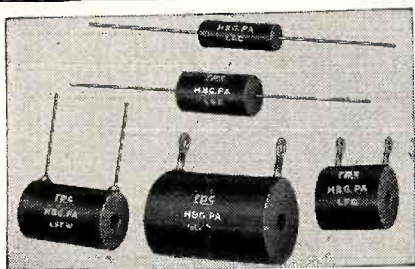
Subsidiary of Hancock Manufacturing Co.

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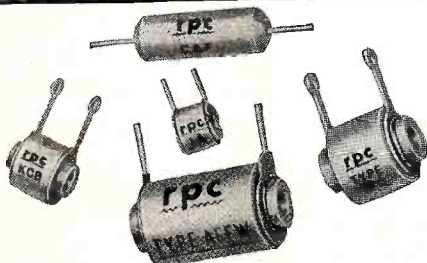
### Precision Resistors Printed Circuit

To meet the requirements for printed circuitry, RPC has developed Type P Encapsulated Wire Wound Precision Resistors. Miniature, single ended units designed for easy rapid mounting on printed circuit panels with no support other than the wire leads. Many newly developed techniques are employed in the manufacture of Type P Resistors. These units can be operated in ambient temperatures up to 125°C. and will withstand all applicable tests of MIL-R-93A, Amdt. 3. Available in 6 sizes, rated from 1/10 watt to .4 watt, 1/4" diameter by 3/8" long to 3/4" diameter by 3/4" long. Resistance values to 3 megohms. Tolerances from 1% to 0.05%.



### Encapsulated Precision Wire Wound Resistors

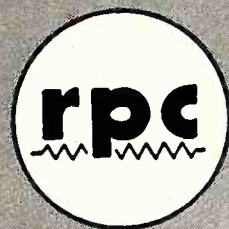
RPC Type L Encapsulated Resistors will withstand temperature and humidity cycling, salt water immersion and extremes of altitude, humidity, corrosion and shock without electrical or mechanical deterioration. Type L resistors are available in many sizes and styles ranging from sub-miniature to standard with lug terminals, axial or radial wire leads. Available for operation at 105° C. or 125° C. ambient temperatures. These resistors will meet all applicable requirements of MIL-R-93A, Amdt. 3. Type L can be furnished with all resistance alloys and resistance tolerances from 1% to .02%.



### Unsealed

### Precision Wire Wound Resistors

Unsealed precision resistors are wound on steatite forms and are used for all general requirements. They can be furnished with all resistance alloys in tolerances from 1% to .02%. These resistors will meet the requirements of MIL-R-93A, Amdt. 2, characteristic B. Special winding techniques, impregnation and thermal aging result in resistors of exceptional stability. They are available in a wide variety of sizes, styles and terminal types. Matched resistors, networks and special assemblies can be supplied.



# HIGH QUALITY RESISTORS FOR ELECTRONICS

RPC is a widely recognized supplier of high quality resistors to industry, Government Agencies and the Armed Forces. Advanced production methods, modern equipment and scientific skill enables RPC to manufacture resistors of highest quality in large quantities at reasonable cost. Modern manufacturing plant is completely air conditioned and equipped with electronic dust precipitators to insure highest production accuracy. RPC resistors are specified for use in instruments, electronic computers, radiation equipment, aircraft equipment and scientific instruments.

Test equipment and standards for checking and calibrating are equalled by only a few of this country's outstanding laboratories. Our ability to produce resistors of highest quality coupled with prompt delivery have established RPC as a leading manufacturer of resistors. Small or large orders are promptly filled.

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### High Frequency Resistors

Used where requirements call for very low inductance, capacitance and skin effect in circuits involving pulses and steep wave fronts. Depending on size and resistance value, these resistors are usable at frequencies to over 400 mc. Resistance values range from 20 ohms to 100 megohms with tolerance of 20% to 5%. 2 types available.

TYPE G resistors (shown) are tubular, in 6 sizes from 4 1/2" long x 3/4" diameter to 18 1/2" long x 2" diameter. With band terminals or ferrules. Power rating 10 to 100 watts.

TYPE F resistors (not shown) in 8 sizes from 9/16" long x 0.10" diameter to 6 1/2" long x 9/16" diameter. Lugs or wire leads. Power rating 1/4 to 10 watts.



### High Voltage Resistors

Type B Resistors are stable compact units for use up to 40 KV. These resistors are used for VT voltmeter multipliers, high resistance voltage dividers, bleeders, high resistance standards and in radiation equipment. They can be furnished in resistance to 100,000 megohms. Available as tapped resistors and matched pairs. Sizes range from a 1 watt resistor 1 inch long x 3/8 inch diameter rated at 3500 volts, to a 10 watt resistor 6 1/2 inches long x 3/8 inch diameter rated at 40 KV. Low temperature and voltage coefficients. Standard resistance tolerance 15%. Tolerances of 10%, 5% and 3% available. Tolerance of 2% available in matched pairs.



### High Megohm Resistors

Type H Resistors are used in electrometer circuits, radiation equipment and as high resistance standards. Resistance available to 100 million megohms, (10<sup>14</sup> ohms). For utmost stability under adverse conditions Type HSD and HSK Hermetically Sealed are recommended. Eight sizes from 1/4 inch to 3 inches long are available. Voltage rating to 15,000 volts. Low temperature and voltage coefficients. Standard resistance tolerance 10%. Tolerance of 5% and 3% available. Also matched pairs 2% tolerance.

# RESISTANCE PRODUCTS CO.

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Style 334

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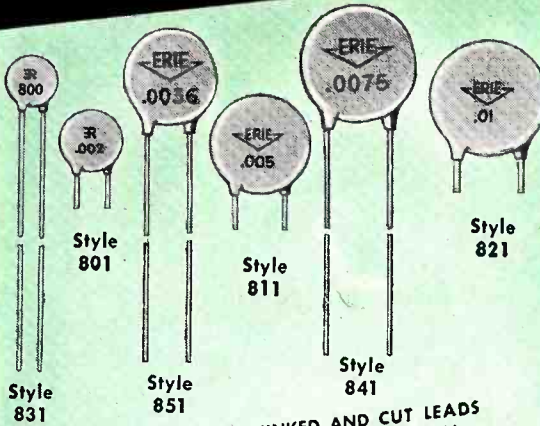
Style 315

Style 316

Style 317

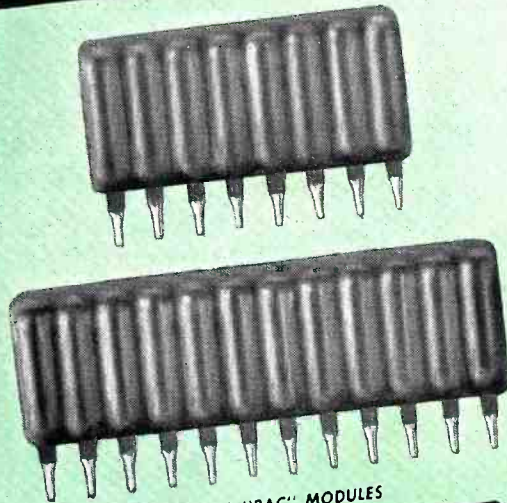
\*Many other sizes available

### ERIE DISC & PLATE CERAMICONS®

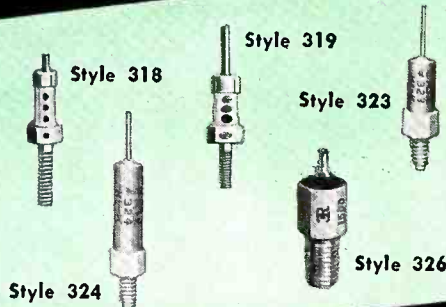


ALSO AVAILABLE WITH KINKED AND CUT LEADS FOR PRINTED WIRING BOARD INSTALLATION

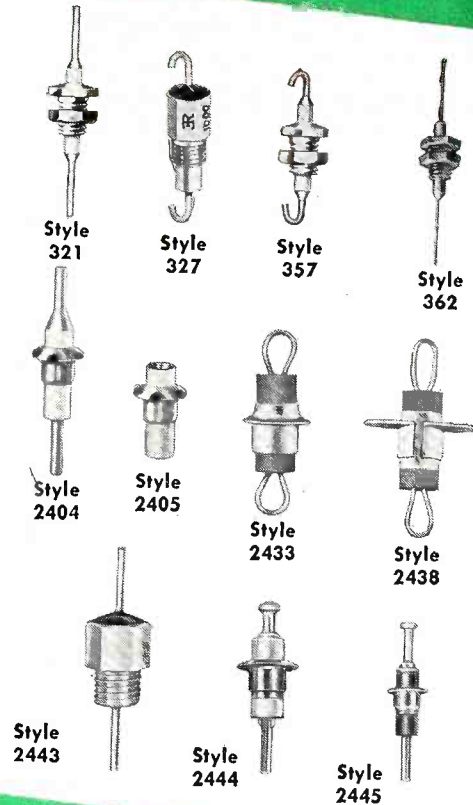
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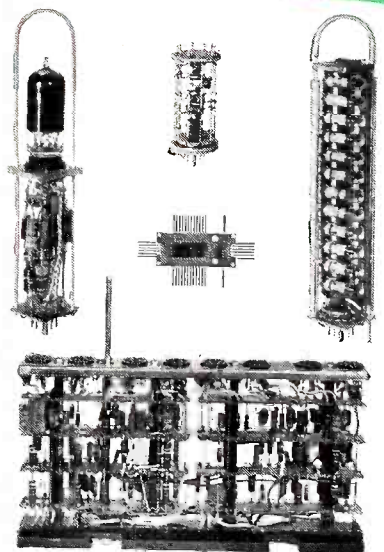
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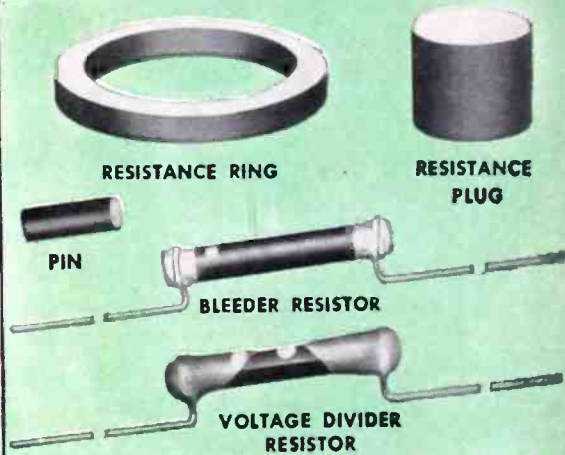
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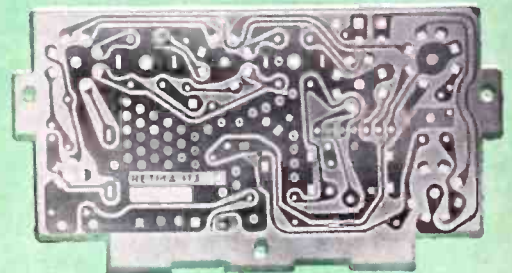
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# Waterman

# PRODUCTS



S-14-C



S-4-C

S-5-C



S-14-B



S-15-A



**S-14-C COMPUTER POKETSCOPE** is a portable oscilloscope, especially designed for computers and business machine service. Lightweight and small size together with simplicity of operation makes this instrument IDEAL for field servicing. In addition . . . signal amplifier with  $0.35 \mu\text{s}$  pulse rise from dc, with signals of 1 mv observable . . . calibrated fixed sweeps and continuously adjustable linear time base from  $20 \mu\text{s}$  to 2 seconds . . .  $5\times$  stable time base expansion with complete parading for accurate pulse position . . . sync limiting . . . special intensification circuits permits observation of pulses shorter than  $10 \mu\text{s}$  at repetition rates slower than 1 pps . . . accessory attenuating and amplifying probes . . . make this instrument a MUST for computer type service.

**S-4-C SAR PULESCOPES** are improved JANized equivalents to the Gov't Model AN/USM-25. These portable instruments (only 31.5 lbs. each) are for precision pulse time measurements in radar, TV and all electronics equipment. Portray all attributes of the pulse . . . internal crystal controlled markers of 10 and  $50 \mu\text{s}$  available for self-calibration . . . in R operation a small segment of the A sweep is expandable for detailed observation with a direct-reading calibrated dial accurate to 0.1%. Video amplifier band-pass up to 11 mc . . . optional video delay  $0.55 \mu\text{s}$  . . . pulse rise time better than  $0.05 \mu\text{s}$  . . . R pedestal (sweep) 2.4 to  $24 \mu\text{s}$  . . . video sensitivity of 0.1 v rms/in. Easily convertible from  $\mu\text{s}$  to yards. Operates from 50 to 400 cycles at 115 volts.

**S-5-C LAB PULESCOPES** are JANized equivalents to the Gov't Model AN/USM-24C. These portable, AC, wide band-pass laboratory oscilloscopes are ideal for pulse as well as general purpose measurements. Internal delay of 0.55 us permits observation of pulse leading edge. Includes precision amplitude calibration, 10X sweep expansion, internal trace intensity time markers, internal trigger generators and many other features. Video amplifier .06 v RMS/inch . . . pulse rise time of 0.07 us or response to 11 mc . . . 5 to 50,000 us/in. triggered or repetitive sweep . . . internally generated markers from 0.2 to 500 us . . . trigger generator from 50 to 5000 pps. for internal and external triggering. Operates from 50 to 400 cycles at 115 volts AC.

**S-11-A INDUSTRIAL POKETSCOPE** is a small, compact, and lightweight instrument for observing electrical circuit phenomena. The flexibility of the POKETSCOPE permits its use for ac measurements as well as for dc. The vertical and horizontal amplifiers are capable of reproducing within  $-2$  db from dc to 200 kc with a sensitivity of 0.1 v rms/in. . . repetitive time base from 3 cycles to 50 kc continuously variable throughout its range . . . variations of input impedance, line voltage or controls do not "bounce" the signal—the scope stabilizes immediately.

**S-14-A HI-GAIN POKETSCOPE** provides the optimum in oscilloscope flexibility for analysis of low-level electrical impulses. Vertical and horizontal channels: 10 mv rms/inch with response within  $-2$  db from dc to 200 kc and pulse rise of  $1.8 \mu\text{s}$  . . . non-frequency discriminating attenuators and gain controls with internal calibration of trace amplitude . . . repetitive or trigger time base with linearization from  $\frac{1}{2}$  cycle to 50 kc with  $\pm$  sync or trigger.

**S-14-B WIDE BAND POKETSCOPE** is ideal for investigations of transient signals, dc signals, aperiodic pulses or recurrent waveforms. Vertical channel: 50 mv rms/in. within  $-2$  db from dc to 700 kc . . . pulse rise time of  $0.35 \mu\text{s}$ . Horizontal channel: 0.15 v rms/in. within  $-2$  db from dc to 200 kc . . . pulse rise of  $1.8 \mu\text{s}$ . Attenuators and gain controls are non-frequency discriminating . . . trace amplitude calibration . . . repetitive or triggered time base from  $\frac{1}{2}$  cycle to 50 kc . . .  $\pm$  sync or trigger . . . trace expansion, filter graph screen and many other features.

**S-15-A POKETSCOPE** is a portable, twin tube, high sensitivity oscilloscope with two independent vertical as well as horizontal channels. It is indispensable for investigation of electronic circuits in industry, school and laboratory. Vertical channels 10 mv rms/in. with response within  $-2$  db from dc to 200 kc and pulse rise time of  $1.8 \mu\text{s}$  . . . horizontal channels 1 v rms/in. within  $-2$  db from dc to 150 kc . . . non-frequency discriminating controls . . . internal signal amplitude calibration . . . linear time base from  $\frac{1}{2}$  cycle to 50 kc, triggered or repetitive, for both horizontal channels.

**S-12-B RAKSCOPE** admirably fills the need for a small oscilloscope of wide versatility. With all the features of the S-11-A POKETSCOPE, the RAKSCOPE is JANized (Gov't Model No. OS-11), and has many additional advantages; the sweep, from 5 cycles to 50 kc, is either repetitive or triggered . . . vertical and horizontal amplifiers are 50 mv rms/inch with band-pass from 0 to 200 kc . . . special phasing circuitry for frequency comparison.

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**PANELSCOPES<sup>®</sup>**

**RAYONIC TUBES<sup>®</sup>**

**SYSTEMS CONCEPT**



**RAKSCOPE S-12-C**

The Waterman SYSTEMS RAKSCOPE, S-12-C series is a rack mounted oscilloscope with SYSTEMS CONCEPT. Systems concept is a basic means for rapid monitoring of desired signals with minimum operative effort and without the use of auxiliary switching or jack panels. S-12-C series provide the following:

1. BASIC UNIT—The basic S-12-C SYSTEMS RAKSCOPE is a complete combination systems monitoring and trouble-shooting oscilloscope with outstanding physical and electrical characteristics. The RAKSCOPE occupies but 7 inches of a standard 19" rack and extends only 10 inches behind the front panel. Identical vertical and horizontal amplifiers are DC type having rise times better than 0.35 usec, and 50 or 71 millivolts rms per inch of deflection respectively. Signal calibration method uses a direct reading accurate meter. Time base sweeps are from 1/2 cps to 50KC in trigger or repetitive operation. Sync from internal or external sources provide stable operation by means of new sync lockout circuits. Special plug-in elliptical sweep circuit for easy phase and frequency checks greatly increase its systems utility. Construction is ruggedized throughout. Tube type options include standard commercial, ruggedized commercial or ruggedized military. Operable from 50 to 400 cycles.

2. CUSTOM MODIFICATION—Desired flexibility is obtained with the optional signal input selector. For the first time it is possible to select up to eleven different signal sources with the necessary built-in attenuation (supplied by us or by you) for each source. Thus the entire switching panel can be omitted from an overall system resulting in circuit and space economics. Standard elliptical sweep is 60 cycles, but plug-in units for other frequencies can be supplied. Accessories such as attenuating, direct, and amplifying probes are available.

Improve your existing or contemplated systems by including the S-12-C SYSTEMS RAKSCOPE as an integral part. Your local Waterman representative is ready to assist you in determining specific requirements.



**PANELSCOPE<sup>®</sup>**

The Waterman PANELSCOPE is a custom-built cathode ray tube oscilloscope, with simplified operation, and yet available at a low price. The PANELSCOPE concept provides for the following:

(1) MINIATURIZATION—Panel space required is only 5 1/4" x 5-3/16"—depth is 10" and the weight is less than 7 lbs. The PANELSCOPE can be installed in practically any equipment—mobile or stationary—air, sea, or land—military or commercial.

(2) SIMPLICITY OF OPERATION—Twist of a single rotary switch provides a synchronized pattern of desired incoming signal (up to 11 circuits) against proper linear time base. This is ideal for monitoring and trouble shooting, as it removes the need of fiddling with knobs as is done now on general purpose oscilloscopes. The static controls, such as beam, focus, positioning, and graticule brightness are located in tube escutcheon.

(3) CUSTOM DESIGN—A wide variety of—signal amplifiers with response from dc to megacycles and sensitivities from 5 millivolts—synchronized or triggered linear time base generators from 1/2 cycle (and lower if need be) to 2 microseconds—can be specified by you to fit your needs for particular equipment.

(4) PARTIAL KIT FORM—the PANELSCOPE comes fully wired and tested with chosen signal amplifier, linear time base generator and attendant sync. amplifier. The desired signal attenuators, frequency and amplitude determining components, and method of synchronization can be installed either by us or by you.

(5) POWER REQUIREMENT—Less than 10 watts of line power for built-in high voltage supply—The required B+ and heater current as selected by your requirements. For those cases where B+ and heater power is not available, auxiliary power pack can be supplied.

There is a place in your equipment for Waterman PANELSCOPE, a custom built oscilloscope at production prices, although your needs may be but one or two. Ask for specification sheets either from our representatives or direct from the factory.

**RAYONIC CATHODE RAY TUBES BY WATERMAN**

TUBE	PHYSICAL DATA		STATIC VOLTAGE		DEFLECTION*		LIGHT OUTPUT**
	FACE	LENGTH	A3	A2	VERT	HOR	
3JP1	3"	10"	3000	1500	111	150	40
3MP1	3"	8"		750	99	104	4
3RP1	3"	9.12"		1000	61	86	5
3SP1	1.5x3"	9.12"		1000	61	86	5
3XP1	1.5x3"	8.875"		2000	33	80	22

\*Deflection in volts per inch.

\*\*Light output of a line in millifoot lamberts per millimeter at line width not to exceed .65mm.

The basic properties of the cathode ray tube that concern the designer or the user are: deflection sensitivity, unit line brightness, line width, static voltage requirements and physical size. A comparison between cathode ray tubes manufactured by Waterman Products Company is shown in the table adjoining. These tubes are available in P1, P2, P7 and P11 phosphors. 3JP1 3JP2, 3JP7, 3RP1, 3SP1 and 3XP1 are available as JAN tubes.



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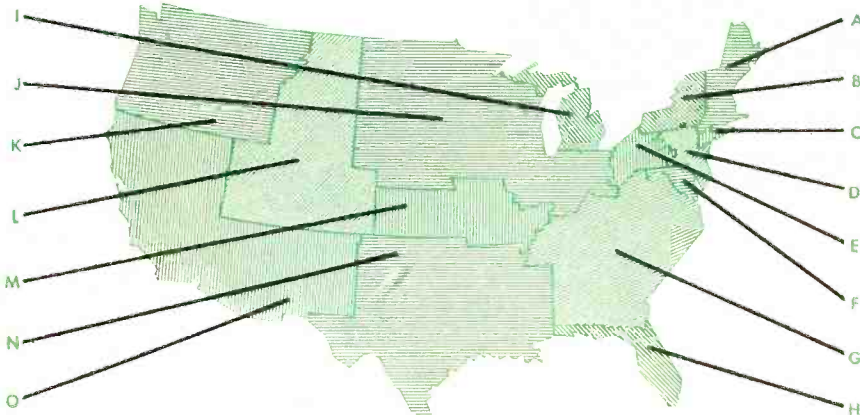
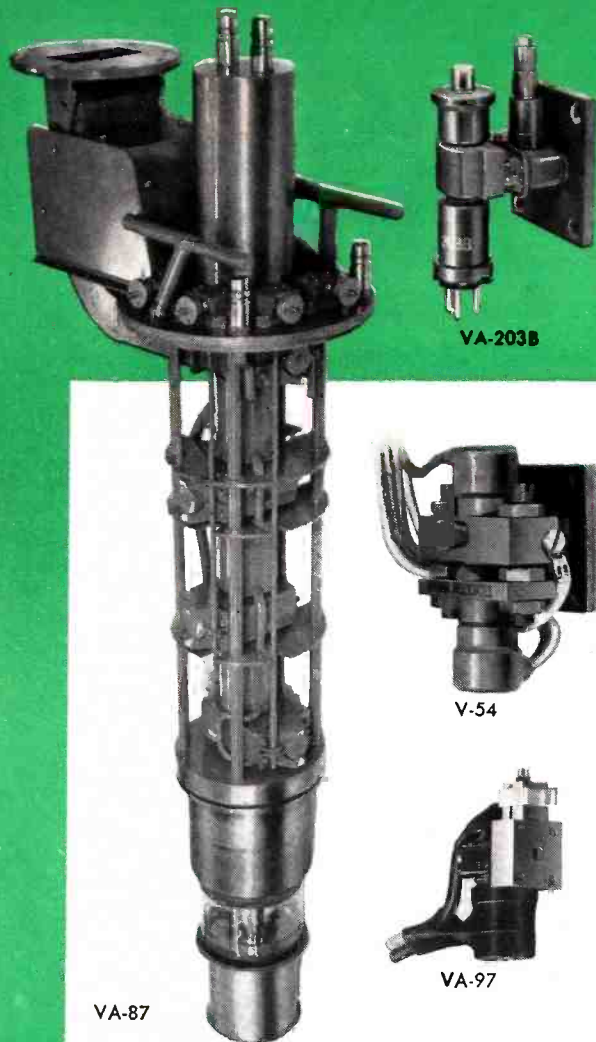
Manufacturers of **Pocketscopes<sup>®</sup>** • **Rakscopes<sup>®</sup>** • **Pulscope<sup>®</sup>** • **Panelscopes<sup>®</sup>** and **Rayonic<sup>®</sup> Tubes**

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When you specify Varian, you can be sure of the finest in microwave tubes... optimum performance, extreme reliability and ruggedness, excellent frequency stability, ample power... designed and built by the recognized leader in klystron development.



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TUBE	TYPE	TUNER	BASING	FREQUENCY RANGE kMc	TYPICAL POWER OUTPUT MILLIWATTS	MAXIMUM RATINGS	
						RESONATOR VOLTAGE	RESONATOR CURRENT
X-12	Reflex	Micro.	3-Pin	12.4—17.5	100	600 V	65 mA
X-13	Reflex	Micro.	3-Pin	8.2—12.4	300	500	65
X-13B	Reflex	Micro.	3-Pin	7.5—11.0	300	500	65
V-23	2-Res. Osc.	Lock Nut	Molded Leads	9.1—11.0	5 watts	1350	125
V-24B	4-Res. Pulse Amp.	55 db gain 0.75% DU		9.35—9.40	40 kW pk.	36 kV pk	10 A pk
X-26B	Reflex	Single Screw	Octal	6.3—7.5	1.3 watts	750	80 mA
X-26D	Reflex	Single Screw	Octal	5.8—7.125	1.4 watts	750	80
X-26E	Reflex	Single Screw	Octal	5.3—6.6	1.3 watts	750	80
X-26F	Reflex	Single Screw	Octal	5.3—6.0	1.4 watts	750	80
V-27	2-Res. Amp.	Lock Nut	Molded Leads	9.1—11.0	6 W @ 8 db	1350	125
V-27B	2-Res. Amp.	Lock Nut	Molded Leads	8.5—10.0	6 W @ 8 db	1350	125
VA-28	2-Res. Osc.	Lock Nut	Molded Leads	13.35—13.65	10 watts	3300	74
V-39B	Reflex	External Cavity	Molded Leads	10—15.5	50	750	42
V-39C	Reflex	External Cavity	3-Pin	10—15.5	60	750	42
V-40B	Reflex	External Cavity	Molded Leads	15—21	55	750	42
V-40C	Reflex	External Cavity	3-Pin	15—21	65	750	42
V-42B	3-Res. CW Amp.	27 db gain		.375—.425	12 kW	18 kV	3.25 A
V-42C	3-Res. CW Amp.	32 db gain		.890—.960	12 kW	18 kV	3.25 A
V-45	Fr. Multiplier 5X	Screw	Octal	1.8—2.0/9.0—10.0	280 @ -6 db	1000	80 mA
V-53	Reflex	Single Screw	3-Pin	10.7—11.7	200	500	70
V-53B	Reflex	Single Screw	3-Pin	10.7—11.7	200	500	70
V-54	Reflex	Lock Nut	Molded Leads	10.5—12.2	215	450	70
V-55	Reflex	Lock Nut	3-Pin	8.2—11.5	700	500	70
V-55B	Reflex	Lock Nut	Molded Leads	8.2—11.5	700	500	70
V-58	Reflex	Single Screw	3-Pin	8.5—10.0	620	500	70
V-63	2-Res. Osc.	Lock Nut	Molded Leads	8.5—10.0	6 W	1350	125
V-82	4-Res. Pulse Amp.	57 db gain 3% DU		9.225—9.375	7 kW pk	18 kV pk	2.9 A pk
VA-87B	4-Res. Pulse Amp.	57 db gain 0.3% DU		2.7—2.9	1.5 Meg W pk	110 kV pk	64 A pk
VA-87C	VA-87B 2.7-2.8 kMc; VA-87C 2.8-2.9 kMc						
VA-92	Reflex	Single Screw	Molded Leads	14.0—17.5	30	600	65 mA
VA-92C	Reflex	Single Screw	3-Pin	12.4—14.5	150	600	65
*VA-94	Reflex	Single Screw	Molded Leads	16.0—17.0	40	350	45
*VA-94B	Reflex	Single Screw	Molded Leads	15.8—16.2	30	350	45
VA-96	Reflex	Lock Nut	Molded Leads	22.0—25.0	35	850	40

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**VARIAN ASSOCIATES - LIAISON OFFICE (Walter B. Brown)**  
 • Washington, D.C., 4200 Cathedral Ave., N.W., EMerson 3-7795
- CANADA**  
**VARIAN ASSOCIATES OF CANADA, LTD.**  
 • Georgetown, Ontario, 45 River Drive, TRiangle 7-3664



X-Band Stalo Cavity VA-1280B  
 Shown with VA-201B klystron

TUBE	TYPE	TUNER	BASING	FREQUENCY RANGE kMc	TYPICAL POWER OUTPUT MILLIWATTS	MAXIMUM RATINGS	
						RESONATOR VOLTAGE	RESONATOR CURRENT
*VA-97	Reflex	Single Screw	Molded Leads	34.0—35.6	18	425	50
*VA-98	Reflex	Single Screw	Molded Leads	23.6—24.4	25	400	45
VA-121B	TWT Amp.	35 db gain 1% DU		2.7—2.9	40 W pk	2300 V pk	190 mA pk
V-152B	Reflex	External Cavity	Molded Leads	8.8—9.6	70	350	60 mA
V-154	Reflex	Lock Nut	3-Pin	10.5—12.2	215	450	70
V-155	Reflex	External Cavity	Molded Leads	8.8—9.6	55	350	60
VA-157	Reflex	Single Screw	3-Pin	8.5—10.0	50	385	74
VA-161	BWO	Electronic	Molded Leads	8.2—12.4	40	650	30
*VA-201B	Reflex	Single Screw	Molded Leads	8.5—9.6	90	350	55
*VA-203B	Reflex	Single Screw	3-Pin	8.5—9.6	40	350	52
*VA-220A-F, Z	Reflex	Single Screw	Octal	5.925—7.750	1.2 watts	750	80
VA-220A 7.425-7.750 kMc; VA-220B 7.125-7.425 kMc; VA-220C 6.875-7.125 kMc; VA-220D 6.575-6.875 kMc; VA-220E 6.125-6.425 kMc; VA-220F 5.925-6.225 kMc; VA-220Z 7.75-8.1 kMc							
*VA-220J	Reflex	Single Screw	Octal	4.9—5.2	1 watt	750	80
*VA-221B to VA-221F	Reflex	Single Screw	Octal	5.985—7.555	40	330	35
VA-221B 7.225-7.555 kMc; VA-221C 6.955-7.255 kMc; VA-221D 6.705-7.005 kMc; VA-221E 6.285-6.585 kMc; VA-221F 5.985-6.285 kMc							
*VA-221H	Reflex	Single Screw	Octal	5.250—5.560	40	330	35
*VA-222B to VA-222F	Reflex	Single Screw	Octal	5.925—7.725	1.2 watts	750	80
VA-222B 7.125-7.425 kMc; VA-222C 6.875-7.125 kMc; VA-222D 6.575-6.875 kMc; VA-222E 6.125-6.425 kMc; VA-222F 5.925-6.225 kMc							
*VA-222R	Reflex	Single Screw	Octal	5.8—6.0	2 watts	750	80
V-262	Reflex	Single Screw	3-Pin	8.5—10.0	150	350	42
VA-800A, C	4-Res. CW Amp.	50 db gain		1.7—2.4	10 kW	20 kV	3 A
VA-804 Ser.	4-Res. CW Amp.	45 db gain		4.4—5.0	2 kW	10 kV	1 A
VA-805 Ser.	4-Res. CW Amp.	45 db gain		5.925—6.425	2 kW	10 kV	1 A
VA-806 Ser.	4-Res. CW Amp.	45 db gain		7.125—8.5	2 kW	10 kV	1 A
VA-808	4-Res. Pulse Amp.	60 db gain 1.6% DU		5.3—5.9	24.5 kW pk	23 kV pk	4.5 A pk
VA-809	4-Res. Pulse Amp.	60 db gain 2.5% DU		9.44	10 kW pk	20 kV pk	2.1 A pk
VA-816	5-Res. Pulse Amp.	0.25% DU		3.43—3.57	2.5 Meg W pk	125 kV pk	75 A pk
VA-6237 to VA-6242	3-Res. CW Amp.	27 db gain		.470—.890	15 kW	18 kV	3.25 A
VA-6237 470-530 Mc; VA-6238 530-584 Mc; VA-6239 584-656 Mc; VA-6240 656-728 Mc; VA-6241 728-806 Mc; VA-6242 806-890 Mc.							
VA-6310/V-260	Reflex	Single Screw	3-Pin	8.5—10.0	70	350	42 mA
VA-6312/V-270	Reflex	Single Screw	Molded Leads	8.5—10.0	70	350	42
VA-6314/V-290	Reflex	Lock Nut	Molded Leads	8.5—10.5	120	385	74
VA-6315/V-153	Reflex	Single Screw	Molded Leads	8.5—10.0	50	385	74
VA-6316/V-151	Reflex	Lock Nut	Molded Leads	8.5—10.0	25	350	52

\*Brazed-on external cavity. Bold face type numbers indicate recommended microwave tubes for new equipment design.

# SILICON DIODES

## FEATURES

- Recovery times under .15  $\mu$ sec
- High voltage ratings
- Operation up to 200°C
- High Inverse Resistance
- Subminiature size

### MILITARY AND HIGH CONDUCTANCE TYPES

RATINGS AT 150°C AMBIENT			
Type	Maximum Inverse Operating Voltage (volts)	Maximum Average Forward Current (ma)	Maximum Inverse Current ( $\mu$ a) @ V
IN457*	60	25	5 @ 60
IN458*	125	25	5 @ 125
IN459*	175	25	5 @ 175
IN486A	225	50	25 @ 225
IN488A	380	50	25 @ 380

\*JAN Types

### HIGH FREQUENCY AND FAST SWITCHING TYPES

RATINGS AT 25°C			
Type	Maximum Inverse Operating Voltage (volts)	Maximum Average Forward Current (ma)	Inverse Recovery Time ( $\mu$ sec)
IN251*	30	75	.15
IN252	20	100	.15
SG213	200	30	.3
SG223	200	55	.5
SG228	200	80	1

\*JAN Types

Write for Bulletin TE1350

# GERMANIUM DIODES

## FEATURES

- Complete Reliability
- Superior Forward Conductance
- Higher Inverse Resistance
- More Uniform Characteristics
- Greater Ruggedness

### SPECIFICATIONS AND RATINGS AT 25°C

Type	Forward Current at +1V (ma)	Inverse Current at Specified Voltage ( $\mu$ a @ V)	Max. Oper. Voltage (volts)	Description
IN270	200	100 @ -50	80	
IN277	100	250 @ -50	100	
		75 @ -10 @ 75°C		
IN276	40	100 @ -50	70	JAN TYPES
IN281	40	500 @ -50	60	
		30 @ -10		
IN126	5	500 @ -50	60	
		30 @ -10		
IN127	5	300 @ -50	100	
		25 @ -10		
IN198	5	250 @ -50	50	
		75 @ -10 @ 75°C		
IN283	200	20 @ -10	20	COMPUTER TYPES
TI6G	40	100 @ -50	60	
		20 @ -10		
IN278	20	125 @ -50 @ 75°C	50	HI-TEMPERATURE TYPES
T22G	40	20 @ -10 @ 75°C	15	
T9G	100	20 @ -50	60	HI-RESISTANCE TYPES
		2 @ -10		
IN67A	5	50 @ -50	80	
		5 @ -5		

Other JAN types: IN38A, IN69, IN70, IN81, IN128  
Write for Bulletin TE1300 & TE1319

# Trans

## SILICON Power

### FEATURES

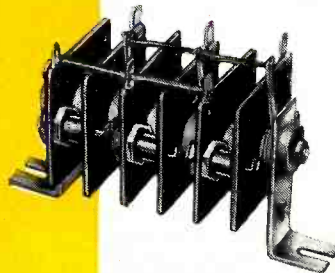
- Reliability at High Temperature
- High Power Handling Ability
- High Efficiency
- Rugged Construction
- Hermetically Sealed

### MINIATURE TYPES

RATINGS AT 150°C AMBIENT			
Type	Peak Recurrent Inverse Voltage (volts)	Maximum Average Forward Current (ma)	Maximum Inverse Current (ma)
TJ10A	100	200	.5
TJ25A	250	200	.5
TJ40A	400	200	.5

### SILICON RECTIFIER STACKS

RATINGS AT 125°C AMBIENT			
Circuit	DC Output		Stack Designation
	Voltage (volts)	Current (amps)	
6 $\phi$ Star	150	30	TL6S1A1/TR352
3 $\phi$ Bridge	325	18	TL6F1A1/TR352
3 $\phi$ Halfwave	1120	1.2	TD12Y6B1A4
1 $\phi$ Bridge	748	1.2	TD12B4C1A3
1 $\phi$ Center Tap	250	3.0	TD12C4C3A2



# SILICON VOLTAGE REGULATORS and REFERENCES

## FEATURES

- Excellent long-term stability
- High current handling ability
- Operation to 150°C
- Extended operating current range
- Small size, easy mounting
- Hermetically sealed

Reference assemblies are available with temperature coefficients to .002%. They are also available with voltage tolerances to 1% from 10 to over 100 volts. The assemblies are encapsulated in a miniature axial lead package.

"Leadership in semiconductors"

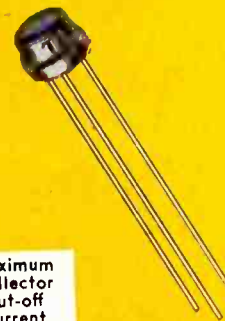


## SILICON TRANSISTORS

HIGH FREQUENCY TYPES

### FEATURES

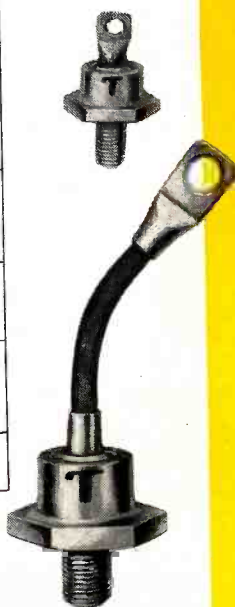
- Low  $I_{cor}$  typically under  $.02 \mu a$
- Operation to  $175^{\circ}C$
- Power Ratings of 200 mw
- High Frequency Operation
- Welded Hermetic Seal



## RECTIFIERS

RATINGS AT  $150^{\circ}C$  CASE TEMPERATURE

Type	Peak Recurrent Inverse Voltage (volts)	Maximum Average Forward Current (ma)	Maximum Inverse Current (ma)
<b>MILITARY TYPES</b>			
IN253	95	1000	.1
IN254	190	400	.1
IN255	380	400	.15
IN256	570	200	.25
<b>STUD MOUNTED TYPES</b>			
TM47	400	3000	.5
TM64	600	1000	.5
<b>MEDIUM POWER TYPES</b> (amps)			
IN250A	200	20	5
TR301	300	10	5
TR402	400	20	5
<b>HIGH POWER TYPES</b> (amps)			
IN412A	100	35	5
TH402	400	35	5



Write for Bulletin TE1342 & TE1351

Type	Minimum Common Emitter Current Gain B	Maximum Collector Voltage $V_{ce}$ Peak (volts)	Typical Cut-off Frequency (mc)	Maximum Collector Cut-off Current @ $25^{\circ}C$ @ $V_{ce}$ Max. ( $\mu a$ )
ST12	40	15	16	.5
ST32	40	30	16	.5
ST11	20	15	13	.5
ST31	20	30	13	.5
ST10	10	15	9	.5
ST30	10	30	9	.5

Write for Bulletin TE1353

## GERMANIUM Power TRANSISTOR

### FEATURES

- Operation to  $85^{\circ}C$
- Linearity at High Currents
- Up to 10 watts Dissipation
- Low Thermal Resistance
- Small Size
- Hermetically Sealed



Type	Voltage Range (volts)	Maximum Dynamic Resistance (ohms)	Maximum Current @ $25^{\circ}C$ (ma)	Maximum Current @ $125^{\circ}C$ (ma)
<b>Subminiature</b>				
SV-5	4.3- 5.4	55	50	10
SV-7	6.2- 8	8	30	6
SV-11	9.0-12.0	50	20	4
SV-15	13.5-18	120	14	3
SV-24	20 -27	300	10	2
<b>Miniature</b>				
SV-804	4.3- 5.4	55	150	30
SV-806	6.2- 8	8	90	18
SV-810	9 -12	50	60	12
SV-815	13.5-18	120	40	8
SV-824	20 -27	300	27	5
<b>Power</b>				
			55°C (amps)*	(ma)*
SV-904	4.3- 5.4	.5	2.0	500
SV-906	6.2- 8	.8	1.2	300
SV-910	9 -12	1.5	.8	200
SV-915	13.5-18.0	3	.6	150
SV-924	20 -27	8	.4	100

Write for Bulletin TE-1352  
\*Case temperature ratings

SPECIFICATIONS AND RATINGS AT  $25^{\circ}C$

TYPE	Minimum DC Common Emitter Current Gain (B @ $I_c$ )	Maximum Collector Voltage $V_{ce}$ Peak (volts)	Maximum Collector Current (amps)	Maximum Power Dissipation (watts)
2N83A	8 @ 1.0A	60	3	10
2N83	8 @ .5A	60	2	10
2N84A	12 @ 1.0A	45	3	10
2N84	12 @ .5A	45	2	10

Write for Bulletin TE1320

# Transitron

electronic corporation

wakefield, massachusetts

CRystal 9-4500





**SPECIFY**

**Bliley**

**SOLID ULTRASONIC  
DELAY LINES by BLILEY ...  
FROM 3 TO 4500 MICROSECONDS**

Solid ultrasonic delay lines by Bliley are supplied for any specified delay interval from 3 to 4500 microseconds.

Without resorting to temperature control and temperature adjustment, the following table shows practical tolerances that can be maintained with Bliley delay lines.

2-10	microsecond	delay	$\pm .05\%$	at 25°C
10-50	microsecond	delay	$\pm .03\%$	at 25°C
50-100	microsecond	delay	$\pm .05\%$	at 25°C
100-500	microsecond	delay	$\pm .07\%$	at 25°C
500-4500	microsecond	delay	$\pm .1\%$	at 25°C

Special bonding methods (transducers to fused quartz) and hermetically sealed cases assure permanent performance characteristics from -60°C to +85°C.



**BLILEY ELECTRIC CO., UNION STATION BLDG., ERIE, PA.**

**Knowles ELECTRONICS, INC.**  
MANUFACTURING ENGINEERS

The leader in **MINIATURE** audio transducers

Knowles audio transducers have set new performance and size standards.

The microphone and receiver shown here have made possible the miniature head-worn and eye-glass transistor hearing aids.



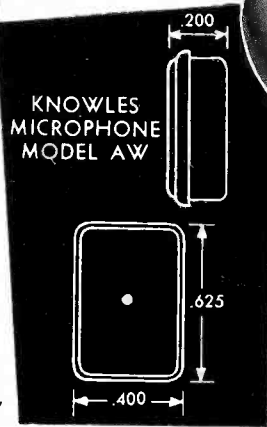
We are custom designers and manufacturers of products geared to particular requirements. Because of our diversified experience and numerous designs, we can often engineer and produce a product for a specific use faster and at lower cost.

Design Engineers! Write for details on company letterhead.

**KNOWLES ELECTRONICS, INC.**  
9400 Belmont Avenue, Franklin Park, Illinois



**OUR PRODUCTS ARE SUPPLIED TO MANUFACTURERS ONLY**

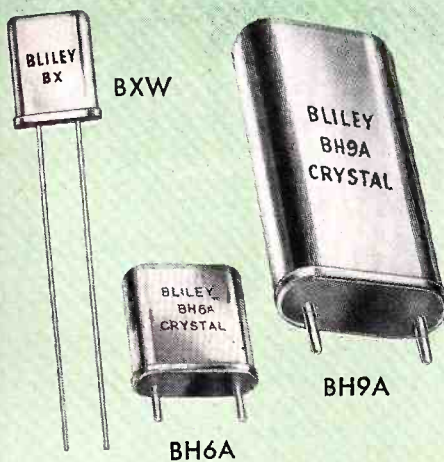

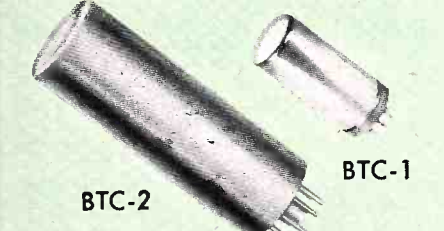



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# BLILEY CRYSTALS • BLILEY OVENS

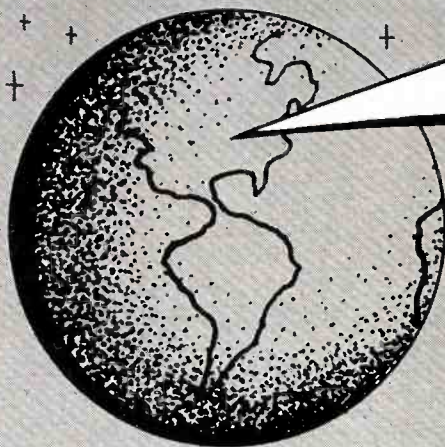
	BLILEY HOLDER	DESCRIPTION	MIL CRYSTAL UNIT
	<b>BH6A</b> (MIL HOLDER HC-6/U)	Hermetically sealed unit. Also available with wire leads as "BH6W." Freq. Range: 200kc to 125mc. Dimensions: 25/32" long x 3/4" wide x 11/32" thick (excl. pins). Bulletin #493.	CR-18/U, CR-19/U, CR-23/U, CR-25/U, CR-26/U, CR-27/U, CR-28/U, CR-32/U, CR-33/U, CR-35/U, CR-36/U, CR-44/U, CR-45/U, CR-46/U, CR-47/U, CR-48/U, CR-51/U, CR-52/U, CR-53/U, CR-54/U, CR-62/U
	<b>BXW</b> (MIL HOLDER HC-18/U)	Subminiature hermetically sealed unit, wire leads. Also available plug-in as "BXP." Freq. Range: 10mc to 125mc. Dimensions: 33/64" long x 27/64" wide x 11/64" thick (excl. wire leads). Bulletin #502.	CR-55/U, CR-56/U, CR-59/U, CR-60/U, CR-61/U
	<b>BH9A</b> (MIL HOLDER HC-13/U)	Hermetically sealed unit. Freq. Range: 4kc to 200kc. Dimensions: 1-17/32" long x 3/4" wide x 11/32" thick (excl. pins). Bulletin #501.	CR-37/U, CR-38/U, CR-42/U, CR-50/U
	<b>BG9 SERIES</b> BG9D-S, 100kc Std. BG9A-S, 1000kc Std.	Sealed-in-glass crystal unit provides exceptional stability with minimum ageing. Used as reference source in secondary frequency standards. Bulletins #491 (1000kc) and #492 (100kc).	<b>DIMENSIONS</b>  2-1/2" long x 1-9/32" dia. (excl. pins) Octal Base
	<b>BG6 SERIES</b>	All glass, vacuum mounted crystal unit for tight tolerance performance with minimum change due to ageing. Advance process techniques assure high reliability. Freq. Range: 3mc to 125mc. Bulletin #496.	1-3/8" long x 3/4" dia. (excl. pins) Small Button Miniature Base
	<b>BG12 SERIES</b> BG12G-S, 100kc Std.	For primary frequency standards. Precision sealed-in-glass crystal unit combines high stability performance with minimum ageing. Temp. coefficient: Less than 0.2ppm per degree C. between +65°C. and +75°C. Bulletin #498.	3-11/16" long x 1-23/32" dia. (excl. pins) Octal Base
	<b>BTC-1</b>	Subminiature hermetically sealed package combines crystal control and temperature stabilization in a single plug-in unit. Freq. Range: 5mc to 125mc. Stability: ±.0003%. Bulletin #494.	1-5/8" long x 51/64" dia. (excl. pins) Std. Noval 9-Pin Base
	<b>BTC-2</b>	Hermetically sealed package combines all-glass vacuum mounted crystal with precise temperature control. Freq. Range: 4kc to 125mc. Stability: ±.00004% in range 800kc to 125mc. Bulletin #497.	3-3/4" long x 1-1/4" dia. (excl. pins) Octal Base
	<b>BLILEY TYPE</b>	<b>DESCRIPTION</b>	
	<b>TCO-1 OVEN SERIES</b>	Plug-in ovens for temperature control of single crystal unit in Bliley BH6A or MIL HC-6/U holder. Stability: ±3°C. at 75°C. or 85°C. Supplied for 6.3 volt, 12.6 volt or 26.5 volt operation. Dimensions: 1-9/16" long x 1-3/16" dia. (excl. pins). Octal Base. Bulletin #499.	
	<b>TCO-2 OVEN SERIES</b>	Plug-in ovens for temperature control of two crystal units in Bliley BH6A or MIL HC-6/U holders. Stability: ±3°C. at 75°C. or 85°C. Supplied for 6.3 volt, 12.6 volt, or 26.5 volt operation. Dimensions: 1-9/16" long x 1-3/16" dia. (excl. pins). Octal Base. Bulletin #499.	
	<b>TCO-21 OVEN SERIES</b>	Plug-in ovens for temperature control of two crystal units in Bliley BH6A or MIL HC-6/U holders. Stability: ±2°C. at 75°C. or 85°C. Supplied for 6.3 volt, 12.6 volt or 26.5 volt operation. Dimensions: 1-9/16" long x 1-3/16" dia. (excl. pins). Octal Base. Bulletin #499.	
	<b>TCO-2L TCO-2P OVENS</b>	Plug-in ovens for temperature control of two crystal units in Bliley BH9A or MIL HC-13/U holders. Stability: ±4°C. at 75°C. TCO-2L for 6.3 volt operation; TCO-2P for 12.6 volt operation. Dimensions: 2-3/16" long x 1-3/16" dia. (excl. pins). Octal Base. Bulletin #499.	
	<b>TC91 TC92 TC93 OVEN SERIES</b>	Precision temperature control ovens for Bliley crystal units: FM6, BH81A, MC7, BH8, MC75, MS46A, AR23W, BG9A series and BG9D series. Stability: ±1°C. Supplied for 6.3 volt, 18 volt or 115 volt operation. Dimensions: 4-7/16" long x 3-3/4" dia. (excl. pins). Giant 7-pin base. Bulletin #500.	
	<b>TC97 OVEN SERIES</b>	High precision temperature control ovens for Bliley crystal units: BH8, MC75, MS46A, and BG12G-S. Stability: ±0.25°C. Supplied for 6.3 volt operation. Dimensions: 4-23/32" long x 4-1/2" dia. (excl. pins). Giant 7-pin base. Bulletin #500.	





# ELMENCO

# DUR-MICA



## The Revolutionary Development In Mica Capacitors

The Dur-Mica Capacitor is a silvered mica capacitor coated with a specially developed material which provides maximum protection at environmental extremes of moisture and temperature. This combination provides a reliability and life expectancy which far surpasses anything heretofore obtained.

### OPERATING TEMPERATURE RANGE

-55°C. to +125°C.

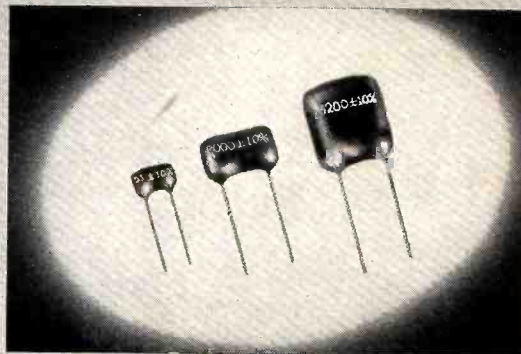
### MINIMUM INSULATION RESISTANCE:

25000 megohms at 25°C.  
1000 megohms at 125°C.

STABILITY (Capacity Drift):  
±0.05% +0.1 mmf. MAX.

### COMPONENT RELIABILITY

Life tests presently being performed at 125°C. and 150% rated voltage have passed 10,000 hours without a single failure. This is roughly equivalent to more than 20 years of operation under normal operating conditions.



DUR-MICA NOW AVAILABLE: DM-15, DM-19, DM-20, DM-30

**ANNOUNCING**  
a new addition  
to the DUR-MICA  
family ... **DM-42**

### CAPACITY VALUES UP TO:

.025 MFD.—500VDCW  
.04 MFD.—300VDCW  
.07 MFD.—100VDCW

### DIMENSIONS:

1 1/2 x 7/8 x 1/4

Packed in individual transparent plastic snap boxes properly identified for ease of handling.

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Further  
Details



# ARCO

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## NEW

## ARCO DUR-MICA KITS



### ARCO DM-15 KIT #10

This handy DM-15 kit consists of five each of 51 capacity values from 1 mmf. to 820 mmf. Tolerance ±5%.

SPECIAL KIT LIST PRICE \$95<sup>00</sup>

If purchased individually the actual list price is \$103.31.

### ARCO DUR-MICA KIT #11

This Dur-Mica kit contains five each of 72 capacity values from 2 mmf. to 10,000 mmf. all 500VDCW and ±5% tolerance.

SPECIAL KIT LIST PRICE \$250<sup>00</sup>

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Kearfott Systems include 3 gyro, 3 and 4 gimbal platforms. They provide precise azimuth and vertical reference. Also Directional Gyro Compass Systems.



The Gyro Guide System shown provides Latitude Corrected Gyro and Magnetic Slaved Heading information. Weighs 20 lbs. Max. random drift 3°/hour.

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Kearfott produces a complete line of gyros, servo motors, and synchros to satisfy every aircraft control requirement.



FLOATED INTEGRATING GYRO

3 Gyro Platforms, Floated Rate Integrating Gyros, Vertical, Free, Directional, Rate Gyros and Gyro operated rate switches—compact, lightweight, hermetically sealed.



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High torque, low inertia Servo motors, Servo-motor-Generators, inertial and viscous damped Servo motors 3/4" to 1-3/4" diameter, Synchro Transmitters, Control Transformers, Resolvers, Repeaters and Differentials in size 8, 11 and 15

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COMPONENTS

Including attenuators, directional couplers, crystal mixers, twists and tees for S, C, Xb, X and Ku bands.



TEST SETS (for X, C, and Ku)

A four-in-one instrument for functional testing of radar or beacon. Includes Wavemeter, Spectrum Analyzer, Power Monitor, and signal generator.

Bulletins giving physical and technical data on the various Kearfott Products will be sent on request. The Kearfott organization is available to assist in the development and manufacture of other precision components you may require.

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# Kearfott



A SUBSIDIARY OF GENERAL  
PRECISION EQUIPMENT CORPORATION



**FERRITE ISOLATORS**  
Selected standard units for fast delivery.

# FERRITE ISOLATORS

# RADAR TEST SETS

# CUSTOM PLUMBING

For production radar and microwave applications Kearfott maintains complete design, fabrication and test facilities. If you need a complete R. F. system or a single component... check Kearfott.

Model No.	Freq. Range (KMC)	Nom. Peak Power (KW)	Avg. Power Rating (Watts)	Isolation (db) Min.	Isolation (db) Max.	Insertion Loss (db)	VSWR	Overall Length (Ins.)	Net Weight (Ozs)	Waveguide Size (in. x in.)
<b>LOW POWER—NARROW BAND WIDTH</b>										
W152-1B-1	8.8*	2	20	20		0.25	1.30	2.75	6	1 x 1/2
W165-1A-1	8.5-9.6	1	50	15	33	0.50	1.25	1.8	10	1 x 1/2
W165-1B-1	8.8-9.0	1	50	25		0.25	1.25	1.8	10	1 x 1/2
W369-1A-1	5.4*	2	100	25		0.7	1.15	10.0	30	2 x 1
<b>LOW POWER—10% to 20% BAND WIDTH</b>										
W165-2B-1	8.5-9.6	1	10	20		0.7	1.40	2.2	12	1 x 1/2
W177-2A-1	8.5-9.6	1	100	23	29	0.5	1.10	2.0	15	1 x 1/2
W177-2C-1	8.2-10.2	1	100	25		1.0	1.15	2.5	20	1 x 1/2
W258-2B-1	5.4-5.8	1	50	17	22	1.5	1.15	3.0	18	1 1/2 x 3/4
<b>HIGH POWER—10% OR MORE BAND WIDTH</b>										
W177-2A-2	8.5-9.6	150	200	17	21	0.7	1.10	2.0	15	1 x 1/2
W177-1B-2	8.7-10.8	100	500	10		0.6	1.10	1.25	10	1 x 1/2
W177-2B-2	8.5-10.2	200	200	10	13	0.5	1.10	2.0	14	1 x 1/2
W177-1C-2	8.5-10.4	100	300	10	17	0.8	1.10	1.25	8	1 x 1/2
W177-2C-2	8.5-9.6	150	200	25	29	1.0	1.10	2.5	20	1 x 1/2
W177-1D-2	9.6-11.0	100	300	15	22	0.8	1.10	1.25	14	1 x 1/2
W569-1A-2	13.4-13.6	75	50	30		0.4	1.15	6.0	15	1 x 1/2
W568-2B-2	12.5-18.0	100	100	10		1.0	1.15	2.25	32	.702 x .391
W668-2A-2	8.5-9.6	350	300	17	24	0.6	1.10	2.5	32	.702 x .391 1 1/4 x 5/8

\*Designed for narrow band use. †Peak isolation at a spot frequency in the specified band.



## RADAR TEST SET

For C, X, Ku Band

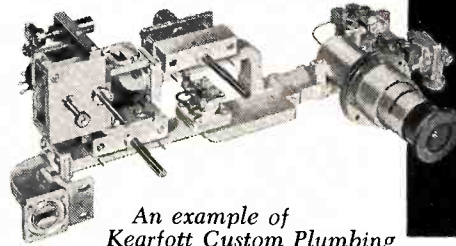
Telephone for a demonstration appointment. Special Test Equipment built to your specifications.

- A complete testing unit in one compact portable case.
- Makes all receiver and transmitter tests.
- Saves time, cost and space.
- 1957 Model incorporates new features.



Write for bulletins W104 and W105 for detailed information on test sets and ferrite isolators.

When ordering or seeking information please mention Electronics Buyers' Guide.



An example of Kearfott Custom Plumbing

## CUSTOM PLUMBING

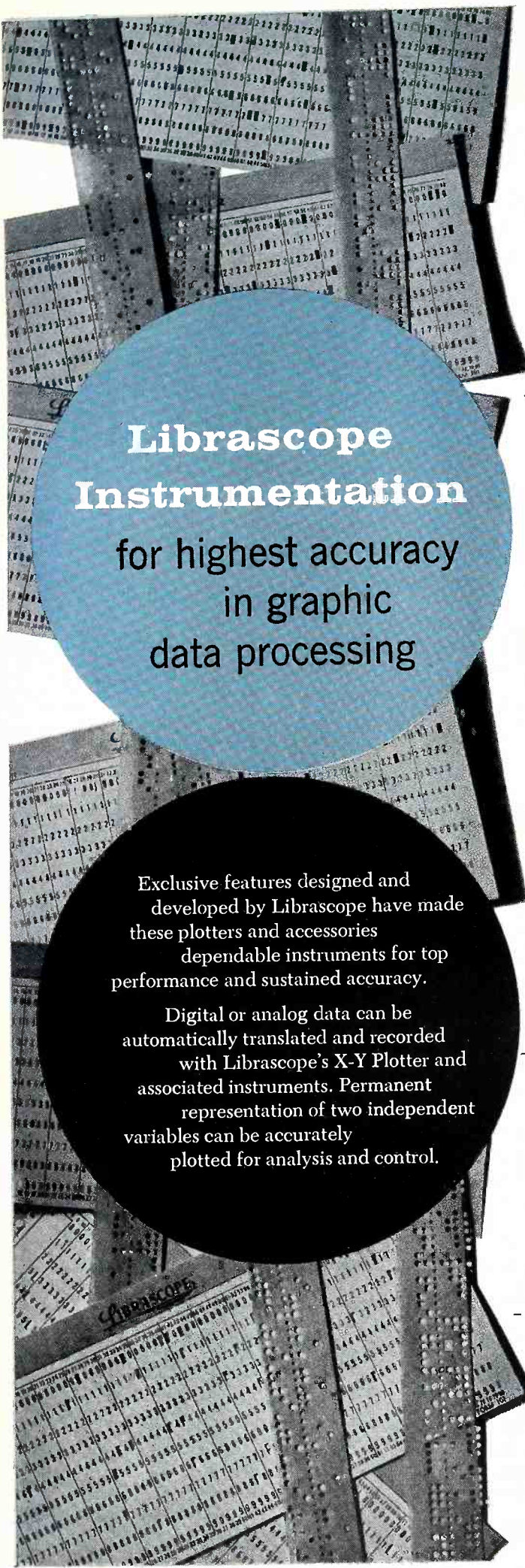
Antenna Assemblies

Advanced design is featured in the radar components now being produced by Kearfott microwave laboratories and production facilities. Complete departments are maintained for dip-brazing, testing and production, in our own plant.

Kearfott design engineers are available on your microwave problems.

**Kearfott COMPANY, INC.**  
LITTLE FALLS, NEW JERSEY  
**WESTERN DIVISION**  
MICROWAVE DEPARTMENT  
14844 OXNARD ST. · VAN NUYS, CALIF.

A SUBSIDIARY OF



**Librascope  
Instrumentation**  
for highest accuracy  
in graphic  
data processing

Exclusive features designed and developed by Librascope have made these plotters and accessories dependable instruments for top performance and sustained accuracy.

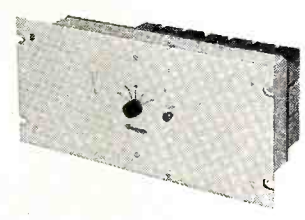
Digital or analog data can be automatically translated and recorded with Librascope's X-Y Plotter and associated instruments. Permanent representation of two independent variables can be accurately plotted for analysis and control.

**MODEL 200-B X-Y PLOTTER**, used for DC signal input, has full-scale sensitivities of five millivolts, and an input impedance of 1,000 megohms. Utilizing standard reference cells, this model provides drift-free operation. Available external reference voltages may be substituted. Quick interchangeability of input sections is provided. Continuous or point plotting... Rack or case mounted.



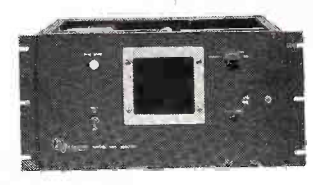
**MODEL 200-A** uses an input of 10,000 ohm resistance potentiometers as an input translator providing 10 to 1 scale expansion and origin positioning. Available standard digital input accessories are essentially inputs of this type. Any resistance potentiometer will provide an analog input for this configuration. Continuous or point plotting... Rack or case mounted.

**LIBRASCOPE XY DECIMAL KEYBOARD** — This keyboard consists of a three-decimal bank for each axis with associated plus-minus keys. Depressing of the plotting bar initiates plot and clears keyboard automatically. Manual "clear" button is also provided. This unit features Librascope-developed positive-action non-sticking, self-wiping contacts.



**LIBRASCOPE BINARY CONVERTER, MODEL 252** consists of two banks of relays and precision resistors simulating a precision potentiometer. The resistors weight the relays in straight binary so that each bank serves as an input to one axis of the XY plotter. Total resistance is 10,000 ohms per bank. Relays within the converter control the plot cycle.  
Mounting: Standard RCA, RMA rack mounts.

**LIBRASCOPE PUNCHED CARD CONVERTER** — This relay-operated converter accepts three-decimal digit and sign, two channel, IBM punched card information and converts it to analog form for input to XY plotters. Cards can be manually fed through the IBM reading brushes one at a time or automatically read at rates to 50 cards per minute with an accuracy of 0.1%.  
Mounting: Standard RCA or RMA rack mounts or in case.



**LIBRASCOPE PUNCHED TAPE CONVERTER** operates from punched tape reader. Can be modified to operate with any digital computers furnishing a punched tape output. If printed listing desired, unit may be operated from tape-actuated typewriter, such as the Flexowriter. Programming need not be specified on tape. Sequence operation. A particular tape may be programmed to accommodate various tape formats.  
Accuracy,  $\pm 0.1\%$ .

Career opportunities exist at Librascope for qualified engineers, physicists and mathematicians. Learn about Librascope's new "Creative Project Development Teams." Contact Glenn Seltzer, Employment Manager.



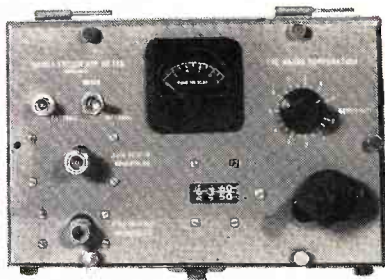
A SUBSIDIARY OF



**LIBRASCOPE**

Librascope, Inc., 808 Western Ave., Glendale, Calif.

*Ah  
precision!*



**FREQUENCY METER MODEL 802B**

Range of 2350 to 10,500 megacycles covers the most used frequencies. Veeder-root digital counter provides accurate, legible readings which are referred to calibration charts for frequency in megacycles to rated accuracy of 0.2% without calculation. Completely self-contained with built-in detector and indicating meter.

**SLOTTED LINES  
MODELS 219 THROUGH 224**

Six portable models, incorporating carriage drive mechanism integral with wave guide assembly measures VSWRs and impedances from 2600 to 18,000 megacycles per second, covering wave guide sizes from 3 X 1½ inches to .702 X .391 inches. Can be used with all standard military and commercial RF probes and detectors.

**COMPLETE LINE OF COAXIAL AND WAVEGUIDE INSTRUMENTS INCLUDES:**

- |                      |                      |
|----------------------|----------------------|
| DIRECTIONAL COUPLERS | SLOTTED LINES        |
| TERMINATIONS         | BENDS                |
| FREQUENCY METERS     | ATTENUATORS          |
| HORNS                | STANDARD REFLECTIONS |
| TUNERS               | BOLOMETERS           |
| ECHO BOXES           | THERMISTORS          |

**FREE ILLUSTRATED CATALOG**


contains much valuable data →



160 HERRICKS ROAD, MINEOLA, N. Y. • PIONEER 6-4650

COMPLETE INSTRUMENTATION FOR MICROWAVE AND UHF

When ordering or seeking information  
please mention Electronics Buyers' Guide.

  
**ELECTRONICS**

OFFERS  
COMPLETE  
INDUSTRY  
COVERAGE  
WITH  
A  
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EDITION

AND

2 BUSINESS

EDITIONS

EACH

MONTH

PLUS

THE

MID-YEAR

BUYERS'

GUIDE



A MCGRAW-HILL PUBLICATION  
330 WEST 42nd ST., N. Y. 36, N. Y.

**Direct line solution to your closure problems!**

ALUMINUM

COPPER

BRASS



**MArket 3-7584**

MU METAL



STEEL

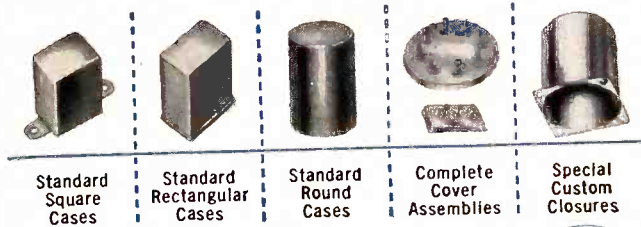


STAINLESS STEEL

A complete solution to your closure problem is as near as your telephone! Chances are, Hudson can supply an economical standard stock item, from factory stocks, that will meet your requirements exactly. Where specifications call for unusual designs, Hudson can produce precision-drawn custom closures to meet your assembly line schedules.

Hudson standard and special closures are available with complete cover assemblies if desired. Quotations on sub-assemblies, including certified spot welding and silver soldering will be supplied promptly on receipt of your drawings and data.

*Write or phone for a copy of the Hudson catalog on standard precision-drawn cases and covers*



**HUDSON**  
TOOL & DIE CO • INC



18-38 MALVERN ST., NEWARK 5, N. J. — Tel. MArket 3-7584

# BOMAC... FIRST IN MICROWAVE

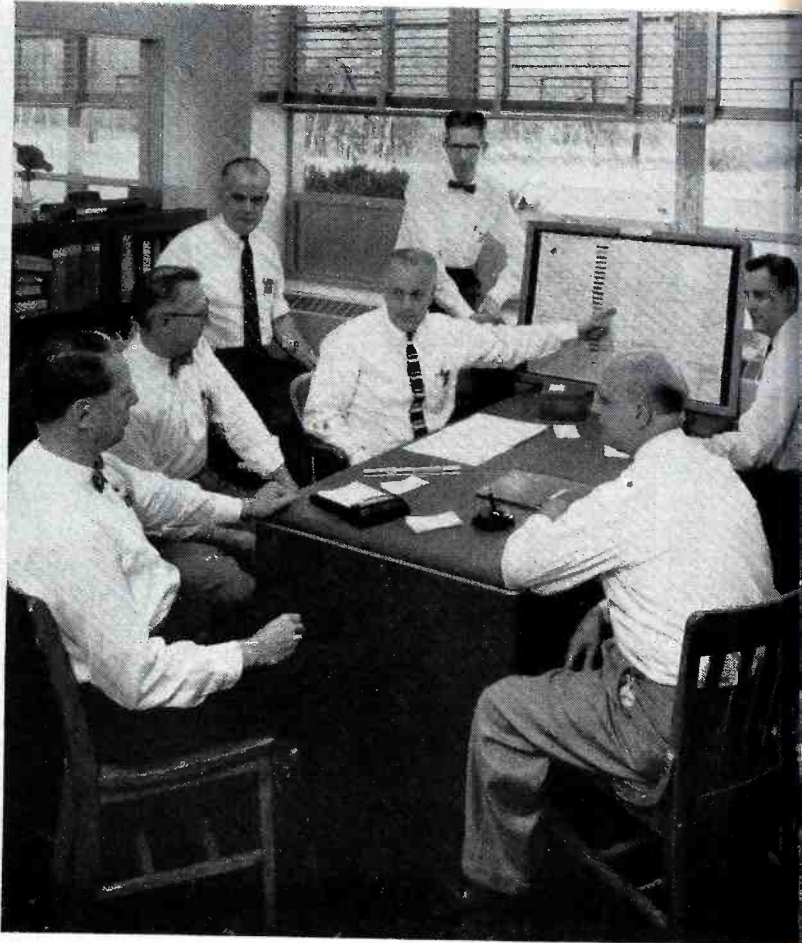
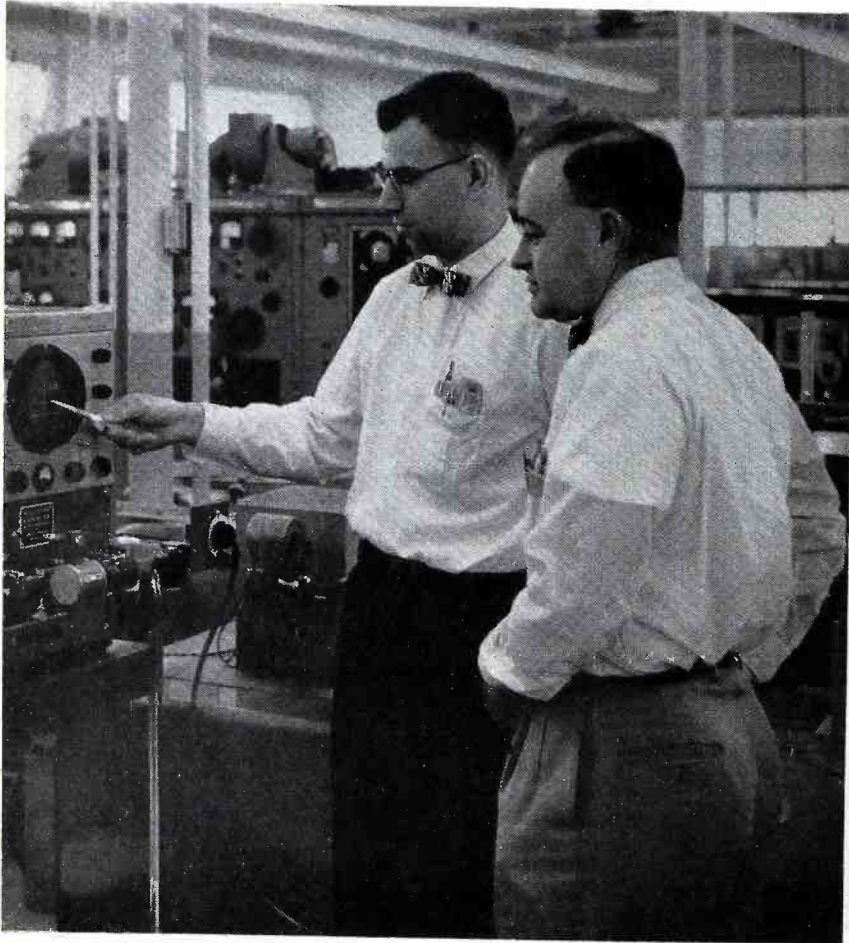
What do you need — a single tube — or 50,000? A modification? A completely new component? Bomac is capable of meeting your needs.

Buyers know Bomac as one of the nation's largest designers and manufacturers in the highly specialized field of microwave tubes and components.

*They also know these 3 important facts about Bomac reliability:*

**1** Every tube, every component is 100% tested for peak performance and maximum uniformity before shipment.

**2** Bomac's engineering and development service is complete in every detail.



*Excellent reasons why you can count on Bomac to meet your*

## REPRESENTATIVES

**MR. BERTRAM D. AARON**  
12032 Wilshire Boulevard, Los Angeles, California,  
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**MR. PAUL BOCKENSTEDT**  
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**DICKISON SALES COMPANY**  
Main Office — 300 Broadway,  
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**ROR ASSOCIATES LIMITED**  
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**R. L. PFLIEGER CO.**  
1652 Laurel Street,  
San Carlos, California,  
Lytell 1-0396.

**MR. DAVID SHAMP**  
1500 Massachusetts Avenue, N.W.,  
Washington 5, D. C.,  
Hudson 3-4167.

# TUBES AND COMPONENTS



**3** Bomac offers a complete line —  
over 750 different tubes and components.



**ATR** ... All standard types. Many more developed in our laboratories. Fixed-tuned — highly specialized as required: low Q, or high Q, miniaturized, special shapes and mounts.

**TR** ... A type for every known application — all bands — fixed-tuned or tunable — special types: shorted, dual and triple.



**SILICON DIODES**  
The most sensitive, uniform and stable diodes (1N23D). Also available in matched pairs for X-band and S-band. Also supplied as mixer diodes with either normal or reverse polarity.



**PRESSURIZING WINDOWS** ... for all wave guide sizes, broad band characteristics with low insertion loss, temperature range  $-55^{\circ}\text{C}$  to  $100^{\circ}\text{C}$  and 30 lb./sq. in. gage pressure in either direction.



**HIGH FREQUENCY TRIODE OSCILLATOR** ... This triode, for oscillator use at high frequencies, is extremely reliable and will withstand high shock and vibration.

**REFERENCE CAVITIES** ... Dentent with multiple frequencies and dual mode with fixed frequency. Temperature compensated to  $\pm 0.3$  MC from  $0^{\circ}\text{C}$  to  $100^{\circ}\text{C}$ .



**KLYSTRONS** ... Bomac offers a line of reflex klystrons. They offer maximum performance at high altitudes without pressurization.



**SHUTTERS** ... Bomac was first to develop shutter tubes and integral TR combinations for continuous crystal protection. All waveguide sizes available.



**MAGNETRONS** ... High frequency, tunable and fixed-tuned magnetrons are a Bomac specialty. Frequencies from X band to classified millimeter bands. Special types designed to meet your requirements.

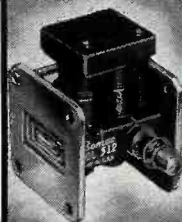


**NOISE SOURCE TUBE** ... A gas discharge tube for use as a noise generator in noise measuring test equipment.



**SURGE PROTECTORS** ... Bomac surge protectors are hold-off diode tubes. In a wide range of breakdown voltages: from 100 to 33000. Consult our engineering department for your applications.

**PRE-TR** ... Wherever attenuation is required in the duplexer before the TR, pre-TR's are available. Will operate as high as 10 megawatts.



**HYDROGEN THYRATRONS** ... Bomac thytrons provide the following advantages: precise triggering — high repetition rates — high power levels — zero bias operation — electrical stability.



**DUPLEXERS** ... Bomac will design, develop, and produce complete duplexers to customer specifications.



most exacting requirements

For more information . . .

**Bomac**

**LABORATORIES, INC.,**  
Beverly, Mass.



write for Bomac's free, 6-page file-size folder containing details and specifications on more than 500 different microwave tubes and components.



# HYCOR precision components



## WAVE FILTERS

Low, high and band-pass types with high "Q" toroid elements. Ranges up to 100 kc., up to 10,000 ohms impedance. Stack types. Also designed for special circuitry or miniaturization.  
send for bulletin F-P



## TOROID COILS

High "Q" factor, excellent current and temperature stability. Encapsulated, fully protected from shock and environmental conditions. Also in encapsulated and metal cased types.  
send for bulletin STP



## MAGNETIC AMPLIFIERS

Toroid construction. Standard types with 10,000 or 50,000 power gain. Also designed for specified power, impedance, and response requirements. Cased per military specs.  
send for bulletin MA



## RATIO TRANSFORMERS

0.1% accurate even with wide changes in load, frequency, ambient temperature. Up to 1000:1 ratio. Special accuracies to .005%. Miniature encapsulated and hermetically sealed MIL-T-27 types.  
send for bulletin RT



## TELEMETERING FILTERS

Low and band-pass filters. Negligible hum pickup in low level circuits. Excellent phase linearity and attenuation accuracy. Standard and sub-miniature sizes.  
send for bulletin TF

## RESISTORS

Encapsulated, for 0.1 watt to 4 watts. Standard tolerance  $\pm 0.1\%$ . Fully protected. Exceed



MIL-R-93A spec. With axial or radial leads, lugs, or leads for printed circuitry.  
send for bulletin PH



## DECADE INDUCTOR UNITS

Accurate, stable inductance values for design or experimental work at 150 to 20,000 cps. Four types: .001, .01, .1 or 1 Henry per step. 2% accuracy per step.  
send for bulletin D-2



## POWER TRANSFORMERS

Miniature encapsulated types rated 14 V.A. Precise regulation—no external fields. 375 to 525 cps, primary voltage 115, 28 or 12.6 V. Multiple secondaries. Specials supplied.  
send for bulletin WT



## PROGRAM EQUALIZER

Bridged T constant impedance type, low and high selectors. Impedance: 500/600 ohms in-out. 14 db insertion loss. Pad compensation with key in "out" position.  
send for bulletin E



## MAGNETIC CLUTCHES

Only 1" o.d., but deliver torque of 15 oz. in. on 2 watts. 5 millisecond response. Gear, cable or direct-in-line drives. Economical for multiple clutching assemblies.  
send for bulletin C-2



# HYCOR



## VARIABLE FILTER

Low-pass, high-pass with negligible hum pickup, distortion and aging. Same eight cutoff frequencies, about 16 db attenuation per octave on both high and low.  
send for bulletin S-1

DIVISION OF INTERNATIONAL RESISTANCE CO.

12970 BRADLEY AVENUE, SYLMAR 1, CALIFORNIA

# 1957-1958 Electronic Components Guide

## AMPLIFIERS, magnetic



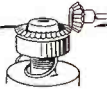
Toroid construction throughout; standard catalogued types available—special designs to suit requirements. Line frequencies of 60, 400 and 800 c.p.s. Operating temperatures:  $-55^{\circ}\text{C}$ . to  $+100^{\circ}\text{C}$ . Cased per military specs. (Hycor MA)

## ATTENUATORS, audio



Available as: Bridged T Attenuators, Ladder Network, Potentiometers, Precision Decade Attenuators, and VU Meter Multipliers. Resistive elements and contacts imbedded in specially prepared plastic compound—provides protection against extreme humidity, mechanical shock, and wide temperature variations. Switch contacts are flush in plastic, providing smooth, easy to clean surface • BRUSHES CANNOT TRIP • Switch noise level extremely low. "Lubricated for life" oilite bearings. Available with or without detents. (A-2)

## CLUTCHES & DRIVES, magnetic



ONLY TWO WATTS OF POWER REQUIRED to develop 15 oz. in. of torque with a response time of 5 milliseconds—only two moving parts. Minimum dimensions (only 1" o.d.) facilitate use in compact assemblies, extremely low cost. (Hycor C-2) (special design applications).

## COILS, Toroid (cased & uncased)



Hermetically molded in special tough plastic compound. Will withstand military temperature requirements, 95% humidity—boiling salt water, high degree of mechanical shock, MIL-C-16923, Type C, specification tests. (Hycor—STP)

## COMPUTER COMPONENTS

ACCUMULATORS  
AMPLIFIERS, MAGNETIC AND SERVO

CIRCUITS—POTTED, PLUG-IN, COMPUTER (PACKAGED)  
INTEGRATORS

TRANSDUCERS  
TRANSFORMERS, PULSE

## CONTROLS & POTENTIOMETERS



IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Temp. Rise at Rated Load $^{\circ}\text{C}$ .	Tapers	Max. Operating Temp. $^{\circ}\text{C}$ .	OHMIC VALUES AVAILABLE		Mechanical Rotation	DIMENSIONS IN INCHES				Catalog Data Sheet	
							Min.	Max.		Depth	O.D. or Width	Standard Bushing	Switches		
2W•	RA-20	2	10	60	Yes†	100	1	25,000	$300^{\circ}$	$\frac{3}{8}\ddagger$	$1\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$ -32	Yes†	A-3
Q•	RV-2	$\frac{1}{4}$	20	60	Yes†	100	250‡	15 meg.‡	$300^{\circ}$	$2\frac{3}{64}\ddagger$	$1\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$ -32	Yes†	A-4
HVC•		2	20 & 30	60	Linear	100	5,000	50 meg.	$250^{\circ}$	$2\frac{3}{32}$	$2\frac{13}{64}$	$\frac{3}{8}$	$\frac{3}{8}$ -32	No	SM6915-100-001

## POTENTIOMETERS—



**Standard Multi-Turn**—Type H—Combine advantages of reliability, sturdiness and miniaturization. Standard sizes from 1" dia. to  $\frac{3}{4}$ " dia.; 1, 5 and 10 turn models—other degrees of rotation available on special order. (A-5)

**Moisture-Sealed**—Type MS—All cases half hard brass with all joints rolled and bonded. "O" ring seal between shaft and bushing—1" and  $\frac{3}{4}$ " dia.—5 and 10 turn models. (A-6)

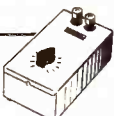
**Hermetically-Sealed**—Type HS—Where moisture sealing as above is not sufficient, these precision potentiometers are completely independent of atmospheric conditions—special bellows drive system— $\frac{3}{4}$ " and 1" dia.—1, 5 and 10 turn models. (A-7)

**Subminiature**—Type SM—Offer rugged construction and dependable service where space is at a premium. Both single and multi-turn units available with case dia. of only  $\frac{1}{2}$ ". (A-8)

**High Temperature Operation**—Type H—HT—Operate at ambient temperatures up to  $150^{\circ}\text{C}$ .— $\frac{3}{4}$ " and 1" dia.—1, 5 and 10 turn models. (A-9)

**High Precision Single Turn**—Type B—Incorporates maximum accuracy and reliability with ultra low torque ball bearings and ganging for in-the-field phasing,  $\frac{7}{8}$ " to 3" dia. (A-10)

## DECADE INDUCTORS



For design and experimental work on audio filters, equalizers, and tuned circuits at frequencies between 150 to 20,000 cycles. Four units available in ranges from  $10 \times .001$  Henry to  $10 \times 1.0$  Henry. When all 4 units are connecting in series, 11, 110 steps from .001 Henry to 11.11 Henries are obtained. Excellent current and temperature change stability. (Hycor D-2)

## DELAY LINES, Distributed-Constant (new)







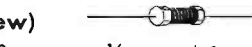

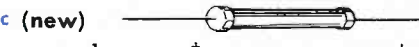





For time delays of less than 1.0 microsecond at impedance levels of 4,000 ohms and less. (S-2)

## EQUALIZERS, program




Standard rack panel, slotted,  $3\frac{1}{2}$ " high, max. depth  $7\frac{1}{2}$ ". Bridged T constant impedance. 500/600 ohms, in-out. Low and high frequency selector switches. Low and high frequency controls in 2 db steps, in-out key. All capacitors and inductors hermetically sealed for lifetime service. Variable attenuators are of "bridged T" type with precision wire wound resistors—1% accuracy. (Hycor E)


# FIXED AND ADJUSTABLE RESISTORS

IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Temp. Rise at Rated Load°C.	Temp. Coefficient %/°C.	Max. Operating Temp.°C.	OHMIC VALUES AVAILABLE			DIMENSIONS IN INCHES			Catalog Data Sheet
							Min.	Max. (JAN or MIL)	Max. (Commercial)	Length	O.D. or Width	Ferrule O.D. x	
<b>CARBON, deposited</b> 													
DCC	RN-20	1/2	1	75	±	120	10	2 meg.	25 meg.	3/16	.156		B-4
DCF	RN-25	1	1	80	±	120	10	4.99 meg.	50 meg.	15/16	.297		B-4
DCH	RN-30	2	1	95	±	120	15	10 meg.	100 meg.	2 1/16	.297		B-4
MDA (molded)	RN-60	1/8	1	18	±	150	50	1 meg.	1 meg.	1 3/32	.130		B-9
MDB (molded)	RN-65	1/4	1	30	±	150	20	2 meg.	1 meg.	1 9/32	.203		B-9
MDC (molded)	RN-70	1/2	1	50	±	150	10	5 meg.	25 meg.	2 3/32	.261		B-9
MDF (molded)	RN-75	1	1	47	±	150	10	10 meg.	50 meg.	1 7/16	.395		B-9
MDH (molded)	RN-80	2	1	63	±	150	15	20 meg.	100 meg.	2 15/64	.395		B-9
<b>COMPOSITION, fixed</b> 													
BTR†	RC-09	1/3	5, 10 & 20	40	±	130	10	22 meg.	100,000 meg.	1 3/32	3/32		B-1
BTS†	RC-20	1/2	5, 10 & 20	45	±	130	10	22 meg.	100,000 meg.	1 3/32	1/8		B-1
BTA†	RC-30	1	5, 10 & 20	52	±	130	10	22 meg.	22 meg.	2 3/32	1/4		B-1
BTB†	RC-41	2	5, 10 & 20	75	±	130	100	20 meg.	22 meg.	1 1/4	1/4		B-1
<b>FUSE RESISTORS</b> 													
FR-7.5		7.5	10	175	±	275	±	—	±	1 25/64	3/8 x 1 3/32		P-3
(Fuse resistors of 4.7, 5.6, 7.5 and 9.0 ohms with Standard fusing current vs. time listed in Bulletin P-3. Special fuses will be engineered to meet circuit requirements.)													
<b>HIGH FREQUENCY</b> 													
MP° IRC manufactures 22 different MP types. Available in wattage ratings from 1 to 90 watts, standard tolerance is 20%, Temp. rise at rated load 77°C., Temp. coefficient from -.005%/°C. to -.07%/°C., Max. operating temp. 100°C. Minimum values available from 10 ohms to 100 ohms, Max. (Commercial) values available from 1.0 meg. to 6.0 meg. Lengths vary from 1" to 1 9 1/16", diameters from 3/16" to 2". See Data Bulletin F-1 for individual specifications. Prices upon request.													
MPF-12°	RF-30	2	20	77	-.005 to -.07	100	20	100,000 ohms	1.5 meg.	1 3/4	5/16		F-1
MPG-16	RF-31	4	20	77	-.005 to -.07	100	20	1 meg.	1.5 meg.	2	3/16		F-1
MPC-1	RF-40	1	20	77	-.005 to -.07	100	20	1 meg.	1.0 meg.	1	5/16		F-1
HFR†	RF-50	1/4	20	40	-.005 to -.07	100	20	1 meg.	125 meg.	9/16	3/32		F-1
MPX-2	RF-51	2	20	77	-.005 to -.07	100	30	1 meg.	1.5 meg.	2	1/4		F-1
<b>HIGH TEMPERATURE (new)</b> 													
HTC	RN-20	1/2	± 1	±	±	250	100	—	2 meg.	9/16	5/32		HT
HTF	RN-25	1	± 1	±	±	250	100	—	5 meg.	1 5/16	1 9/64		HT
HTH	RN-30	2	± 1	±	±	250	200	—	10 meg.	2 1/16	1 9/64		HT
<b>HIGH VOLTAGE</b> 													
MV° IRC manufactures 21 additional MV types. Available in wattage ratings from 1 to 90 watts, standard tolerance 20%, Temp. rise at rated load 77° C., Temp. coefficient from -.005 to -.07%/°C., Max. operating temp. 100°C. Minimum values available from 2500 ohms to 1.0 megohm, Maximum (Commercial) values available from 1.0 megohm to 20,000 megohms. Lengths vary from 1" to 1 9 1/16", diameters from 3/16" to 2". See Data Bulletin G-1 for individual specifications. Prices upon request.													
MVM-5°			2	77	-.02	100	100 meg.		1,500 meg.	5 1/2	5/16	Solder Lug	G-1
MVM-6°			2	77	-.02	100	100 meg.		1,500 meg.	6	5/16	Solder Lug	G-1
<b>HIGH VOLTAGE, pyrolytic (new)</b> 													
PVX-1		1	±	±	±	150	1,800		5,000 meg.	1 5/16	1/4		HV
PVX-2		2	±	±	±	150	5,000		20,000 meg.	2 1/16	1/4		HV
PVX-3		3	±	±	±	150	10,000		20,000 meg.	3 1/16	1/4		HV
<b>METAL FILM, precision (new)</b> 													
MEC (molded)	RN-70	1/2	1	50	±	175	100	5.0 meg.	500 K	2 3/32	.261		B-3
MEF (molded)	RN-75	1	1	47	±	175	100	10.0 meg.	2 meg.	1 7/16	.395		B-3
<b>VOLTMETER MULTIPLIERS, sealed precision</b> 													
MFA†	MFA	1 ma.	0.5	25	.0022	105	3.5 meg.	6.0 meg.	12.0 meg.	9 25/32	1 25/64	1 3/4	D-2
MFB†	MFB	1 ma.	0.5	25	.0022	105	1.0 meg.	3.5 meg.	6.0 meg.	5 5/32	1 25/64	1 3/4	D-2
MFC†	MFC	1 ma.	0.5	25	.0022	105	0.5 meg.	1.0 meg.	1.2 meg.	2 15/16	1 1/16	1 3/16	D-2
<b>WIRE WOUND, insulated</b> 													
MW-2 (molded)		7.4†	5 & 10	100	±	140	4.0		10,000	2 1/2	1 1/16†		B-2
MW-3 (molded)		10.9†	5 & 10	100	±	140	7.0		17,500	3 1/2	1 1/16†		B-2
MW-4 (molded)		14.4†	5 & 10	100	±	140	10.0		25,000	4 1/2	1 1/16†		B-2
MW-5 (molded)		17.9†	5 & 10	100	±	140	13.0		32,500	5 1/2	1 1/16†		B-2
<b>WIRE WOUND, molded</b> 													
PW-4• (molded)		4	10	215	±	190	1.0		8,200	1 3/4	2 1/64		P-1
BW-1/2•	RU-3	1/2	5 & 10	70	±	110	0.24	470	820 ohms	3/8	1 3/64		B-5
BW-1•	RU-4	1	5 & 10	70	±	110	0.47	2,200	5,100 ohms	1 1/4	1/4		B-5
BW-2•	RU-6	2	5 & 10	90	±	130	1.0	3,300	8,200 ohms	1 3/4	2 1/64		B-5
<b>WIRE WOUND, power</b> 													
PW-5•		5	10	150	±	275	0.24		6,200	7/8	3/8 x 1 1/32		P-2
PW-7•		7	10	170	±	275	0.51		15,000	1 25/64	3/8 x 1 1/32		P-2
PW-10•		10	10	190	±	275	1.0		25,000	1 7/8	3/8 x 1 1/32		P-2
PW-20 (new)		20	10	250	±	300	0.75		2,500	2 1/2	1/2 x 1 1/2		P-4
PC-5 (new)		5	10	125	±	275	0.51		15,000	1 25/64	3/8 x 1 1/32		P-5




# FIXED AND ADJUSTABLE RESISTORS (Continued)

IRC Type No.	Ratings	Standard Tolerance Percent	Temp. Rise at Rated Load °C.	Max. Operating Temp. °C.	VALUES AVAILABLE		DIMENSIONS IN INCHES		Min. Forward Current at 2V, drop for single cell	Catalog Data Sheet
					Min.	Max.	Length	O.D.		
<b>CHOKES, insulated</b> 										
CL 1/2		10 & 20		140	0.22 m.h.	1.0 m.h.	5/8	1 3/64		
CLA <sup>o</sup>		5 & 10		140	0.22 m.h.	7.5 m.h.	2 3/32	1/4		H-1
CLI <sup>o</sup>		5 & 10		140	.47 m.h.	24 m.h.	1 1/4	1/4		H-1
CL2		5 & 10		140	1.0 m.h.	39 m.h.	1 3/4	2 1/64		H-1

**RESISTORS, current pulse viewing (new)** 


For viewing current-wave forms with rise times from 0.5 to 0.01μ seconds with minimum distortion. 0.47 ohms to 100.0 ohms—20% tolerance. 150 volts max. pulse voltage. Inductance not greater than .01 microhenries. (S-4)

**FILTERS** 


**Precision Wave**—Low-pass, high-pass, band-pass. Excellent characteristics due to use of high "Q" toroid inductor elements. Available over wide impedance and frequency ranges. (Hycor F)

**Telemetry**—Complete line for every bandwidth and channel. Standard and sub-miniature sizes. Specially designed to conform to new specs for phase linearity and attenuation accuracy. (Hycor TF)

**Variable**—Low-pass, high-pass. Standard rack panel, slotted, 3 1/2" high, max. depth 7 1/2". Low and high frequency cutoff controls cover 100, 250, 500, 1000, 2000, 3000, 4000, and 5000 cycles. Approx. 16 db attenuation per octave; 500/600 ohms, in-out impedance. (Hycor S-1)


**LAMINATES, FLUOROPLY** 

Copper foil bonded to a fluorocarbon plastic base—available in 12" x 12" sheets copper clad on one or both sides. Base thicknesses .031" to 1/8" copper, 1, 2, 3, 5 and 7 oz. Special thicknesses can be supplied. (LT-2)


**RECTIFIERS AND DIODES** 

Miniature selenium rectifiers and diodes in the microampere and milliampere range. Voltage ratings—26 to 36 VIP/cell rms. Inverse resistance up to 20 megohms at 20 volts D.C./cell. 125°C. max. operating temperature. (SR-1)

Special designs 9 KR 2 dual diodes.

**TERMINALS, hermetic seal** 

Four body sizes; six lead types—available in any combination. Bodies of molded Fluorocarbon plastic. 232°C. melting point solder. Copper ring and annular copper ring bonded to plastic body. All exposed metal plated with 30/70 tin-lead alloy. Overall lengths from 4 5/64" to 1 1/16"; overall body dia. from .203" to .281". (LT-1)

**TRANSFORMERS** 

**Toroid power**—miniature—plastic encapsulated. Up to 15 V.A. available. Frequencies from 400 c.p.s., 115 V. and higher. Multiple secondaries for heater and plate voltages. (Special designs available to suit your specification.) (Hycor WT)

**Precision ratio**—accurate voltage division and multiplication to accuracies of .01%. Accuracy maintained with moderate loading. Stock catalog types—specials to order. Miniature sizes, plastic encapsulated, and hermetically cased to MIL-T-27 specification. (Hycor RT)

\*Also supplied with adjustable feature.

†Non-inductive—all other types are inductive to varying degrees. See data bulletin for more details.

‡See data bulletin.

<sup>o</sup>MP and MV resistors can be encapsulated to improve voltage and moisture characteristics. Several types are now available. IRC offers engineering assistance for your design and application problems.

•All IRC products may be purchased through Electronic Parts Distributors. Those identified with a • are normally carried in their stocks.


(new), indicates new items since January 1957.

✕Check catalog for spacing.

FOR ADDITIONAL INFORMATION send for the Technical Bulletin indicated or contact your nearest IRC representative

## INTERNATIONAL RESISTANCE CO.



Wherever the Circuit Says 





ELECTRONIC BUYERS' GUIDE  
JUNE 1957 MID-MONTH  
PRINTED IN U.S.A.

## INTERNATIONAL RESISTANCE CO.


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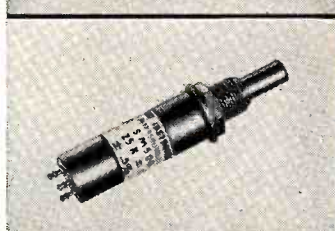
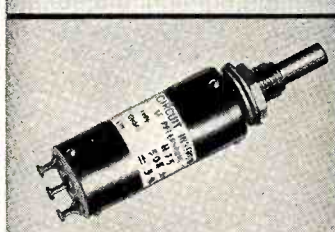
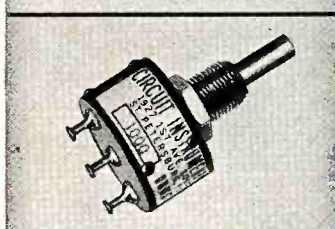
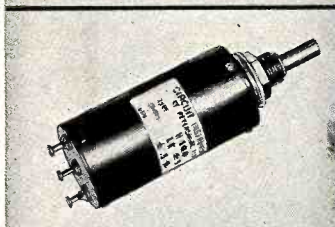
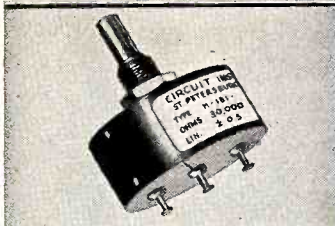
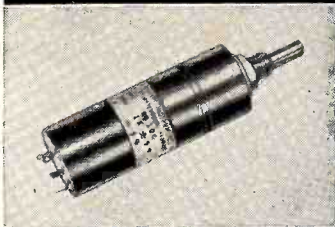
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## For Miniature Helical Potentiometers



SEND COUPON FOR  
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INTERNATIONAL RESISTANCE CO.

Call...

# CIRCUIT

INSTRUMENTS INC.

### TYPES HS-100 and HS-105

Hermetically sealed, 1" diameter precision instruments. 5 and 10 turn types. Type HS-100 3600  $-0 +4^\circ$  rotation, 4 watts. Type HS-105 1800  $-0 +4^\circ$  rotation, 3 watts. Stupakoff Type 95-1048 terminals. Standard resistance values 250 to 100,000 ohms. Hermetic sealed case is nitrogen filled.

### TYPE H-151

Only  $1\frac{1}{2}$ " diameter x  $\frac{3}{16}$ ", exclusive of shaft and turret terminals. Continuous rotation; stops available on special order. Standard linearity  $\pm 0.5\%$ . Power rating 3 watts. Standard resistance values from 50 to 15,000 ohms. Weight 2 ounces.

### TYPES H-100 and H-105

Slim 1" diameter. 5 and 10 turn types. Rotation: Type H-100 3600,  $-0 +4^\circ$ ; Type H-105 1800,  $-0 +4^\circ$ . Power rating 4 watts and 3 watts respectively. Flexible silver plated terminals or rigid turrets available.

### TYPE H-101

Tiny 1" diameter by  $\frac{3}{16}$ ", exclusive of shaft and turret terminals. Weight is 1 ounce. Power rating  $1\frac{1}{2}$  watts. Standard resistance values from 50 to 10,000 ohms. Continuous rotation; stops available on special order.

### TYPES H-750 and H-755

Ultra-thin  $\frac{3}{4}$ " diameter size. Type H-750 3 watts, standard resistance values from 250 to 50,000 ohms. Type H-755, standard resistance values from 125 to 25,000 ohms. Either flexible silver plated terminals or rigid turrets available.

### TYPE SM500

Sub-miniature  $\frac{1}{2}$ " diameter by  $1\frac{5}{32}$ " size; exclusive of shaft and turret type terminals. Weight only 1 ounce. 3600  $-0 +4^\circ$  rotation. Power rating 1.5 watts. Standard resistance values from 250 to 100,000 ohms.

### CIRCUIT INSTRUMENTS INC.

P.O. Box 1438, Dept. E  
St. Petersburg, Florida

Send technical data sheets on the following Circuit Potentiometers:

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# ALLEN-BRADLEY electronic components

*the standard of quality  
for long life and reliable performance*

## HOT-MOLDED COMPOSITION FIXED RESISTORS

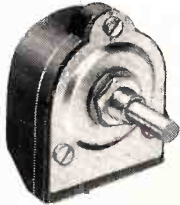
Standard resistors rated at 70°C. In 2, 1, 1/2, 1/4, & 1/10 watt ratings. Hermetically sealed units encased in ceramic tubes. In 1 and 1/8 watt ratings. Copper clad units mount on metal panel. Rated 3 and 4 watts, 70°C; or 4 and 5 watts, 40°C. Values: 2.7 ohms to 22 megohms.



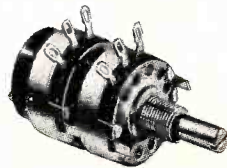
Standard Resistors

Hermetically Sealed

Copper Clad



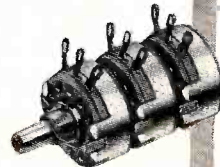
Industrial Type



Dual Unit with Switch



Single Unit



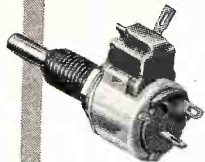
Triple Unit

## HOT-MOLDED COMPOSITION VARIABLE RESISTORS

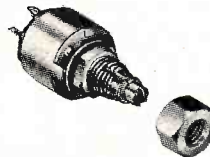
Industrial Type H rated 5 watts at 40°C. Operating life over 100,000 cycles. Type J rated 2 watts at 70°C. Type K rated 2 watts at 100°C—derate to zero at 150°C. Types J and K made in single, dual, & triple units with various shafts. Total values: 50 ohms to 5 megohms.

## SMALL HOT-MOLDED COMPOSITION VARIABLE RESISTORS

Type G rated 1/2 watt. Diameter 1/2". Made with plain or lock bushing, also with line switch. Type F for printed circuits rated 1/4 watt. Diameter 1/2". Type T for hearing aids rated 1/2 watt. Molded cover serves as actuator. All ratings at 70°C. Total values: 100 ohms to 5 meg.



Type G with Switch



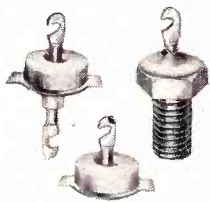
Type G with Lock Nut



Type F



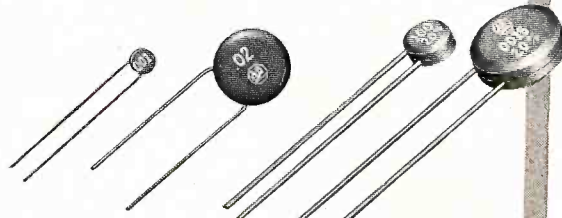
Type T



Feed-thru & Stand-off



Bare Disc Type



General Purpose, Stable, TC

Ceramic Encased

## CERAMIC CAPACITORS

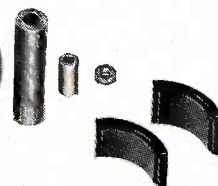
Feed-thru and stand-off units exhibit no parallel resonance effects up to 1000 mcs. Solder tab or screw mounting. Values: 4.7 to 1000 mmf. Disc units made in GP (no run-down on leads), stable, and TC types. Ceramic encased rated to 150°C. Values: 10 mmf to 0.02 mf.

## FERRITE CORES

Available in various shapes and sizes, including new lightweight flared yoke. Uniform magnetic characteristics and physical dimensions for black and white, color TV, and general applications. Class WO-1 for deflection yokes and class WO-3 for flyback transformers.



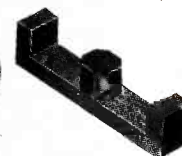
Torroids



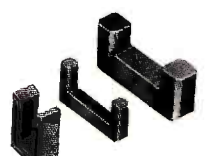
QR Cores



Flared Yoke



E Cores



U Cores

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**ALLEN-BRADLEY**  
QUALITY  
**ELECTRONIC COMPONENTS**

701



### BROADBAND SPECTRUM ANALYZER

Type L701A: 950 to 2000 Mc/s (Fund.)  
 Type S701A: 1900 to 4000 Mc/s (Fund.)  
**Direct Reading:** One Knob Freq. Control  
**Swept IF:** 7 Kc and 50 Kc  
**Sweep Width:** 50 Mc

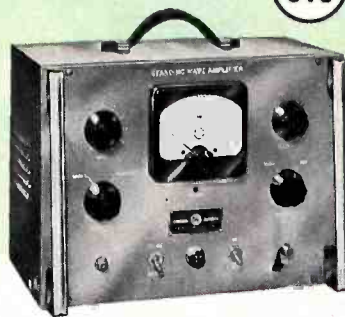
771



### SIGNAL SOURCES

Type L771A: 950 to 2000 Mc/s  
 Type S771A: 1900 to 4000 Mc/s  
**Output Power:** 50 mw (average)  
**Direct Reading Frequency Dial:** 1%  
**Internal Modulation:** Pulsed, Square Wave, C.W.  
 Integral RF Level Set Attenuator

810



### STANDING WAVE AMPLIFIER

**VSWR Ranges:** 1-3, 3-10, 10-30, 30-100  
**Modulation:** 1000 cps and 300-4000 cps  
**Sensitivity:** 0.1 $\mu$  volts (max.)  
**Output:** Cathode Follower, 10 volts (max.)  
**Bolometer Bias:** 3.5 to 9.0 ma (front panel control and meter)  
 Bolometer protection circuit prevents transient burnout

815



### UNIVERSAL KLYSTRON POWER SUPPLY

**Direct Reading Voltage Dials:**  $\pm 1\%$   
**Beam:** 200 to 2000V and 1800 to 3600V (250 watts, max.)  
**Ripple:** 3mv RMS (max.); Regulation: 0.03%  
**Reflector:** 0 to 1000V (negative)  
**Control Grid:** 0 to +150V and 0 to -300V (0 to 5 ma)  
**Internal Modulation:** Pulsed, square wave, saw tooth and sine wave



# MICROWAVE and ELECTRONIC TEST EQUIPMENT

### KLYSTRON POWER SUPPLY

**Beam:** 300 to 500 Volts (65 ma)  
**Ripple:** 7 mv RMS (max.)  
**Regulation:** 1% (105 to 125V)  
**Reflector:** 0 to 600 Volts (10 $\mu$ a, max.)  
**Ripple:** 5 mv RMS (max.); Diode Protected  
**Internal Modulation:** Square wave (250 to 2500 cps), saw tooth (40 to 120 cps)



816

### UNIVERSAL POWER METER

**Power Ranges:** 0.1, 1, 10, 100 mw Full Scale; -10, 0, +10, +20, dbm Full Scale  
**Accuracy:**  $\pm 5\%$  of Full Scale  
**Bolometer Bias:** 3 to 10 ma and 10 to 40 ma  
**Bolometer Temperature Coefficient:** Positive or Negative  
**Bolometer Resistance Ranges:** 50, 100, 150, 200, 250 ohms,  $\pm 10\%$



830

### AUDIO FUNCTION GENERATOR

**Frequency Range:** 5 to 50,000 cps (in 4 ranges)  
**Frequency Response:** Constant within  $\pm 0.2$  db (all ranges)  
**Frequency Calibration:**  $\pm 2\%$  of Dial and Range Switch  
**Output Shapes:** Sine wave, square wave, triangular wave  
**Output Meter:** Voltage,  $\pm 3\%$  of Full Scale  
**Hum Level:** 60 db below maximum output voltage



850

### SWEPT UNIVERSAL B.W.O. POWER SUPPLY

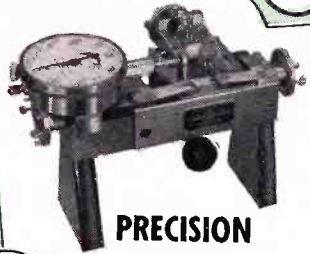
Coming Soon!

817  
818  
BWO

1957 SHORT FORM CATALOG



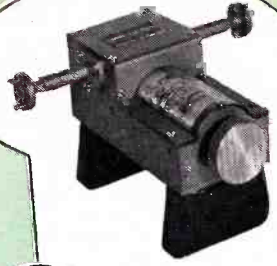
103



PRECISION SLOTTED SECTIONS



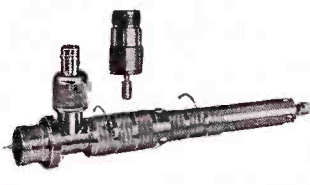
164



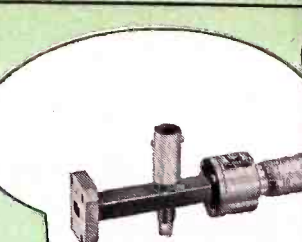
PRECISION MM ATTENUATOR



200



TUNABLE PROBE



DETECTOR MOUNTS



WAVEGUIDE TEST EQUIPMENT

INSTRUMENT	SIZE	"L"	"R"	"S"	"H"	"C"	"W"	"X"	"Y"	"K"	"U"	"Q"	"M"	"E"	
		6 1/2" x 3 1/4"	4.460" x 2.310"	3" x 1 1/2"	2" x 1"	1 1/2" x 3/4"	1 1/4" x 3/8"	1" x 1/2"	0.622" x 0.311" ID	0.420" x 0.170" ID	0.280" x 0.140" ID	0.224" x 0.112" ID	0.148" x 0.074" ID	0.122" x 0.061" ID	
	Freq. Range	1.12-1.70 kmc/sec	1.70-2.60 kmc/sec	2.60-3.95 kmc/sec	3.95-5.85 kmc/sec	5.85-8.20 kmc/sec	7.05-10.00 kmc/sec	8.20-12.40 kmc/sec	12.40-18.00 kmc/sec	18.00-26.50 kmc/sec	26.50-40.00 kmc/sec	33.00-50.00 kmc/sec	50.00-75.00 kmc/sec	60.00-90.00 kmc/sec	
SLOTTED SECTIONS		L101A	R101A	S101A	H101A	C101A	W101A	X101A	Y102A	K102A, F	U102A, F	Q103A	M103A	E103A	
FLAP ATTENUATORS		L150B	R150B	S151A	H151A	C151A	W151A	X151A	Y151A	K151A, F	U151A, F	Q151A	M151A	E151A	
PRECISION ATTENUATORS		L160B		S161A	H161A	C161A	W161A	X161A	Y161A	K164A	U164A	Q164A	M164A	E164A	
FIXED ATTENUATORS		L168A, B, C, D, E		S168A, B, C, D, E	H168A, B, C, D, E	C168A, B, C, D, E	W168A, B, C, D, E	X168A, B, C, D, E	Y168A, B, C, D, E	[A-3db B-6db]	K205B, F	U205B, F	Q206B	M206B	E206B
DETECTOR MOUNTS (crystal, bolometer)	Tunable														
	Broadband			S207A	H207A	C207A	W207A	X207A				U206B, F	Q206B	M206B	E206B
	Fixed-Tuned							X211A	Y212A	K212A, F	U212A, F				
THERMISTOR MOUNTS	Slide Screw	L216A		S216A	H216A	C216A	W216A	X216A	Y216A	K216A	U216S				
TUNERS	E/H	L310A	R310A	S311A	H311A	C311A	W311A	X311A	Y311A						
	Precision			S312A	H312A	C312A	W312A	X312A	Y312B	K312B, F	U312B, F	Q312B	M312B	E312B	
FREQUENCY METERS (direct reading)	Reaction				H410A	C402A	W410A	X402A	Y410A	K410A, F	U410A, F	Q410X (micrometer)	M410X (micrometer)	E410X (micrometer)	
	Transmission		N410A coaxial (1.00 to 4 30 kmc/sec)					X411A	Y410A	K410A, F	U410A, F	Q410X (micrometer)	M410X (micrometer)	E410X (micrometer)	
TERMINATIONS	Fixed	L501A	R501A	S501B	H501B	C501B	W501B	X501B	Y501B	K501A, F	U501A, F	Q501A	M501A	E501A	
	Sliding			S502A, S510A, B, C, D, E	H502A, H510A, B, C, D, E	C502A, C510A, B, C, D, E	W502A, W510A, B, C, D, E	X502A, X510A, B, C, D, E	Y502A, Y510A, B, C, D, E	K502A, F, K510A, B, C, D, E	U502A, F, U510A, B, C, D, E	Q501A, Q510A, B, C, D, E	M501A, M510A, B, C, D, E	E501A, E510A, B, C, D, E	
STANDARD MISMATCHES															
ADAPTERS (waveguide to coax)		L600B	R600B	S601B	H601B	C601B	W601B	X601B	Y610A, B, C, D	K610A, B, C, D	U610A, B, C, D		M610A, B, C, D	[A-3db B-6db C-10db D-20db]	
DIRECTIONAL COUPLERS				S610A, B, C, D	H610A, B, C, D	C610A, B, C, D	W610A, B, C, D	X610A, B, C, D	Y610A, B, C, D	K610A, B, C, D	U610A, B, C, D		M610A, B, C, D	E620A	
WAVEGUIDE TEES	Series	L620A	R620A	S620A	H620A	C620A	W620A	X620A	Y620A	K620A	U620A	Q620A	M620A	E620A	
	Shunt	L621A	R621A	S621A	H621A	C621A	W621A	X621A	Y621A	K621A	U621A	Q621A	M621A	E621A	
	Hybrid	L622A	R622A	S622A	H622A	C622A	W622A	X622A	Y622A	K622A	U622A	Q622A	M622A	E622A	
WAVEGUIDE BENDS	90° E-Plane	L623B		S623B	H623B	C623B	W623B	X623B	Y623B	K623B	U623B	Q623B	M623B	E623B	
	90° H-Plane	L624B		S624B	H624B	C624B	W624B	X624B	Y624B	K624B	U624B	Q624B	M624B	E624B	
PRECISION SLIDING SHORTS		L630A		S630A	H630A	C630A	W630A	X630A	Y630B	K630B	U630B	Q630B	M630B	E630B	
STANDARD GAIN HORNS		L638A	R638A	S638A	H638A	C638A	W638A	X638A	Y638A	K638A	U638A	Q638A	M638A	E638A	
SHIELDED TUBE MOUNTS					H760A		W760A	X760A							
TRANSMISSION LINE STANDS		Z911A		Z910A	Z910A	Z910A	Z910A	Z910A	Z910B	Z910B	Z910B	Z910C	Z910C	Z910C	
		Z912L		Z912S	Z912HC	Z912HC	Z912W	Z912X	Z912Y	Z912KU	Z912KU	Z912KU	Z912KU	Z912KU	
FLANGE SCREWS		Z913L		Z913S	Z913HC	Z913HC	Z913W	Z913X	Z913Y	Z913KU	Z913KU	Z913KU	Z913KU	Z913KU	

Waveguide flanges also available

Bi-directional couplers available on special order



COAXIAL TEST EQUIPMENT\*

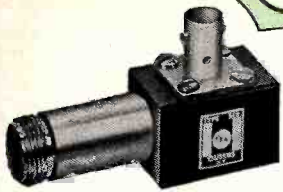
FREQUENCY IN KILOMEGACYCLES PER SECOND

INSTRUMENT	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
Slotted Sections			N101A**									
Slotted Sections (1/8")			V101A, V101B									
Cut-off Attenuators			N170A						X170A			
Tunable Probe						B200A**						
Detector Mounts (crystals, bolometer)						N200A**						
Thermistor Mount						N210A, B (N238 crystal supplied)						
Double Stub Tuner						N215A (Z915L thermistor supplied), N217A (temp. compensated)						
Frequency Meter			N410A (direct reading)			N300A						
Adapter (1/8" to 7/8")			N605A, B, C, D									
Tee						N626A (variable)						
Oscillator Cavity			N750A									
Klystron Tube Mount												N761A** (cables available)

\*All items are 3/8" coaxial components unless otherwise noted \*\*Accessories: N101A, B—"TYPE N" and "TYPE C" ADAPTER-CONNECTORS

B200A Z200M BARRETT-ADAPTER RING N200A N200N R-F OUTPUT ADAPTER N761A—Z761L, M, N, P, CABLES

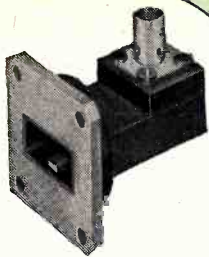
215



**BROADBAND  
COAXIAL  
THERMISTOR  
MOUNT**

FxR

216



**BROADBAND  
THERMISTOR  
MOUNTS**

FxR

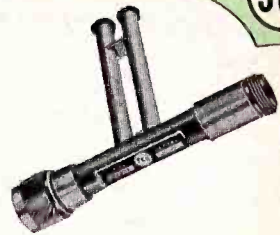
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**CRYSTAL-CASE  
BOLOMETERS**

FxR

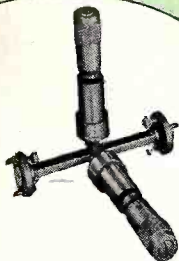
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**DOUBLE  
STUB  
TUNERS**

FxR

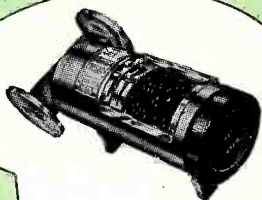
311



**SLIDE SCREW  
TUNERS  
E/H TUNERS**

FxR

402



**PRECISION  
DIRECT READING  
FREQUENCY  
METERS**

FxR

410



**COAXIAL  
DIRECT READING  
FREQUENCY  
METERS**

FxR

410



**WAVEGUIDE  
DIRECT READING  
FREQUENCY  
METERS**

FxR

501



**TERMINATIONS**

FxR

510



**STANDARD  
MISMATCHES**

FxR

601



**WAVEGUIDE-  
TO-COAX  
ADAPTERS**

FxR

605



**COAX-TO-COAX  
ADAPTERS**

FxR

610



**PRECISION  
MULTI-HOLE  
DIRECTIONAL  
COUPLERS**

FxR

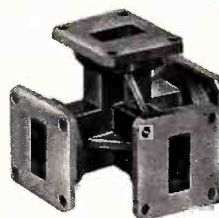
620  
621



**SERIES AND  
SHUNT TEES**

FxR

622



**HYBRID  
TEES**

FxR

623  
624



**90° WAVEGUIDE  
BENDS**

FxR

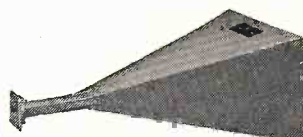
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**PRECISION  
SLIDING  
SHORTS**

FxR

638



**STANDARD  
GAIN  
HORNS**

FxR

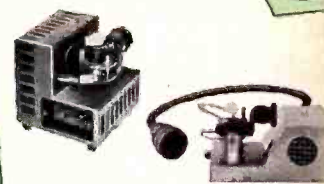
760



**SHIELDED  
TUBE  
MOUNT**

FxR

761  
762



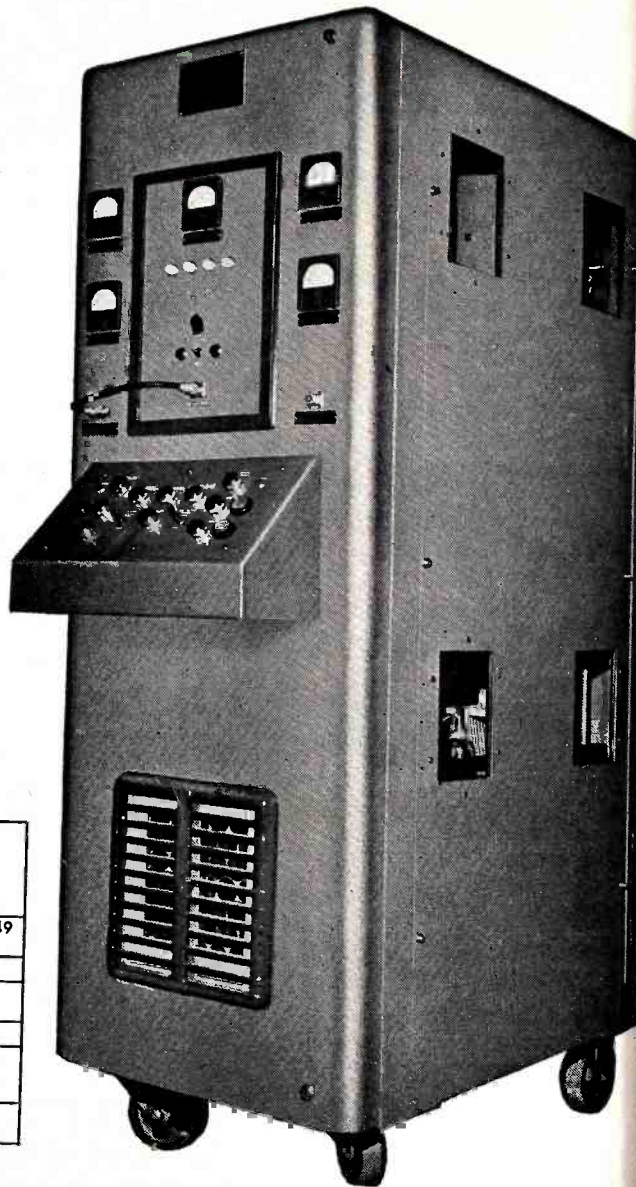
**KLYSTRON  
TUBE  
MOUNTS**

FxR

# CUSTOM MODULATORS

## from STANDARD

### DESIGNS . . .



**FXR** High-Power Pulse Modulators are custom-built to meet the specific requirements of each application through the use of FXR standard designs, developed by our skilled modulator engineering group. Our staff of experienced application engineers cannot be surpassed in the close integration of the most recent engineering developments with packaged design and standard procedures. You benefit, with a precision instrument at economical cost.

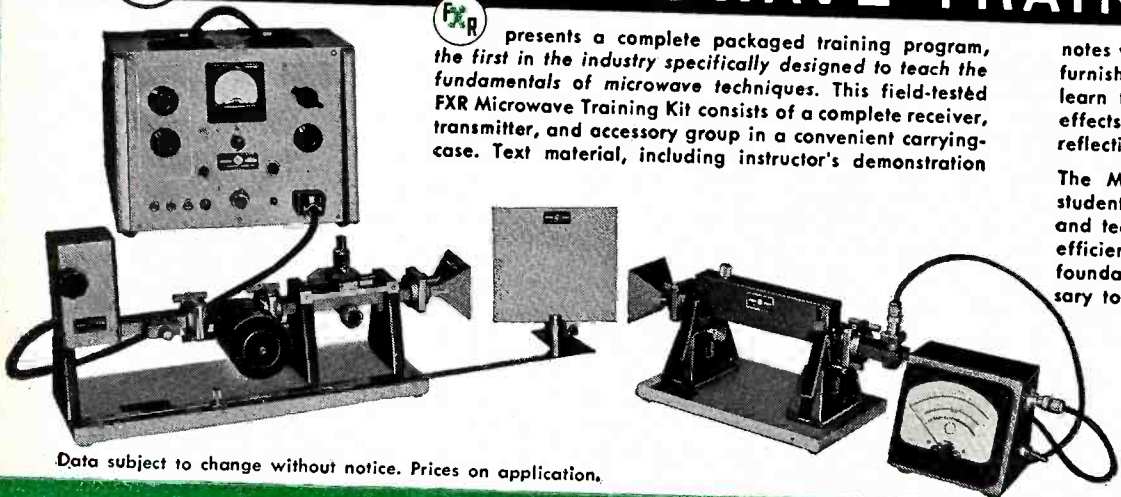
FXR's competent and efficient research, design and development staff, augmented by ultra-modern manufacturing facilities capable of production-quantity fabrication welcomes the opportunity to aid you in the design and construction of the most intricate pulse modulators and high-voltage power supplies.

Send for the "Preliminary Questionnaire" to assist you in planning the design of your next High-Power Pulse Modulator!

High Power Modulator Type No.	Power (peak mega-watts)	Voltage (peak kilovolts)	Current (peak plate-amperes)	Impedance (output-ohms)	Duty Cycle (maximum)	Pulse Shape (μsec/pps)	Input 60 CPS (Ø/volts)	Tubes Operated
Z820A	1.0	33	33	1,000	.001	0.5/2000 2.5/400	1/190-250	4J50, QK-349 RK-6249
Z821A	14.0	90	160	560	.001	2.0/200-500	3/440-550	QK-338
Z822A	0.2	20	10	3,330	.018	10/1200-1800	3/440	SAL 39 (GL-6625)
Z823A	0.042	12.7	3.3	3,330	.064	coded/300	3/440	SAL 39
Z824A	0.625	25	25	1,000	.001 at 0.5/2000	1.0/1000 2.0/260 5.0/100	1/190-250	QK-349 at reduced power
Z825A	1.6	40	40	1,000	.001 at 0.5/2000	1.0/1000 2.5/400	1/190-250	WE-5780

Modulator Loads and Exhaust Ovens are also available.

## X845A FXR's MICROWAVE TRAINING KIT



**FXR** presents a complete packaged training program, the first in the industry specifically designed to teach the fundamentals of microwave techniques. This field-tested FXR Microwave Training Kit consists of a complete receiver, transmitter, and accessory group in a convenient carrying-case. Text material, including instructor's demonstration

notes with extensive student laboratory exercises, are also furnished. By interchanging the accessories, the students learn fundamentals of propagation and the method and effects of such phenomena as shielding, polarization, reflection, focusing and bending of microwaves.

The Microwave Training Kit, an FXR exclusive, trains students to take numerical data and learn the methods and techniques of microwave measurements. This simple, efficient training program provides the student with a foundation of practical knowledge and experience necessary to his work in the microwave field.

Data subject to change without notice. Prices on application.



## Electronics & X-Ray Division

F-R MACHINE WORKS, Inc.

28-12 Borough Place, Woodside 77, N. Y.

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Write TODAY for new catalog of complete line of Precision Microwave Test Equipment.

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# ELECTRICAL - ELECTRONIC WIRE • CABLE INSULATING TUBING • IDENTIFICATION MARKERS

## WIRE

**HOOK-UP WIRE:** Turbotherm plastic insulated wires manufactured by William Brand and Company are normally supplied uncovered. They can be furnished with textile overbraids, with extruded vinyl or nylon jackets, and with braided or spiral copper shields. Color coding is in accordance with RETMA or MIL-STD-104 requirements. One, two or three spiral stripes can be applied over base colors where necessary for positive circuit identification. Turbotherm wires are resistant to the effects of water, oils, aircraft engine fuels, hydraulic fluids ethylene glycol, dilute acids and alkalis. They remain flexible over a wide range of operating temperatures, have low surface leakage and permanent color retention.

Several types of hook-up wires are available to meet different requirements and specifications:

- A. Underwriters' Laboratories Approved for 80°, 90° and 105° C at 300, 600 and 1000 volt operation.
- B. C. S. A. Approved appliance wires for 80° and 90°C operation; radio and electronic wiring (types TR-64, TR-32, TRB-64 and TRB-32).
- C. MIL-W-76A — Types LW, MW, and HW for 300, 1000 and 2500 volt operation respectively at 80°C.  
JAN-C-76 — Types WL, SRIR and SRHV for 600, 1000 and 2500 volts respectively at 80°C.  
MIL-W-16878B — Types B, C and D for 600, 1000 and 3000 volts respectively at 100°C. Type F, a silicone rubber insulated wire available with or without glass overbraids for operation at 200°C.
- D. Turbo Instrument Wire: a thin-walled uncovered wire for use in low current, low voltage instruments such as high accuracy indicators, meters and servo-mechanisms. Turbotherm 80

instrument wire is recommended where a high value of insulation resistance is required; Turbothers 105 instrument wire is recommended where varnish impregnation and high temperatures are encountered.

- E. Turbo Miniaturization Wire: a thin-walled plastic insulated wire with nylon jacket, specifically designed for equipment operating at temperatures from -55°C to +105°C. Ideal for use in miniaturized equipment both as hook-up wire and leads for transformers, chokes and other components where space is at a premium and operating temperatures are high. Insulation resistance values exceed 1000 volts per mil and dielectric strength exceeds 900 volts per mil. This wire is recommended for potting operations and varnish dipping and baking.
- F. High Voltage Leads: Two types are presently manufactured; an unjacketed flame-retardant polyethylene insulated wire, U/L approved for 10,000 and 20,000 volts D.C., and a vinyl jacketed polyethylene type made to individual specification.

## CABLES

**MULTI-CONDUCTOR CABLES:** Precisely made to specification from any of the conductor types above, but including also, where required, coaxial cables. These cables can be furnished with exact positioning within the cable of individual coaxials, twisted pairs, triples or groups. Constructions are available using fillers, tapes, wraps, shields and jackets either over the entire cable or any portion of the cable.

## TURBO TUBING AND SLEEVINGS

The many varieties of quality controlled, electrical insulating tubing manufactured by William Brand and Company fall into two general categories: coated tubings and extruded plastic tubings. Within each of these categories many types exist, each engineered to do a specific job.

- A. **COATED TUBING:** All coated tubings are available in standard AWG sizes from #20 to #0 inclusive and fractional sizes up to 1½" I.D. Generally stocked in Black, these tubings are also available in Brown, Red, Orange, Yellow, Green and Blue. Tubings are supplied in five standard grades meeting applicable ASTM, NEMA and MIL specifications as shown below.

Grade Designation	Average Dielectric Strength
A-1	7000 volts
B-1	4000 volts
C-1	2500 volts
C-2	1500 volts
C-3	No dielectric guarantee

1. **Class A Tubing:** An excellent general purpose tubing with smooth inner surfaces to facilitate snaking and assembly. Turbo Varnished Tubing is a cotton or rayon braid impregnated with organic varnishes.
2. **Class B Tubing:** Turbofuf Tubing . . . a vinyl coated glass tubing with exceptional flexibility, abrasion resistance, dielectric properties and good heat endurance characteristics. Turbofuf is used extensively in electronic equipment as insulation over bare leads. Furnished in two grades: Turbofuf-8 and Turbofuf-4 with minimum dielectric strengths of 8,000 volts and 4,000 volts respectively.
3. **Class H Tubing:** The trend toward miniaturization has intensified heat problems within electronic apparatus and has created serious problems in soldering in close quarters without injury to conventional insulations. Turbosil silicone var-

nished glass tubing and Turbo 117 silicone rubber coated glass tubing have been used successfully to overcome these difficulties. These tubings retain their physical and electrical properties at temperatures of from -80°F to +500°F. Turbosil has great physical toughness and is abrasion and peel resistant. Turbo 117 is extremely flexible and retains its dielectric properties under severe mechanical stress. Both are chemically inert and fungus resistant.

- B. **EXTRUDED PLASTIC TUBING:** The various formulations of vinyl plastic tubings have been established to meet the wide range of Underwriters' Laboratories or military specification requirements. Tubings are available in standard AWG sizes #24 to #0 inclusive and in fractional sizes up to 2" I.D. Special sizes and wall thicknesses can be supplied to meet specific requirements. While generally stocked in Black and Transparent, all RETMA colors are available.
  1. **High Temperature:** Turbotherm 105 and Turbothers 105 are Underwriters' Laboratories approved for continuous operation at 105°C. Both combine high dielectric strength with optimum physical properties at elevated temperatures. Turbothers 105, especially formulated to withstand potting and baking temperatures, will also meet the requirements of MIL-I-631B, Grade c.
  2. **General Purpose:** Two types are available: Turbolex 85 recommended for applications where moderate heat may be encountered with occasional exposure to oil. It is adequate for most low temperature work. Turbolex 76, meeting the MIL-I-631B requirements for Grade a tubing is optically clear when unpigmented, and is fungus resistant.

## COAXIAL CABLE

**TURBO "RG" TYPE TRANSMISSION LINE CABLES** are fabricated in exact accordance with the military specifications for this type of product. Continuous quality control testing during every phase of the manufacturing process insures a final product which will pass all requirements with ample safety margins.

**TURBO "RG" TYPE TRANSMISSION LINES** have high dielectric and high impulse strength, high resistance to corona cutting and low power loss. The typical cables are of standard design construction. The "A/U", "B/U" and "C/U" types are covered with low temperature type IIA non-contaminating vinyl jackets, as specified in JAN-C-17A Amendment 2 and MIL-C-17B. Others can be manufactured in accordance with this specification or in accordance with individual or special requirements.

## TURBO IDENTIFICATION MARKERS

Turbo Identification Markers are manufactured from Turbo Varnished Tubing and Turbo Extruded Plastic Tubing of all types. This product will meet applicable Army-Navy and Air Force specifications. Their tubular form insures positive, permanent identification once applied and eliminates time-consuming, injurious crimping operations and the flammability of paper and similar devices.

Turbo Identification Markers are available in all standard sizes from #14 to 1½" I.D. The extruded plastic type can also be furnished in special non-standard sizes. Markers are normally furnished in lengths of ¾" to 4" inclusive, but longer lengths can be supplied on request.

**WILLIAM BRAND & COMPANY, INC. • Willimantic, Connecticut**

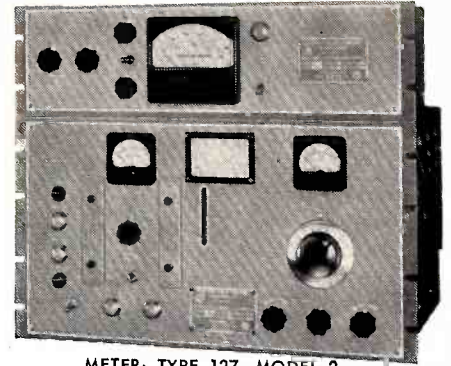
# Northern Radio FREQUENCY SHIFT TERMINAL EQUIPMENT

## FREQUENCY and SHIFT MONITOR SYSTEM

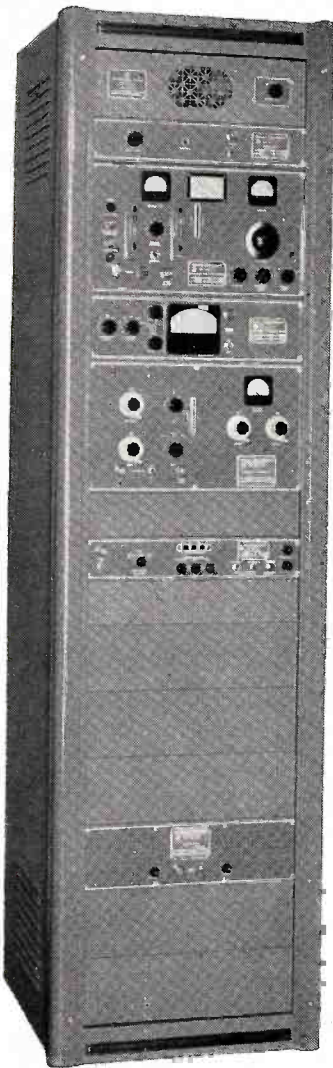
This system consists of a Type 106 Frequency and Shift Monitor and a Type 127 Frequency Meter. It is designed as a secondary standard to monitor the frequency and amount of shift of transmitter carrier outputs. It is particularly intended to measure the frequency shift of a mark and space (FS) signal either when setting up for traffic or under normal keying conditions.

The Monitor's stability is better than 2 cycles per megacycle over an ambient temperature range of 0-50° C—using crystals having a temperature coefficient of only 3 parts/million/degree C. Range is 2.5-30 mc with 10 crystal-controlled frequencies (separate panel trimmers for each); use of external oscillator also provided for. Frequency Shift range is 10-10,000 cps. Less than 100 millivolts RF input needed for 2 volts audio output.

The Frequency Meter is specially designed with selectable normal and fast-acting damping factors, permitting frequency measurements of signals while keying. Its accuracy is 2% of full scale for the ranges 0-200, 500, 2000, 5000, 20,000 cps.



METER: TYPE 127, MODEL 2  
MONITOR: TYPE 106, MODEL 4



## TYPICAL TRANSMITTER TERMINAL for TWINPLEX OPERATION



TYPE 105, MODEL 6

## FREQUENCY SHIFT KEYS

Supersedes and replaces its leader predecessor, Type 105 Model 4.

- Highest stability achieved by any FS Keyer.
  - Increased frequency range 1.0 to 7.0 mc.
  - Pre-selection of proper FS for any particular transmitter frequency multiplication.
  - Permits use with external oscillator without need of adapters.
  - Improved accessibility for even easier maintenance.
- Direct-reading frequency calibration of shift from 0 to 1000 cps.
  - FS dial adjusts "Mark" and "Space" frequencies equally above and below the carrier position.
  - Direct-reading frequency calibration of mixer and output tuning dials from 1.0 to 7.0 mc.
  - Direct reading calibration of output frequency vernier  $\pm 600$  cps.
  - Pulse-shaping circuit permits operation within assigned band-width with no adjacent channel radiation.
  - Linear carrier shift up to 1400 cps for Fax operations.



## TWINPLEX COMBINER TYPE 177 MODEL 1

For twinplex operation, the transmitting terminal includes a Twinplex Combiner Type 177 Model 1.

The Twinplex communication system makes possible a 2-channel radio circuit whereby 2 non-synchronous or synchronous telegraph transmissions modulate a single radio carrier wave causing the carrier to assume one of four specific frequencies with 400 cps separations.

The Combiner converts the four possible conditions of two telegraph signals (M1-M2, M1-S2, S1-M2, S1-S2) respectively into one of four voltages related in a 0-1-2-3 manner. The Combiner output voltage modulates the Frequency Shift Keyer.

The two telegraph channels provide the same operational flexibility as that of two separate single channel FS systems. One can, for example, simultaneously use channel #1 on 60 wpm teletype and channel #2 on high-speed Morse or Time-Division Multiplex.

### TECHNICAL DATA:

**Keying Inputs:** 1. Contacts; 2. DC current pulses, positive, negative, or polar; 3. DC voltage pulses, positive, negative, or polar.  
**Input Level:** 1. DC Voltages:  $\pm 10$  volts minimum; 2. DC Current: 45 ma. minimum.  
**Keying Speed:** 240 Words per minute maximum.  
**Output Impedance:** 10,000 ohms.  
**Keying Input Impedance:** 1. DC Voltage: 100,000 ohms. 2 DC Current: 220 ohms.  
**Output Level:** Neutral: 0 to 25 volts; Polar: +6 to -6 volts

**Output Voltage Conditions:** Four output voltages are to be proportioned as follows assuming linear P.S. Keyer characteristic.  
**Input:** M<sub>1</sub> M<sub>2</sub>, M<sub>1</sub> S<sub>2</sub>, S<sub>1</sub> M<sub>2</sub>, S<sub>1</sub> S<sub>2</sub>; Output 0, 1, 2, 3.

Individual level adjustments provided.  
**Power Requirements:** 110/220 volts, 50/60 cycles. Approximately 50 watts. Connections at rear of chassis.  
**Dimensions:** 3 1/2" High x 19" Wide x 10" Deep.

## VARIABLE MASTER OSCILLATOR TYPE 173 MODEL 1

The Northern Radio Company Variable Master Oscillator provides a continuously variable source of radio frequency energy with a stability of approximately 1 cycle per megacycle in the range of 2 to 4 megacycles. It may be used as the basic control oscillator for diversity receivers, high frequency transmitters and other communications devices, or as a laboratory standard for test and measurement functions.

Its ease of operation and direct reading of frequency make it an outstandingly useful device where precise frequency control must be maintained by completely unskilled personnel. No curves, interpolations or calculations of any kind are required in its use. Frequency is set approximately to the desired value by rotating the oscillator dial. The last three digits of the frequency automatically pulls in to the valve pre-set on the switches and holds with an accuracy that exceeds that of most temperature-controlled crystal oscillators.

### HIGH FREQUENCY OSCILLATOR

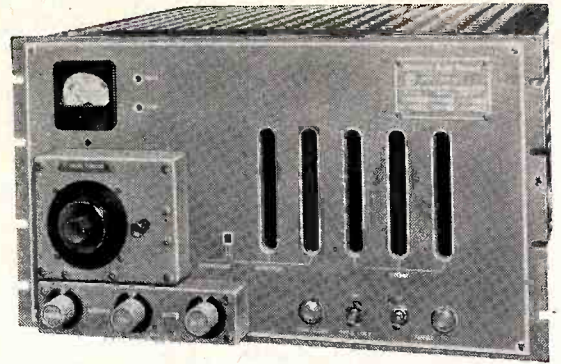
Output Frequency: 2—4 MC continuously variable.  
Stability for any combination of temperature range from 0 to 50° C., and line voltage of 115 to 230 ± 10%: Approximately 1 cycle per megacycle.  
Output level: 1/2 watt into 75 ohm load. Lever control on rear of chassis.  
Readability: ± 2.5 cycles per second. Direct digital readout on mechanical and electronic counters.  
Resettability: Absolute.

### BEAT FREQUENCY OSCILLATOR

Output Frequency: 400—800 KC crystal controlled.  
Output Level: 3.5 volts into 1000 ohm load. Level control on rear of chassis.

### TIME BASE CRYSTAL OSCILLATOR

Output Frequency 100 KC  
Stability for 0 to 50° C and ± 10% Line Voltage change: 0.2 part per million for any 12 hour period; 1.0 part per million for thirty days.  
Output Level: Approximately 2 volts.  
Output Impedance: Approximately 100,000 ohms.



**TWINPLEX CONVERTER  
TYPE 178 MODEL 1**

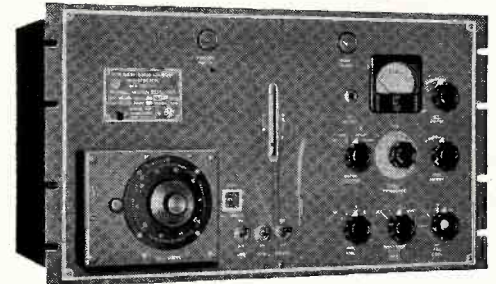
This Twinplex communication system makes possible a 2-channel radio circuit whereby 2 non-synchronous or synchronous telegraph transmissions modulate a single radio carrier wave by causing the carrier to assume one of four specific frequencies with 400 cps separations.

The receiving equipment consists of the Twinplex Converter Type 178 Model 1 and a single or diversity receiver such as the Northern Radio Type 110 Dual Diversity Receiving System. The Converter demodulates and separates the four audio tones from the radio receiver(s) into two channels each carrying the originally transmitted intelligence. The Twinplex Converter replaces the standard FS Converter for this purpose.

The two telegraph channels provide the same operational flexibility as that of two separate single channel FS systems. One can, for example, simultaneously use channel #1 or 60 wpm teletype and channel #2 on high-speed Morse or Time-Division Multiplex. It further permits the reception of channel #1 signals on all standard FS converters (tunable to 400 cps shift) without need for a Twinplex Converter: this is valuable for "Forked Circuit Operation" where the intelligence of channel #1 is intended for pick-up by other receiving stations which are not equipped for Twinplex Reception in addition to the main receiving stations which are so equipped. Reception of channel #2 (or of both channels) requires the receiving end to be equipped with a Twinplex Converter.

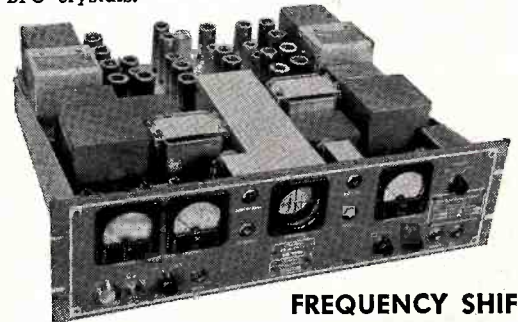


**TYPICAL RECEIVER  
TERMINAL  
for TWINPLEX  
OPERATION**



**VARIABLE MASTER OSCILLATOR  
TYPE 115, MODEL 1**

The Variable Master Oscillator Type 173 (above) may be replaced by this Variable Master Oscillator Type 115 Model 1 which is designed principally for use in diversity reception to supply variable or crystal HFO voltage to the receivers. Its variable frequency has a stability equivalent to that obtained by non-temperature-controlled crystal oscillators. It also provides 3 HFO crystals for operation of diversity receivers where fixed frequencies are required, and 2 BFO crystals.



**FREQUENCY SHIFT  
DIVERSITY CONVERTER  
TYPE 174, MODEL 1**

For use with either single-receiver frequency diversity systems or 2-receiver space diversity systems. By means of plug-in units, any reasonable number of channels is available between the frequencies of 425 and 3315 cps for either frequency or space diversity operation. For standard FS operation, the plug-in networks provide shift adjustments from 100 to 1000 cps shift.

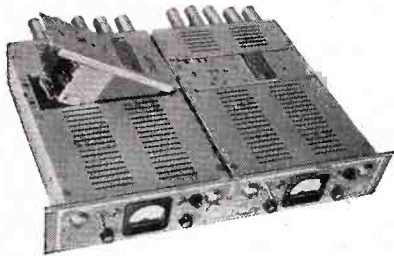
Normal input Level: -40 to +10 VU (Zero VU = 1mW into 600 ohms). (Satisfactory operation on fades to -60 VU.)  
Limiter Recovery Time: Negligible for a 40 VU differential between Mark and Space frequencies.  
Output: 65 ma into 2000 ohms floating (self-contained line battery).  
Keying Speed: Maximum of 40 dot cycles with narrow band frequencies diversity. Up to 400 dot cycles with the wide band networks.  
Monitor: 2-inch Cathode Ray tube  
Input phone jack  
2 input volume level indicators  
1 output current indicator



Pace-Setters in Quality Communication Equipment  
**NORTHERN RADIO COMPANY, inc.**  
147 WEST 22nd ST., NEW YORK 11, NEW YORK  
In Canada: Northern Radio Mfg. Co., Ltd., 1950 Bank St., Billings Bridge, Ottawa, Ontario.

## MULTI-CHANNEL FREQUENCY SHIFT TONE TELEGRAPH SYSTEMS

These Multi-Channel Telegraph Systems are audio carrier systems capable of multiplexing such circuits as telephone lines, VHF, UHF, or radio frequency links—or practically any type circuit from which a two-wire audio circuit can be derived. Designed to meet any speed requirements, these systems are fully electronic, without relays or moving parts to wear. They can be used for high-speed printer, Morse or time division Multiplex circuits, as well as such application as Telemetering, Control Circuits and Servo-Mechanisms. Instantaneous and complete sending and channel control permits any binary code groups, either "Clear Text" or "Cryptographic," to be channelized without need for additional phasing or synchronizing equipment, while paralleling of channels will allow for transmission of other type codes, such as 3 element cable code. The completely independent operation of each channel, including its own power supply, localizes faults to one channel only, leaving other channels unaffected. Individual

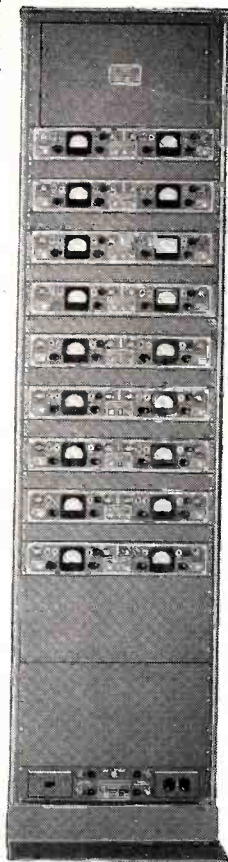


DUAL FS TONE KEYS; TYPE 153 MODEL 3:

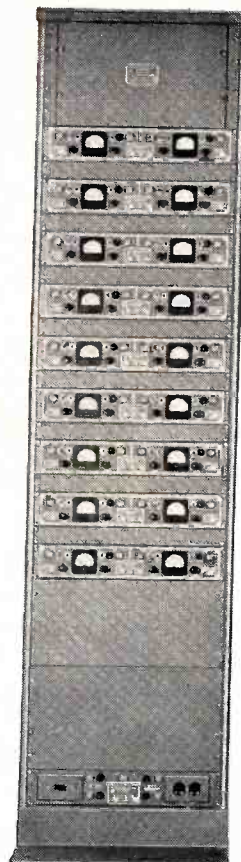
Keying Input. . . . Relay contacts,  $\pm$  DC current or voltage pulses, neutral or polar.

Input Level. . . . DC voltage:  $\pm$  10 volts min. DC current: 45 ma min.,  $\pm$  or polar. Relay: contact rating 5 ma min.

Keying input Z. . . . DC voltage: 100K ohms. DC current: 220 ohms.

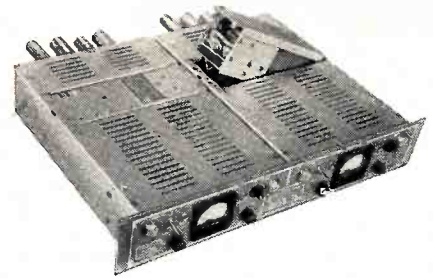


TRANSMITTER



RECEIVER

channel separation filters are used at both transmitting and receiving ends. This arrangement allows for sending telegraph or control signals over a circuit carrying, simultaneously, other forms of intelligence; or for two-way communications on the same line. The audio frequency shift principle of transmission provides for high fidelity of signal reproduction over a wide range of signal levels as well as under severe noise or interference conditions. Circuit requirements of any speed, shift and center frequency can readily be met. The systems illustrated are for use on printer circuits up to 100 WPM channel capacity. The system arrangement is very flexible, permitting grouping of the basic units into various arrangements of Multiplex Systems. These systems can be made to accommodate a large variety of channel numbers and speeds to meet any individual requirements. The flexibility is further improved by the fact that the racks, power control units, and terminal connection panels are the same for both transmitting and receiving terminals.



DUAL FS TONE CONVERTER: TYPE 152 MODEL 3:

Input Z: 600 ohms, unbalanced.

Input Level: —40 dbm to 0 dbm.

Input Frequencies: 18 channels, 425-3315 cps, 170 cycle spacing.

Keying Speed: 45 dot cycles.

### DUPLEX TELEGRAPH SYSTEM FOR MULTI-CHANNEL TONE EQUIPMENT

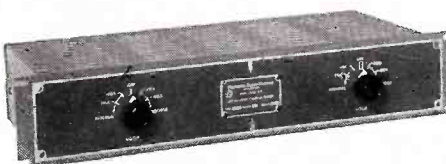
SEVEN NEW FEATURES in this system—simple 4-position switch selects from 12 possible duplex combinations; duplex operation between stations connected via carrier telegraph channels; all-electronic, without relays or moving parts; polar or neutral for either half duplex or full duplex; break-in now also possible for all half-duplex circuits; provided with positive feature to prevent space signal lock-out; includes individual line battery for each channel.

The Northern Radio Duplex Telegraph System consists of one each Dual Frequency Shift Tone Keyer, Type 153 Model 3; Dual Duplex Selector Panel, Type 200 Model 1; Dual Loop switch Panel, Type 200A Model 1; and Dual Frequency Shift Tone Converter, Type 152 Model 3.



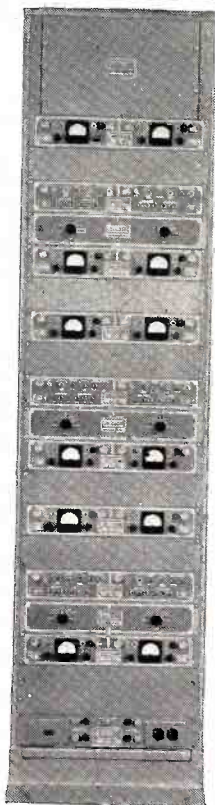
DUAL DUPLEX SELECTOR PANEL  
Type 200  
Model 1

The Dual Selector Panel provides 12 loop options, patching facilities for monitoring purposes and channel routing, including the possibility of patching-in another teleprinter loop circuit (T-junction). Any of the 12 loop options are available and may be selected for the Dual Loop Switch Panel by simple strapping arrangement. It has an individual line battery for each channel for greatest circuit flexibility. Battery and line fuses are also provided for maximum protection.



DUAL LOOP SWITCH PANEL,  
Type 200A  
Model 1

The Dual Loop Switch Panel rapidly selects half-duplex and/or full duplex mode of operation for any of the 4 standard loop options by front panel switching available from the 12 loop options in the Dual Duplex Selector Panel.



### NEW! REGENERATIVE REPEATER

TYPE 207  
MODEL 1



This new Regenerative Repeater—the most advanced in the industry—is designed for use in telecommunication circuits to re-shape and re-time distorted signals for local use or retransmission. Special provision has also been made for its use on half duplex where it will not only regenerate the ordinary teleprinter signals but also faithfully reproduce such special signals as "break" signals and "mark restoration" information. Outstanding features include: . . . maximum acceptable signal distortion: new circuitry accepts up to 47% mark or space distortion; "floating" input & output circuits; completely electronic output, no relays; greater timing circuit stability: time base derived from highly stabilized L-C oscillator; adaptable to any speed: low-pass filter & frequency-determining elements are plug-in units; completely self-contained: includes power supply & line battery.

#### TECHNICAL DATA

Input Keying Signal Requirements: (1) Neutral keying, positive or negative sense, (a) on-off 60 ma pulses, (b) on-off voltage pulses 10-100V into 100K ohms, (2) Polar keying, (3) Dry contact keying.

Frequency Stability of Time Base Generator: Less than 1 point range loss for  $\pm$  10% line voltage variation or  $\pm$  20° C ambient change from 25° C.

Sampling Time: Approximately 50 microseconds.

Output: Electronic tube outputs: (a) neutral 65 ma max. into 2K ohms, (b) polar 33 ma (max.) into 2K ohms.

Power Requirement: 125 watts approx: 110/220V, 50/60 cps.

Mounting: Standard 19" rack mounting, 5/4" panel.



Pace-Setters in Quality Communication Equipment  
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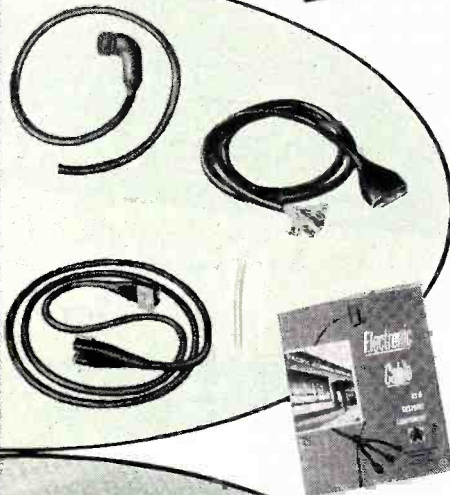
**CABLE SPECIFICATIONS**

"Design Engineering Specification" Bulletin No. PAP-C-101. Comprehensive 19-page engineering manual describing materials, construction, design criteria, specification conformance, performance, identification, documentation and other important features determining correct cable for your specific application.



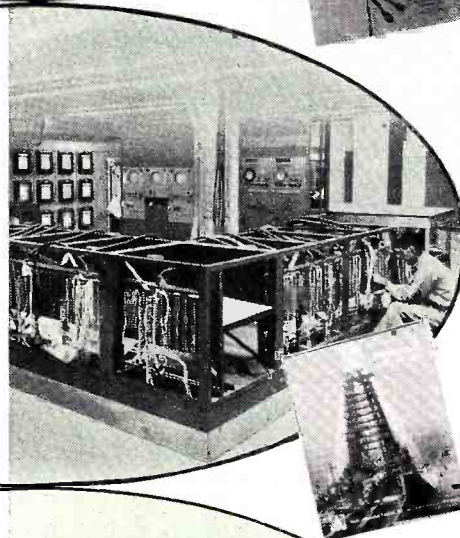
**CABLE AS A COMPONENT**

"Electronic Cable as a Systems Component" Bulletin No. 656. Generously illustrated pamphlet describes design and production of electronic cable in bulk and assemblies. Connectors and hardware; cable break-outs; environmental requirements; voltage rating, testing; cable procurement data—are some of the subjects covered in this bulletin.



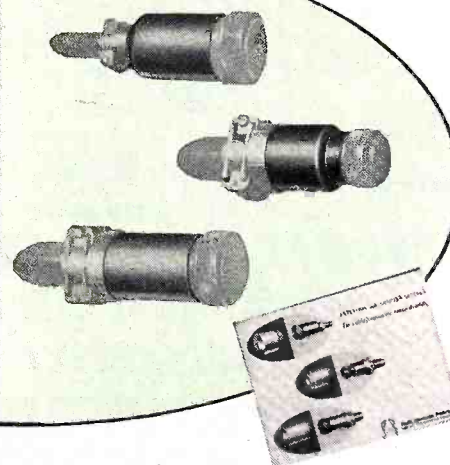
**CABLE SYSTEMS**

"Engineered Cable Systems" Bulletin 357. Illustrated brochure describing Pacific Automation Products' pioneering in the use of the Systems Concept to coordinate cable design with the development of complex electronic systems. Liaison engineering teams cooperating with systems design groups establish cable as integral part of system, supervising cable construction concurrently with development of other elements.



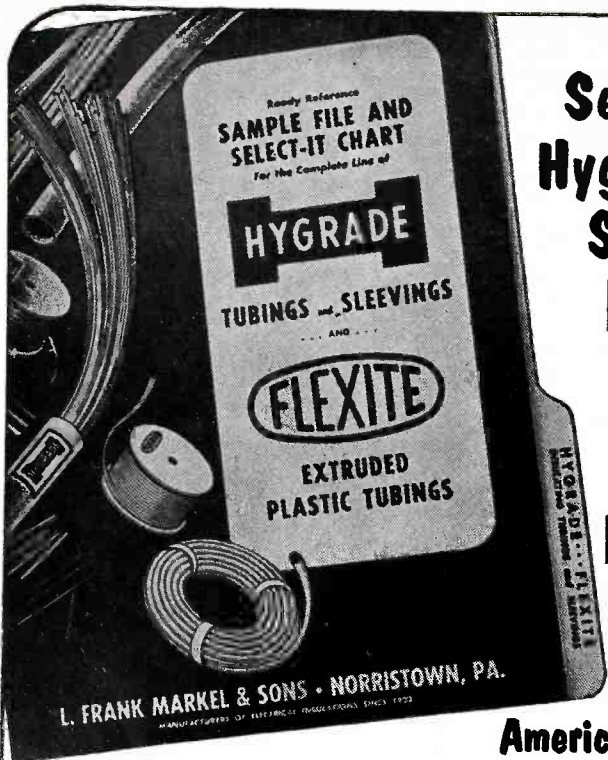
**CABLE ACCESSORIES**

"Extension and Adapter Sleeves for Cable/Connector Compatibility" Bulletin 257. Illustrated bulletin on aluminum adapters designed and manufactured by Pacific Automation Products, which for the first time provide a means of attaching any size AN connector to any size cable, with assured reliability.



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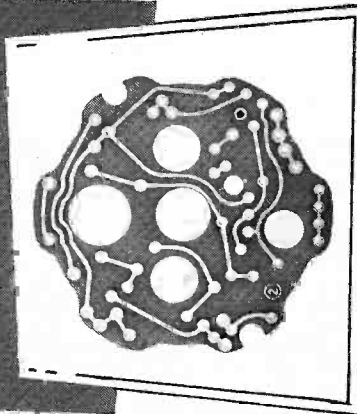
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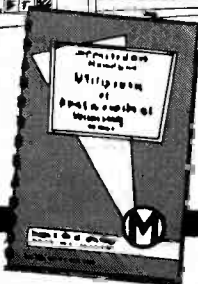
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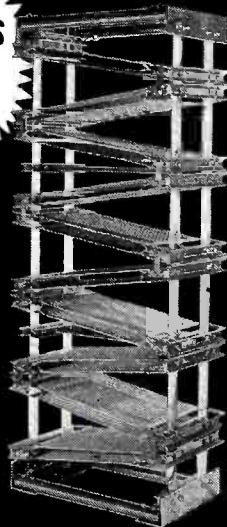
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### SEMICONDUCTOR RECTIFIERS

Westinghouse silicon and germanium rectifier cells are characterized by long life, very good reliability, no detectable aging, and excellent mechanical stability. All devices are ruggedly designed to withstand a wide range of operating conditions. They are hermetically sealed to protect the junctions from atmospheric contamination. More power output is obtainable with Westinghouse semiconductors which means considerable reductions in space and weight.

#### 302(N5051), 303(N5091)

The 302 and 303 silicon rectifying cells are used for medium and high power applications where d.c. current is required. The 302 diode is rated at 35 amperes, half wave, forward current with forced air cooling and mounted on a suitable heat dissipating plate. It is available in voltage classifications up to 500 (P. I. V.) peak inverse voltage. 303 is available in the same voltage classifications but is rated at 22 amperes forward current, half wave circuit. *Additional information:* 302, technical data 54-164, pg. 1-2; 303, technical data 54-163, pg. 3-4

#### 304

The 304 is a silicon rectifying cell used for medium power application where d.c. current is required and space is a factor. It is rated at 12 amperes half wave, average forward current with forced air cooling and mounted on a suitable heat dissipating plate. It is available in voltage classifications up to 500 (P. I. V.) peak inverse voltage and also available in low leakage classification for Magamp application with the same voltage ratings. *Additional information:* technical data 54-163, pg. 1-2

#### 305, 307, 308, 320, 1N1169

Low power silicon rectifying cells for applications such as magnetic amplifiers, computers, control circuits and power supplies. Available in voltages up to 600 P. I. V. The 1N1169 is for high voltage radio and TV applications. *Additional information:* technical data 54-161, page 1-2.

#### 322(N5082), 319, 326

The 319, 322 and 326 are high power diodes of very rugged construction. These units are rated at 150 amperes average current, half wave with forced air cooling and mounted on a suitable heat dissipating plate. It is available in voltage classifications up to 500 (P. I. V.) peak inverse volts. Mounting versatility is achieved through the variety of case configurations. *Additional information:* technical data 54-167, pg. 1-2, 3-4, 5-6

#### WA-4051

WA-4051 Semitron is a high current, low voltage germanium rectifying cell designed for special applications. The cell is liquid cooled and rated 90 volts P. I. V. and 250 amperes half wave average forward current.

#### 100

A family of low power germanium PNP transistors designed for audio frequency applications, class A and class B amplifiers, switching, or general applications. It is capable of dissipating 150 milli-watts.

#### 102

102 is a germanium power transistor designed for audio and switching applications. It is rated at collector voltage - 35 volts and collector current - 2 amperes. It has a very high, large signal current gain throughout the operating range up to 75° C.





## SILICON BRIDGES

Silicon bridge assemblies are available in a variety of standard as well as special designs. The low power diodes are available in assemblies with 1½" copper plate. Special devices are mounted as shown in the picture on insulated fixtures used primarily for mounting where the current requirements are low but the voltage requirement is extremely high. It is not unreasonable to have an application for 25,000 volts to meet communication or precipitation requirements.

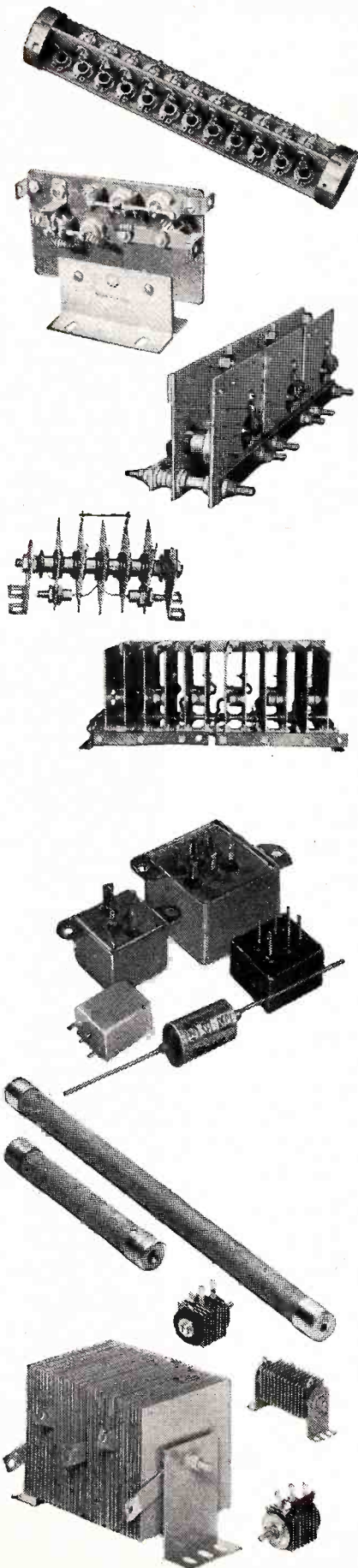
The medium power diodes are also available in the insulated plates, 2", 3", and 5" copper plates depending upon the space and electrical requirements of the customer. The medium power diodes bridge the gap between this high voltage, low amperage and high power devices. These high power devices have been assembled with currents up to 40,000 amperes. The higher power diode is mounted on 5" or 7" copper plates and

follows the fundamental rectifier circuits as designated in the AIEE standards.

Some of these typical rectifier circuits are: Single-phase half wave, single-phase full wave center tap, single-phase full wave bridge, single-phase or three phase half wave, three-phase full wave bridge, six-phase half wave, six-phase with interphase, six-phase full wave bridge, and six-phase full wave with interphase.

As an example of the variety of circuits in actual existence, the photos at left show units ranging up to a (12-1-1-B) six-phase full wave with interphase connection which has a rating of approximately 450 amperes at 400 peak inverse voltage.

It is a fundamental principle that multiples of any of these basic configurations can be used in series or parallel in order to achieve the voltage and current required for the particular application.



## SELENIUM STACKS

**Application:** Listed below are a few applications for which selenium stacks are ideally suited:

Battery chargers—all types, industrial and automotive, telephone repeater stations—d-c power supplies, business machine power supplies, communication equipment—teletype, teletype, facsimile, radio transmitters and radar equipments, electroplating power supplies and control, general purpose d-c power supplies, variable voltage power supply units, circuit breaker closing and tripping, cathodic protection power supplies, airborne and ground power supplies, blocking, dynamic braking for a-c motors, magnetic brakes, clutches, pulleys, chucks, etc., electrostatic precipitation—high voltage d-c, d-c motor power supplies—synchronous motor excitation, arc welders.

**Advantages:** Long life; outstanding characteristic of the Westinghouse selenium cell is the low rate of forward aging—unmatched in the industry. This is the one characteristic of a selenium stack that assures many years of trouble-free service.

**High temperature operation:** Westinghouse inorganic barrier layer combined with high temperature alloy permits operation at cell temperatures above 75° C.

**High efficiency:** Maintains good efficiency over wide range of load at rated volts.

**Uniformity:** Uniform cell quality is maintained through precise quality control and engineering supervision of each process step, in a modern air-conditioned factory.

**Maintenance eliminated:** Selenium stacks are static devices with no moving parts, nothing to wear out.

**Versatility:** Cell sizes and stack combinations are available for a wide range of d-c voltages and currents.

**Instantaneous d-c:** Power flows instantly on application of a-c—no "warm-up" time required.

**Easy installation:** Lightweight, compact design simplifies handling and installation.

**TYPE K SELENIUM RECTIFIERS** Type K selenium rectifiers fill the need for versatile, low-cost, highly reliable rectifying elements for low and medium current applications. They are packaged in several different forms to meet the diverse requirements of military and commercial equipment. Cells for all units are made by the Westinghouse vacuum process, which assures the best possible characteristics of long life, low forward drop, and very low reverse current.

**Advantages:** Low reverse current: Particularly in the 15 to 30-volt range, reverse current is extremely low compared with that of most selenium power rectifiers.

**Temperature stability:** Electrical characteristics of type K selenium rectifiers are relatively constant over an ambient temperature range of -55° C to +85° C.

**Minimum aging:** Electrical characteristics of type K rectifiers are remarkably stable both in storage and in service.

**Environmental protection:** Each type of rectifier is available with various degrees of protection to meet environmental conditions.

**Printed circuitry:** Miniature rectifiers are designed for convenient application to printed circuit boards.

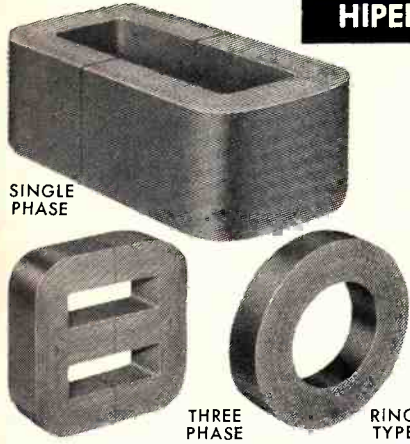
**Proved in Magamp applications:** Type K rectifiers have proved their dependability and trouble-free operation in thousands of Magamp and Cypak applications.

For additional information see descriptive bulletins 19-101 and 52-655



HIPERSIL CORES

Hipersil<sup>®</sup> Type C Cores



The Hipersil Type C core was developed and introduced 16 years ago by Westinghouse. Continual development since then has produced major improvements in magnetic quality toward lower core loss and higher permeability. These along with improvements in construction such as a lower loss etched butt joint and the recent grooved core construction insures better performance and transformer stability.

Available in 1, 2, 4, and 12 mil thicknesses of material for applications using frequencies of 60 cycles to several megacycles.

For additional information refer to descriptive bulletin 44-550.

Listed below are the cores normally carried in stock:

\* Trademark.

Table with columns: 4 mil, dimensions (strip width, build up, window width, window length), weight (pounds), gross area (sq. in.), mean length magnetic path (Lc). Rows include models H-115 to H-55.

Table with columns: 2 mil, dimensions (strip width, build up, window width, window length), weight (pounds), gross area (sq. in.), mean length magnetic path (Lc). Rows include models L-1 to L-25.

Table with columns: 12 mil, dimensions (strip width, build up, window width, window length), weight (pounds), gross area (sq. in.), mean length magnetic path (Lc). Rows include models A-4 to A-480.



**HIPERMAG CORES**

**60 AND 400 CYCLES**



Hipermag cores—Toroidal cores tape wound with high permeability magnetic material and encased in nylon or aluminum boxes. Damping agents are used to protect the cores in their cases. Either silicone grease or silicone oil as is required. When oil filled, the cases are hermetically sealed to allow encapsulation or vacuum impregnation. Cores are available in Hipernik (50% iron-

nickel) and 4-79 Permalloy in gauges of 1, 2 or 4 mils. Cores are tested by the Roberts test method and test values guaranteed to assure proper performance for your magnetic amplifier application. *Cores can be supplied matched in pairs, quads or sixes by the Roberts test method.*

For additional information refer to descriptive bulletin 44-750.

catalog number size designation	core dimensions: inches			case dimensions: inches			core ratio: inside/outside diameter	effective core area		mean length of magnetic path		nominal weight: grams
	inside diameter	outside diameter	height	inside diameter	outside diameter	height		square inches	square centimeters	inches	centimeters	
W1	3/8	3/4	3/16	.531	.843	.280	.832	.0094	.0605	2.16	5.49	2.80
W2	3/4	1	1/4	.656	1.094	.344	.750	.0250	.161	2.75	6.99	9.52
W3	1	1 1/4	1/4	.906	1.354	.3596	.800	.0250	.161	3.53	8.99	12.25
W4	1	1 3/8	1/4	.930	1.445	.330	.726	.0375	.242	3.73	9.49	19.37
W5	1	1 1/2	1/4	.906	1.639	.342	.667	.050	.322	3.93	10.00	27.15
W6	1	1 1/2	3/8	.930	1.570	.445	.667	.075	.483	3.93	10.00	40.80
W7	1	1 1/2	1/2	.906	1.639	.592	.667	.100	.645	3.93	10.00	54.40
W8	1 1/4	1 3/4	1/2	1.126	1.894	.6406	.714	.100	.645	4.72	11.99	65.30
W9	1 1/2	2	1/2	1.406	2.144	.629	.750	.100	.645	5.50	14.00	76.20
W10	1 3/8	2	1/4	1.525	2.11	.33	.813	.0375	.242	5.69	14.49	29.6
W11	1 1/2	2 1/2	1/2	1.334	2.629	.630	.600	.200	1.29	6.28	15.95	174.0
W12	2	2 1/2	1/2	1.860	2.640	.610	.800	.100	.645	7.07	17.99	98.0
W13	2	3	1/2	1.750	3.250	.750	.667	.200	1.290	7.86	19.95	215.0
W14	2	3	1	1.750	3.250	1.250	.667	.400	2.580	7.86	19.95	435.0
W15	2 1/2	3	1/2	2.360	3.152	.610	.833	.100	.645	8.64	21.95	119.5
W16	2 1/2	3 1/2	1	2.370	3.630	1.120	.714	.400	2.58	9.43	23.95	522.0
W17	2 1/2	3 3/4	1 1/4	2.330	3.920	1.395	.667	.624	4.03	9.82	24.95	850.0
W18	2 1/2	3 3/4	1 1/2	2.330	3.920	1.645	.667	.750	4.84	9.82	24.95	1020.0
W19	3 1/4	4 1/2	1 1/2	3.070	4.680	1.645	.723	.750	4.84	12.18	31.00	1262.0
W20	4	5 1/4	2	3.813	5.438	2.188	.762	1.00	6.45	14.52	36.99	2010.0

**PULSE TRANSFORMERS**

**HERMETICALLY SEALED**

Oil-filled output pulse transformers for peak voltage ratings 7 Kv and higher, and pulse widths from 1/4 to 10 microseconds are

available in standard ratings and are also designed to customer specifications.



4P43



4P54



4P37

Catalog Number	Pulse Width Microseconds	Repetition Rate Pulses Per Second	Pulse KV Input/Output	Impedance Input/Output	Bifilar Amps Heater Current
4P59	0.5	2000	2.5/12	50/1100	1.0
4P37	0.5-5	200	3.3/15	50/1000	.25*
4P100	0.25	4000	3.5/14	50/1000	1.0
4P43	1-2.5	2000-400	5.5/22	50/800	2.5
4P148	.5	2500	3.5/28.5	15/960	1.25
4P147	.5	2500	4.75/28.5	25/960	1.25
4P86	.5	2500	6.56/28.5	50/960	1.25
4P79	1.0	400	5.3/26.5	25/625	3.0
8P3	1.8	400	6.86/35	33/848	1.72*
4P54	1-4	1200-300	6.26/30	25/650	2.0
4P71	1-4	600-150	6.1/31	25/625	2.4

\*Design includes a filament transformer mounted in the H. V. bushing to transform 115 volt supply and Bifilar amps to magnetron heater requirements.

Low Power: Designed for use in low power, low voltage pulse circuits. Four general types are: (1) Blocking oscillator or regenerative drive, (2) Pulse trigger of current trans-

former, (3) Low power pulse output transformer, and (4) Coupling transformers. See Catalog Section 45-210.



**CHARGING CHOKES**

**HERMETICALLY SEALED**



Used between D-C power supply and Pulse-forming network in high power pulse modu-

lators. Types, based on circuit operation, are resonant, hold-off diode, and linear.

Catalog Number	DC Supply KV	Network KV	Inductance Henries	Average Current MA	Repetition Rate Pulses Per Second
4Y22	5.5	11	27	122	400
4Y10	9	18	22	180	600
8Y3	9	18	10	315	340
4Y13	12.5	25	18	650	300/1200

**WESTMOLD TRANSFORMERS**

**WESTMOLD**

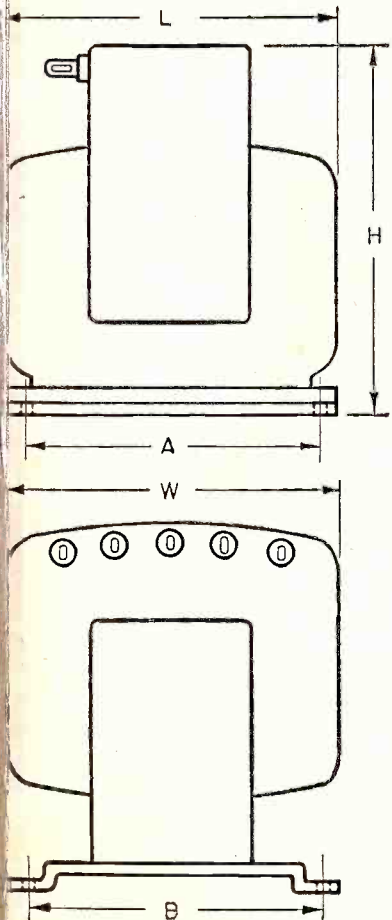


Filament—Plate—Power—Filter Choke —Low Power Pulse Transformers. Westmold transformers utilize type C Hipersil® cores in a one loop design to achieve a standard design transformer that will fit most applications with minor adaptations. Also available in 3 phase designs. WESTMOLD transformers have greater resistance to moisture penetration than previously available resin encapsulated transformers. The molding operation permits a thicker coating of resin. This coupled with completely filled, void-free coils increases the transformer's ability to withstand

high humidity and thermal aging. These transformers are cast in a mold with a material developed by Westinghouse Research Laboratories. This material maintains its flexibility at low temperatures and passes the type "C" thermal shock test of MIL-C-16923. The new molding material has less weight loss on heat aging than any other material tested.

The WESTMOLD transformer further offers dimensional stability and good appearance—the shape of the transformer is fixed by the mold in which it is poured.

TYPICAL DESIGN DATA 380-420 cycles —75° rise by resistance. 160° C maximum operating temperature in windings (with fosterite encapsulation or equivalent). Single coil-single core open type construction. Maximum regulation 15% 3,000 volts, rms, test. Class B insulation 2,000 hours life.



(1) Equivalent Voltampere Rating	Average Transformer Dimensions			Mounting Dimensions (2)		
	Height	Length	Width	Figure No.	A	B
10	1 <sup>15</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	1	—	1 <sup>1</sup> / <sub>8</sub>
16	1 <sup>9</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	1	—	1 <sup>1</sup> / <sub>8</sub>
25	1 <sup>9</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	1	—	1 <sup>1</sup> / <sub>4</sub>
40	1 <sup>13</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1	—	1 <sup>7</sup> / <sub>16</sub>
63	1 <sup>13</sup> / <sub>16</sub>	1 <sup>13</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>4</sub>	1	1 <sup>11</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>
100	2 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>2</sub>	1 <sup>7</sup> / <sub>8</sub>	1	2 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>
125	2 <sup>3</sup> / <sub>16</sub>	2 <sup>5</sup> / <sub>8</sub>	2	1	2 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>
160	2 <sup>1</sup> / <sub>2</sub>	2 <sup>13</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	1	2 <sup>19</sup> / <sub>64</sub>	1 <sup>55</sup> / <sub>64</sub>
200	2 <sup>11</sup> / <sub>16</sub>	3	2 <sup>3</sup> / <sub>8</sub>	1	2 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>
250	2 <sup>15</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	1	2 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>
315	2 <sup>15</sup> / <sub>16</sub>	3 <sup>13</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>2</sub>	1	3	2 <sup>7</sup> / <sub>16</sub>
400	3 <sup>3</sup> / <sub>16</sub>	3 <sup>11</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>8</sub>	1	3	2 <sup>7</sup> / <sub>16</sub>
500	3 <sup>9</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>4</sub>	3	1	3 <sup>5</sup> / <sub>16</sub>	2 <sup>11</sup> / <sub>16</sub>
630	3 <sup>9</sup> / <sub>16</sub>	5	3	1	3 <sup>11</sup> / <sub>16</sub>	3
800	4 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>4</sub>	3 <sup>5</sup> / <sub>8</sub>	1	3	2 <sup>7</sup> / <sub>16</sub>
1,000	4 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	3 <sup>5</sup> / <sub>8</sub>	1	3 <sup>11</sup> / <sub>16</sub>	3

LEGEND: (1) Voltampere rating based on 115 volt primary, 380 cycle minimum frequency, single secondary having a 3,000 volt insulation level and electrostatic shield for each additional secondary winding core. Rating must be decreased 10%. For 5 KV rms working voltage decrease core ratings in table by 33%. (2) Mounting centers conform to standard MIL-T-27A mounting dimensions.



**MAGNETIC AMPLIFIERS**

**MAGAMP\***



Westinghouse MAGAMP magnetic amplifiers can be used to advantage in most applications requiring reliable static power amplifiers that need little attention or maintenance and that will withstand high shock or vibration. MAGAMP amplifiers give high ratios of power output per unit volume and weight, high sensitivity and power gain, and good amplifier linearity.

The Westinghouse type K MAGAMP selenium rectifiers used have low reverse leakage currents necessary to assure long life and minimum aging in amplifiers utilizing high gain core materials. The thermo-setting resin protective coating and winding impregnation results in a reactor assembly that will present a maximum of environmental protection and yet be comparatively small and lightweight. These Westinghouse components and materials of known and proven quality combine to make MAGAMP magnetic amplifiers capable of long, high performance operation. MAGAMP amplifiers have been applied in servo systems as complex as aircraft auto-

pilots, in the control of motors from the smallest fractional horsepower size to the largest steel mill drive, in the regulation of generator voltages from the miniature aircraft unit to the central station generator. They have been used to amplify the minute outputs of thermocouples, photocells, ionization chambers, and strain gauges. Other applications have included arc welding controls, ignitron firing controls, paper mill reel control, automatic battery chargers, and isolation metering of d-c voltages and currents. MAGAMP amplifiers are available in the 3700 series under seven general numbers, as shown in the table below. They may also be engineered for specific applications. This service is available through your Westinghouse representative. For complete descriptive information on the 3700 series of amplifiers request Technical Data 52-600. Other magnetic amplifiers are covered in Technical Data 52-601, 52-602, 52-603, 52-604, 52-605, and 52-606.

\*Trademark.

**Characteristics of 3700 Series Magnetic Amplifiers**

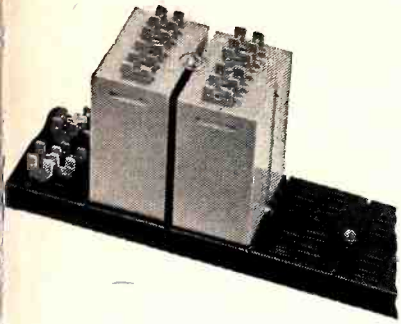
amplifier type number	3704	3708	3712	3716	3718	3719	3721
type of circuit	doubler	doubler	doubler	doubler	doubler	doubler	three-phase doubler
nominal power output, watts*	0.03	0.3	8.0	40.0	75.0	150.0	325.0
nominal ampere turns for controls*	0.3	0.45	1.0	2.2	2.2	2.5	1.5
a-c supply:							
volts	6.3	12.6	30.0	115.0	115.0	230	230
freq.—cps	60	60	60	60	60	60	60
phase	1	1	1	1	1	1	3
max. usable incremental figure of merit†	200	330	840	1300	2000	2300	3300
max. incremental power amplification (3-cycle response)‡	225	440	1100	1200	2500	2200	8000 (6-cycle response)
response time $T = k_1 \frac{N^2}{R} + k_2$ cycles‡							
constant $k_1$	$1.7 \times 10^{-3}$	$5.0 \times 10^{-3}$	$13 \times 10^{-3}$	$13 \times 10^{-3}$	$13 \times 10^{-3}$	$23 \times 10^{-3}$	$32 \times 10^{-3}$
constant $k_2$	1.5	1.5	1.5	1.0	1.0	1.5	3.8
output current§							
rated amperes			0.6	0.6	1.0	0.93	1.7
max. power output amps	0.015	0.068	0.71	1.25	2.1	2.3	5.0
load resistance, ohms rated (55°C, temp. rise)			28.0	148.0	85.0	175.0	130.0
max. power output	150.0	100.0	20.0	45.0	28.0	50.0	25.0
max. incremental power amp.	150.0	100.0	20.0	100.0	50.0	100.0	90.0
rectifiers							
self-saturating							
catalog number	12G11KE1C	21F12KA1A-I	23F14KA1B-I	23F18KA1B-I	24F18KA1A-I	24F18KA1A-I	24F18KA1A-I
part number	29B9406-21	29B9408-1A-I	29B9410-2B-I	29B9410-4B-I	29B9418-4A-I	29B9418-4A-I	29B9418-4A-I
number required	2		1	1	1	1	3
recommended complementary							
catalog number	12G11KE1C	21F41KA1D-I	23F41KA1D-I	24F44KA1D-I	24F44KA1D-I	24F46KA1D-I	24F116KA1D-I
part number	29B9406-21	29B9407-1D-I	29B9409-1D-I	29B9419-4D-I	29B9419-4D-I	29B9418-6D-I	29B9418-8D-I
number required	4	1	1	1	1	1	3
weight of reactor assembly, pounds	0.27	0.30	1.1	2.9	5.0	6.5	19.5
size of assembly, inches							
diameter	1%	1%	2½	3½	4½	4½	4½
height	1¾	1¾	2½	3¼	3¾	4¾	4¾

\* Maximum power output obtainable within the linear range of the control characteristic curve for rated load.  
 † Control ampere-turns necessary to change the output from cutoff to the nominal power output point.  
 ‡ The ratio of the maximum power amplification to the response time.  
 § Power amplification corresponding to the three cycle response time taken over the linear range of the control characteristic curve for the optimum load resistance.  
 † Response time in cycles of supply frequency.  
 § RMS value if output is a-c; average if output is d-c.



**CYPAK** \*

**MAGNETIC CONTROL**



The name CYPAC, applied to Westinghouse logic elements for industrial control, is derived from the new science of Cybernetics. The name stands for packaged Cybernetics—CY for Cybernetics, PAK for package.

CYPAC elements are definitely a replacement for relays, but not on a one-for-one basis. Relays accept only one input, and provide a number of isolated outputs. CYPAC elements, on the other hand, accept a number of inputs, and provide a single output. This output can be used for a number of functions.

Unlike relays, CYPAC elements have no moving parts, contacts, springs or other elements subject to wear or erosion. The result is a tremendous increase in control life and reliability. Since CYPAC is a static

device, there is no indication that life can be given in terms of the number of operations. However, the life of CYPAC elements is estimated as ten or fifteen times that of a conventional relay.

The operation of CYPAC elements is based primarily on magnetic amplifier principles, but with the addition of the unique Ramey circuit.

CYPAC static control is applicable to every type of industrial application involving sequential or contingent operation. It consists of a number of logic or "decision" devices which provide all functions that are performed by relays, along with auxiliary devices that form a complete system.

For additional information see technical data 52-760

\* Trademark.

**LOGIC FUNCTIONS**

Signals are the common ingredient of all industrial control circuits. These information carriers make up both the quantity on which operations must be performed and the means by which operations can be performed. Signals are amplified, transmitted, or switched. They are also used for actuating control mechanisms and for matching between systems or their sections.

Electrical control nomenclature is based on the signal. Signals take one of two forms: "Analog" or "Digital". Electrical systems, equipment, and even design approaches are largely classified under these two headings. Although logic functions are primarily concerned with "digital" type control, a comparison of the two types serves as an effective method for defining them.

The "digital" signal is a sharp, discrete signal of definite duration. It is a pulse. The "analog" signal, in direct contrast, is continuous, and gives a continuous representation of some quantity or process. The signal from a switch is a digital type signal while that from a tachometer generator is analog.

**DIGITAL CONTROL**

Digital type control is perhaps the most common control approach in industrial control circuits. The most common digital device used in control circuits is the relay. Since 1836 the relay has been able to fill a constantly growing range of control requirements. Since the early 1920's, it has been used extensively for industrial control. Today it has reached a nearly perfect state of application. However, the relay's ability to continue to satisfy these needs is questionable. Although it is a versatile and well-suited performer, it can no longer keep pace with the demand for greater reliability.

Industry, and the high production industries, have demanded more and more life from the relay in recent years. Faced with the possibility of having to base even more complicated digital schemes on a device which seems to be approaching an upper limit in reliability, industry is asking for a fresh approach to its switching problems. Logic functions appear to be not only the approach required but also an opportunity to get closer to the fundamentals of digital control.

**FUNCTIONS AVAILABLE**

A logic function is a means of expressing a definite condition. Curiously, only four logic functions are required to express any possible condition, or specific arrangement or information. These are: AND, OR, NOT and MEMORY. The definition for each one of them can almost be deduced from their names.

**"AND" Function**

In the "AND" function, an output is obtained only when all of a given number of input signals are applied. In other words, given input a and b and c and . . . j, an AND function delivers an output. Corresponds with relays in series.



**"OR" Function**

In the "OR" function, an output is obtained when any one of a number of inputs is applied. Hence, given any input a or b or c or . . . j, the OR function delivers an output. Corresponds with relays in parallel.



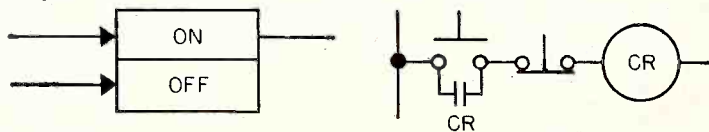
**"NOT" Function**

In the case of the "NOT" function, an output can be obtained only when no input signal is applied. Therefore, given an input a, no output is obtained; but stop input a and the NOT function delivers an output. Corresponds to a normally closed relay.



**"MEMORY" Function**

The fourth type is the "MEMORY" function. Actually, there are two kinds of MEMORY functions—a limited function and an unlimited. Limited memory means that, following an input, a specified interval passes before an output is obtained. Or in other words, given an input a, an output is obtained after a specified time, T<sub>1</sub>. The unlimited memory function, as the name connotes, delivers an output following an input until such time as a second input is fed into the system; the second input stops the output. Hence, given input a, the unlimited MEMORY function delivers an output until input b is applied. Corresponds with a latched-in relay.





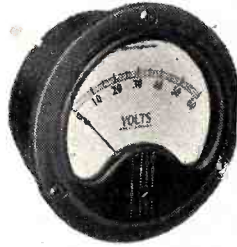


**INSTRUMENTS**

**Panel Instruments**



Type R-33



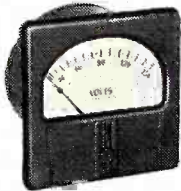
Type N-37



Type RC-35



Type N-35



Type R-35

**Switchboard Instruments**

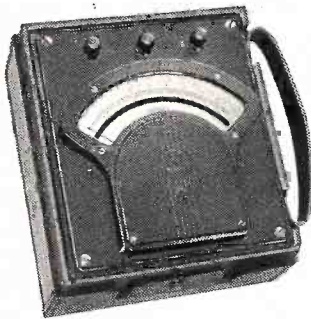


Type 25



Type K-24

**Portable Instruments**

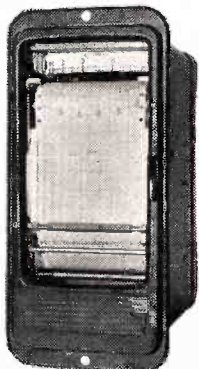


Type P-5

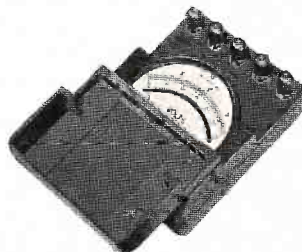


Type P-4

**Recording Instruments**



Type 44



Type P-14

A complete line of instrumentation is offered in panel portable, switchboard and recording types to measure a great variety of electrical quantities.

**PANEL INSTRUMENTS**, accurate to 2%, are available in 2½, 3½ and 4½ inch sizes. Included in this line are instruments to measure d-c microamperes, milliamperes, amperes, millivolts and volts; a-c milliamperes and volts at commercial power frequencies; microamperes, milliamperes and volts at audio frequencies; and milliamperes and amperes at radio frequencies.

Also included are decibel meters to measure power level in standard transmission lines and elapsed time meters ideally suited for tube life testing.

Round or rectangular case styles can be provided for both flush and projection mounting. The entire panel instrument line has co-ordinated styling enabling instruments of different sizes to be used on the same panel without sacrificing matched appearance.

Westinghouse panel instruments are fully approved under government specification MIL-M-6A and ASA specification C-39.1. See catalog section 43-300.

**PORTABLE INSTRUMENTS** can be supplied for ½, ¾ or 1% accuracy. A wide variety of multirange styles makes these instruments ideally suited to test different electronic circuits having wide ranges of current or voltage. Current ranges from as low as 10 microamperes to as high as 200 amperes full scale can be measured without the use of external accessories. Similarly obtainable are voltages measurements from two millivolts to 1500 watts.

Knife-edge pointers, minor dials and five-line scale divisions are provided on all portable instruments to assure quick, accurate readings. See catalog section 43-100.

**SWITCHBOARD INSTRUMENTS** are available either in the conventional 90° scale design or the modern design 250° scale. A tremendous variety of electrical quantities including current, voltage, power, reactive power, power factor, frequency and synchronism can be measured with these instruments.

The full view cover and dial construction on the K-24 instrument assures accurate readings at wide-angles from the instrument without parallax or shadow. See catalog section 43-200.

**RECORDING INSTRUMENTS** of the direct-acting type provide 1% accuracy. Simplicity is the keyword—minimum time required to change charts and fill the inkwell. The mechanisms—chart and measuring—are easily accessible for on-the-spot repair work if required. Fast response time, high torque and a continuous, accurate record are assured because of Westinghouse attention to design and construction details. All Westinghouse instruments have matched, co-ordinated styling, and performance is the result of years of experience in the manufacture of a high quality product. Dials that stay white, springs that do not change their characteristics and carefully honed pivots are only three of multiplicity of reasons why Westinghouse provides the highest quality instruments available.

A wide variety of ratings of all types are available from stock, ready for immediate shipment. See catalog section 43-415 and 43-440. Consult your nearest Westinghouse sales representative for details.



## INDICATING LIGHTS



FOR A-C VOLTAGES  
UP TO 550 VOLTS



A-C OR D-C SERVICE  
125 VOLTS

Panel Mounting—Indicating lights have shock resistant lens with wide angle visibility. They are available in six

standard colors; red, green, amber, blue, opalescent, and crystal. Two types of lights are available:

### FOR A-C VOLTAGES UP TO 550 VOLTS

Uses a transformer and a 6-8 volt bulb and is designed for voltages up to 550 volts, 60 cycles, a-c. The three major components of this unit are: (1) lamp

base with transformer and miniature bayonet #44 bulb; (2) shock resistant colored lens; and (3) legend plate.

### A-C OR D-C SERVICE, 125 VOLTS

Is designed for either a-c or d-c service, 125 or 250 volts, and uses a 6-S-6 vibration type candelabra base bulb—with a resistor for 250 volts and full voltage for 125 volts. The major components

are: (1) lamp base, with resistor if required, and 125 volt 6-S-6 vibration type bulb; (2) shock resistant colored lens; and (3) legend plate.

## MINIATURE LIGHTS AND SWITCHES



### RECTANGULAR MINALITE®

A medium sized low-drain indicating light designed for extreme angular visibility and to provide the utmost in sturdiness, compactness, and appearance. Its design matches modern rectangular switchboard devices, such as instruments, relays and control switches. It is intended for general indicating or signal purposes on switchboards, control desks, etc.

### ROUND MINALITE®

A compact, medium-drain indicating lamp developed especially for miniature steel switchboards, providing the maximum illumination in the smallest possible space. Since some rigidity was sacrificed to obtain the long slender construction, which permits close center spacing between adjacent lamps, it is intended only for such applications where the wire size is not larger than No. 18.

*Complete information on component parts, hardware, receptacles and resistors available is contained in descriptive bulletin 37-350, which will be sent free on request.*

## THE WESTINGHOUSE MINATROL® SWITCH

A compact control switch of smaller dimensions than the conventional Type W control switch, designed particularly for use on miniature switchboards. It is available in forms to suit the varied requirements of control switch applications, and will handle the full control voltage without interposing relays. Its flexibility of application is practically the equivalent of the Type W switch.

**Construction** — The Minatrol is a rotary-type switch with the same design features which have made other rotary-type control switches outstanding in performance.

The switch handles 125 or 250-volt control circuits directly, using toggle switches with quick-make and quick-break contacts mounted in unit-construction frame. It occupies only about one-fourth of the switchboard space required by the conventional switch and has a pleasing appearance, unmarred by the mounting screws.

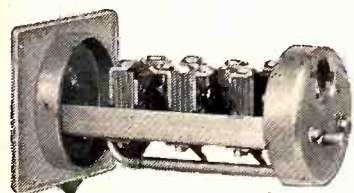
**Performance** — The current-carrying capacity and interrupting ability of the Mina-

trol is ample to handle the usual control circuit without the use of auxiliary interposing relays or intermediate control voltages. The switches are rated at six amperes continuous and can interrupt a non-inductive load of three amperes at 250 volts and six amperes at 125 volts d-c. The switch will interrupt highly inductive currents up to five amperes at 125 volts d-c or up to one ampere at 250 volts d-c. On a-c, values can be at least doubled at 250 volts maximum.

**Classification** — The Minatrol control switches are of two types:

1. Type C, for stay-put and spring return with fixed handles.
2. Type S, for stay-put with removable key handles.

Two standard lengths are available, one to accommodate a maximum of four switch units, and the other a maximum of eight switch units. A special twelve-switch unit length is available on order. Request Descriptive Bulletin 37-250 for complete information.





**CONTROL DEVICES**



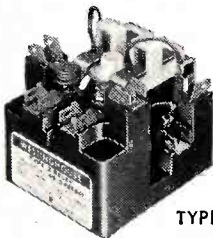
TYPE OT  
OIL TITE  
CONTROL STATION  
1 to 16 Unit Sizes  
Available



OPEN  
CONTACTOR



TYPE NH  
CONTROL RELAY



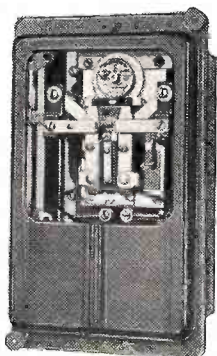
TYPE Z



TYPE TD



TYPE SG



TYPE TK

**PUSHBUTTONS** are available in a complete line of Standard, Heavy Duty, and Oil-Tite\* units to meet the requirements of manufacturers of electronics equipment. The push-buttons and selector switch units are rated for continuous current of 10 amperes—see normal interrupting capacity table below. For complete information as to types, sizes, interrupting capacities, etc.; request free Descriptive Bulletin 15-000.

\* Trademark.

TYPE OT OIL-TITE PUSHBUTTON RATINGS CONTINUOUS RATING—10 AMPERES		
voltage	normal interrupting amperes	
	with pushbutton operator	with selector switch operator
110-125 A-C	6.0	6.0
220-250 A-C	3.0	3.0
440-480 A-C	1.5	1.5
550-600 A-C	1.2	1.2
115-125 D-C	2.2	2.2
230-250 D-C	1.1	0.55
550-600 D-C	0.4	0.2

**CONTACTORS** of the famous Westinghouse Life-Linecontactor® design are available in three general classes: Reversing Mounted Life-Linecontactors • Mounted Life-Linecontactors\* • Unmounted Contactors.

In addition, they may be modified with built-in pushbuttons, selector switches, control transformers or special combinations of modifications to suit the user. 8 Standard pole combinations are available for 5 to 2,500 amperes, 600 volts maximum, a-c or d-c. Oil-immersed contactors operate up to 5,000 volts at 200 amperes.

**RELAYS: Type Z**—Application: The type Z relay is a small, versatile, multi-pole relay used as an auxiliary magnetic device to switch light loads and small motors. It can be used for either a-c or d-c applications and is especially suitable as an interposing relay to operate larger contactors and starters. Description: This 2-pole relay with DPDT contacts meets U. L. Standard clearances for 230 volt and is designed for steel panel mounting. It has easily removable coils, both coils and cores being suitable for either a-c or d-c operation. Coil burden is approximately 5 watts a-c or 2 watts d-c. Design features: Completely encapsulated coils—Front connected with dual taps for amp junior faston terminals plus screws for wire connections—Molded base—Nylon armature insulating plate—Adjustable kick-out spring—*Extremely* long mechanical life—Contacts of extra-heavy solid silver—Contacts designed to avoid bounce when operating a size 4 contactor on a common base. Ratings: Contacts; continuous 10 amps at 300 volts. Coil; 6 to 220 volts a-c, 6 to 220 volts d-c\*. Hp rating; 1/2 hp at 115 volts a-c, 1 hp at 230 volts a-c.

\*Over 110 volts d-c includes a coil resistor for separate mounting.

**Type NH** relay is a general purpose control relay used for switching control circuits and other light electrical loads. Especially suitable for steel panels, it sequences multi-motor machines, operates solenoids and is used as a pilot control for electrical circuits

from pushbutton stations, temperature or pressure controls, limit switches and other devices. These relays are supplied in any combination of normally open and normally closed poles from two to six. The convertible contacts can be easily changed in the field from NO to NC or vice versa without additional parts. Coils can be changed readily for adapting relays to voltages through 600 volts AC. Type NH relays are available in NEMA type I enclosures.

Other standard NEMA types can be supplied on special order. For additional information request Descriptive Bulletin 16-302.

**Type SG**—For miscellaneous or remote switching; continuous operation on circuits up to 575 v, a-c and 600 v, d-c. Application: To energize multiple circuits. To furnish additional contact capacity for control circuits requiring currents higher than can safely be handled by the protective relay contacts. To provide flexibility of contact arrangement, such as opening and closing several circuits simultaneously. To give small time delays on pick-up or drop-out. For further information see Descriptive Bulletin 41-750.

**Type TD and TK**—Industrial control for intermittent duty in process timing such as electrolytic plating, heating, annealing. General auxiliary service for coordinating sequential switching functions. Protective relaying for required time delay to obtain selective relay coordination. Motor control for timed steps to cut out starting resistance. Power line carrier systems for automatic check-back schemes in checking transmission of carrier between terminals.

TD types available: synchronous motor, driven single, range timer. Ranges of operating time delay: 5-90 sec. Voltage ratings: a-c 60 cycles; 115, 230. TK types available: synchronous motor, driven triple, range timer. Ranges of operating time delay: 2-30 sec., 0.1-5 min., 1-50 min. Voltage ratings: a-c 60 cycle; 115, 230, 460, 575.

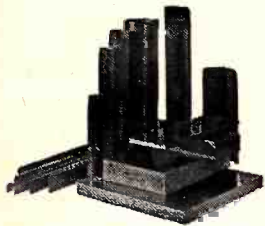
D-c; 125 and 250 volts d-c requires d-c/a-c inverter for synchronous timing motor for both types. For further information see Descriptive Bulletin 41-570.

**Type MN**—Used in d-c circuits requiring instantaneous overcurrent protection where the relay must maintain its accuracy under conditions of moderate shock or sustained vibration such as on shipboard. A typical application involves use of the relay in electronic tube circuits. In certain applications, the characteristics of the associated equipment may require a slight time delay in relay operation after the relay is energized. Winding the operating coil on a copper spool provides time delay as noted under "operating time".

"Special" type MN relays can be supplied having spdt. (circuit closing and circuit opening) contacts; also with mechanically actuated operation indicator. For further information see Descriptive Bulletin 41-750.



## MICARTA



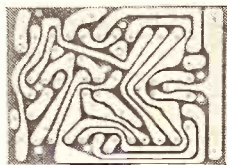
LAMINATED SHEETS AND SHAPES



MOLDED PIECES



MICARTA 444



COPPER CLAD MICARTA

### MICARTA SHEETS AND SHAPES

Thirty grades of sheets, most of which are available in black or tan. Fillers include paper, cotton, asbestos and glass. The most commonly used by communication engineers is MICARTA tan (254) and black (464), both of which are paper base plastic. Either color supplied in 36" x 36" sheets, 1/32" to 2" thick. Also available to the electronic industry is a XXXP warm punching grade H-3020 supplied from 1/32" to 1/4" thickness. MICARTA 259-2 is made of melamine resin in a base of glass cloth. It is grey, fire-resistant and very strong. Many of the standard grades are qualified under Military Specifications. Standard MICARTA shapes include angles, channels, zees, rods and tubes. All are produced in six or more grades, in various dimensions.

### MOLDED MICARTA

For large production quantities of simple or complicated shapes. Material placed in the mold may be in one of four forms: (a) wood flour and plastic, (b) impregnated

cloth or paper in laminated form, (c) impregnated cloth or paper chopped into small pieces, or (d) a combination thereof. Grades using sheets and chopped pieces make the strongest parts; those containing wood flour are useful for intricate shapes.

### MICARTA "444"

This form of MICARTA offers a practical and economical means of obtaining molded forms or shapes with low-cost equipment and dies. Examples of the shapes are shown at left—A tan, green or black product, processed in flat sheets of various thicknesses, from cotton cloth impregnated with a phenolic resin binder. MICARTA "444" is a practical material for post forming many parts ordinarily made of drawn sheet steel.

### COPPER CLAD MICARTA

Now available in sizes 36" x 42" and 36" x 36" in thicknesses from 3/64" through 1/8". Grades include XXXP both warm and cold punch plus epoxy glass copper clad for military requirements.

## MAGNETIC METALS AND ALLOYS

Westinghouse Special Magnetic Alloys fill a variety of electrical and magnetic applications. These alloys provide a wide range of magnetic properties needed for many special requirements. For special needs these alloys will result in improved performance and are superior to the more common commercial magnetic materials.

### HIPERNIK®

A magnetic alloy approximately equal proportions of iron and nickel having exceptionally high initial and maximum permeability and extremely low losses. Used in audio and instrument transformers, relays, magnetic bridges, shields for electronic tubes, etc.

### HIPERNIK V®

A highly oriented magnetic alloy of approximately equal proportions of iron and nickel possessing a very high remanence accompanied by a low coercive force. This material is specifically designed for saturable reactors and magnetic amplifiers.

### CONPERNIK®

A magnetic alloy of approximately equal proportions of iron and nickel having constant permeability over a range of low flux densities. It is used where constant inductance cores are required over a low range of inductions.

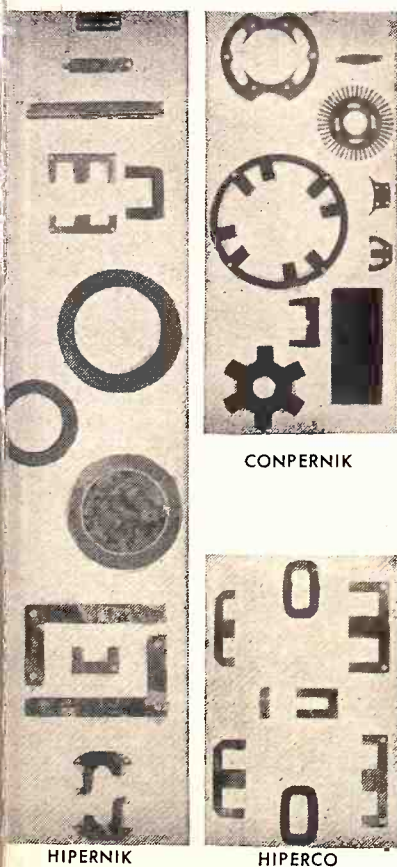
### HIPERCO®

A magnetic alloy of approximately one-third cobalt and two-thirds iron. Hiperco has the highest magnetic saturation of any known commercial alloy. Permeability above 100 oersteds is far superior to iron and the electrical sheet steels. It is used as a core material for motors, generators, and transformers where minimum weight and size are prime requisites.

### OTHER ALLOYS

Discaloy®, Refractaloy® and K42B® are three of the special high-temperature alloys developed by Westinghouse to meet special applications.

®Trademark.



HIPERNIK

HIPERCO

CONPERNIK

Request Technical Data 52-100 and 52-200 for complete information

When ordering or seeking information please mention Electronics Buyers' Guide.



**CIRCUIT BREAKERS**

**AB DE-ION®**



K TYPE  
400 AMP.



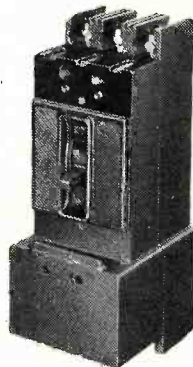
E TYPE  
100 AMP.



J TYPE  
225 AMP.



F TYPE  
100 AMP.



100 AMP.  
TRI-PAC

AB DE-ION CIRCUIT BREAKERS comprise a complete line of fuseless protective devices for distribution, power, lighting and electronic circuits. They are used in individual mountings, built-in applications, separate enclosures, switchboards and panelboards.

The sturdy moldarta breaker cases form complete self-enclosures, protecting workers and preventing tampering. Standard construction features are the De-ion arc quenchers, quick-make and quick-break mechanisms, and thermal-magnetic trip elements. Request Descriptive Bulletin 29-150.

**FEATURES OF AB DE-ION CIRCUIT BREAKERS**

	Quicklag-C Quicklag-P 1, 2 Pole	P-1** 1 Pole 2 Pole	E 1 Pole 3	F 2 Pole 4 #	G 2 Pole 4 #	J 2 Pole 3	K 2 Pole 4 #	KL 2 Pole 3	L 2 Pole 3	M 2 Pole 3
<b>RATINGS</b>										
Ampere Ratings—Min. (U. L. Listed)—Max.	10 50	#10 50	15 100	15 100	50 100	70 225	70 225	125 400	125 600	700 800
A-C Voltage Ratings—Max.	120 120/240	120 120/240	120/277* 240	600	600	600	600	600	600	600
D-C Voltage Rating—Max.		32	125 125/250 125/250	250	250	250	250	250	250	250
Underwriters Laboratories Interrupting Ratings—Amp:	5,000		5,000 10,000*	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Interrupting Ratings Amps A.C.—Based on NEMA Test Procedures	5,000	5,000	7,500	600 VAC 15,000 480 VAC 15,000 240 VAC 20,000	15,000 15,000	15,000 20,000	25,000 25,000	25,000 30,000	25,000 35,000	25,000 35,000
<b>SPECIAL FEATURES (Partial List)</b>										
Inst. Magnetic Trip Only				X	X	X	X	X	X	X
Non-Automatic		X	X	X	X	X	X	X	X	X
Shunt Trip			X	X	X	X	X	X	X	X
Undervoltage Trip			X	X	X	X	X	X	X	X
Auxiliary Switch		X	X	X	X	X	X	X	X	X
Alarm Switch			X	X	X	X	X	X	X	X
Mechanical Interlock			X	X	X	X	X	X	X	X
Reverse Current							X	X	X	X
Moisture-Fungus Treatment	X	X	X	X	X	X	X	X	X	X
Complete Electrical Operation						X	X	X	X	X
Enclosure Handle Mechanism			X	X	X	X	X	X	X	X

\*\* Thermal Only.

# Not U. L. Listed.

\*Single-pole 15 and 20 amp ratings for 277/480 V A-C circuits.

**TRI-PAC\*** The TRI-PAC breaker provides triple protection; thermal, magnetic, and current limiting protection in a single compact device. It combines the design and operating features of the type F breaker with a set of high interrupting capacity limiting fuses.

The fuse elements are designed to coordinate with the thermal magnetic trip unit so that the trip unit protects against most of the overloads and short circuits. The fuses open the circuits only on high value faults. Their speed of operation and current limiting characteristics protect the TRI-PAC.

\* Trademark.

Space does not permit the description of all products used in the electronic field. If additional information is desired on the following components, contact your nearest Westinghouse office for the literature indicated.

Alloys, Magnetic ..... page 215  
 Amplifiers ..... db 85-950  
 Audio ..... page 210  
 Magnetic ..... db 21-200  
 Balancers, Portable ..... db 19-030  
 Battery Chargers ..... ad 30-660  
 Bus Duct Systems ..... page 209  
 Circuit Breakers ..... page 216  
 Communication Equipment  
 Line Traps ..... db 49-620  
 Power Line Carriers ..... db 84-400  
 Control Devices ..... page 214  
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 Hipermag ..... page 208  
 Hipersil ..... page 207  
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 Indicating Lights ..... page 213  
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 Signaling ..... cs 45-100  
 Westmold Encapsulated ..... page 209  
 Transistors, Germanium ..... page 205  
 Transmitters, Radio Broadcast ..... db 81-120

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P.O. BOX 868, PITTSBURGH 30, PA.

# ONE SOURCE

for ALL your  
Ceramic Resistor  
requirements

**Globar**<sup>®</sup>

## THERMISTORS

1. Temperature control
2. Temperature compensation
3. Time delay
4. Surge suppression

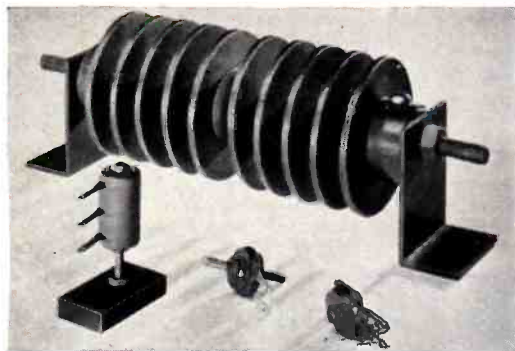
## VARISTORS

1. Reduction of arcing at relay or motor governor contacts
2. Stabilization of rectifier circuits by limitation of peak voltage
3. Voltage control in electronic circuits
4. Protection of solenoids in direct current circuits

## NON-INDUCTIVE HIGH WATTAGE FIXED RESISTORS

1. Antenna terminators
2. Dummy antennas
3. Parasitic oscillator suppressors
4. Power resistors for applications such as radio transmitters and inductive heating units

## COMPLETE ASSEMBLIES



GLOBAR<sup>®</sup> Ceramic Resistors...like these recent designs...are engineered by Globar resistor specialists to meet the particular electrical, thermal and packaging requirements of *your* circuit.

**OVER THIRTY YEARS** of experience in the development and manufacture of special-characteristic Ceramic Resistors, plus complete engineering facilities and an experienced engineering staff, are at your service to solve your special resistor requirement problems.

**A GLOBAR DIVISION** Sales Engineer will be glad to discuss your application. Or send details of your problem direct. Write Globar Division, The Carborundum Company, Dept. EB 87-75, Niagara Falls, N. Y.

**Globar**<sup>®</sup>

Ceramic  
Resistors

by **CARBORUNDUM**  
REGISTERED TRADE MARK

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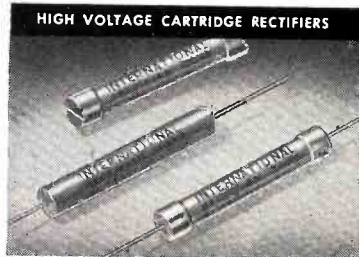
# International Rectifiers

For all DC needs from microwatts to megawatts!

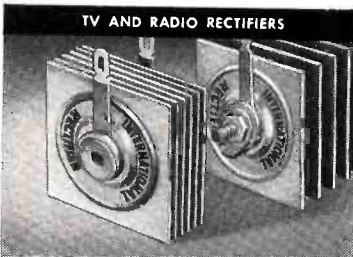
## SELENIUM



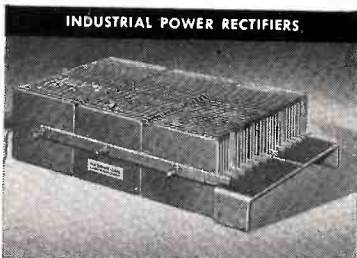
Developed for use in limited space at ambient temperatures ranging from  $-50^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ . Encapsulated to resist adverse environmental conditions. Output voltages from 20 to 160 volts; output currents of 100 microamperes to 11 MA. Bulletin SD-1B



Designed for long life and reliability in Half-Wave, Voltage Doubler, Bridge, Center-Tap Circuits, and 3-Phase Circuit Types. Phenolic Cartridge and Hermetically Sealed types available. Operating temperature range:  $-65^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ . Specify Bulletin H-2



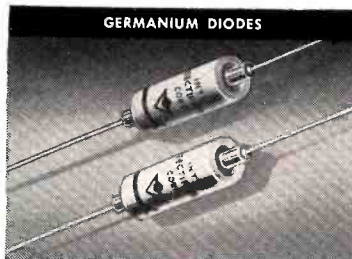
The widest range in the industry! Designed for Radio, Television, TV booster, UHF converter and experimental applications. Input ratings from 25 to 156 volts AC and up. DC output current 50 to 1,200 MA. Write for application information. Bulletin ER-178-A



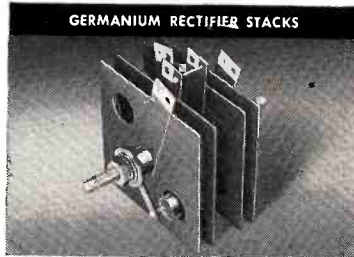
For all DC power needs from microwatts to kilowatts. Features: long life; compact, light weight and low initial cost. Ratings: to 250 KW, 50 ma to 2,300 amperes and up. 6 volts to 30,000 volts and up. Efficiency to 87%. Power factor to 95%. Bulletin C-349



## GERMANIUM



This series of general purpose, high quality point contact diodes provide excellent rectification efficiency for very high frequency applications. Special "RED DOT" series available for ambient temperatures from  $-55^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ . Bulletin SR-140.



Extremely low reverse leakage values make this series ideal for magnetic amplifier applications. These units utilize 10 amp junctions—26 to 66 AC input volts rms—are available in a wide range of circuit types and DC current ratings. Bulletin SR-148.

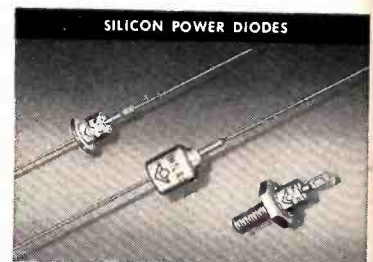


Engineered for heavy power applications, these highly efficient forced air cooled units feature moisture and corrosion resistant housings. A complete series in each of 3 current ratings: 150, 330 and 500 Amperes @ 26 to 66 volts rms. Request Bulletin GPR-2.

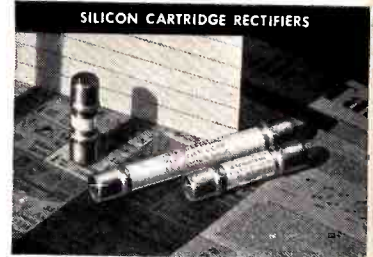


Liquid cooled for maximum power in minimum space. Junction rating: 670 amps at 26 to 66 volts rms. Housed in high-conductivity copper cast around special steel coils. Water, oil or other accepted coolants may be used. For complete data. Bulletin GPR-2.

## SILICON



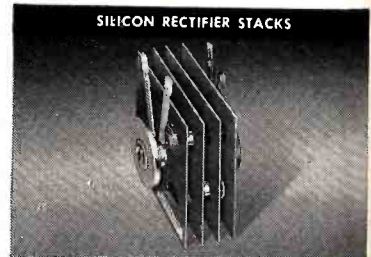
Hundreds of types in three basic styles, for operating temperatures from  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$ . Up to 800ma DC output current per junction over a voltage range of 50 to 1,000 PIV. Hermetically sealed. For complete information on all types. Bulletin SR-A.



The answer to tough miniaturization problems! Ratings for high temperature applications: from 1000 volts PIV at 100ma half-wave DC output to 16,000 volts PIV at 45ma. Hermetically sealed, metallized ceramic housing. Request Bulletin SR-139B



Specifically engineered for industrial applications—the most conservatively rated silicon rectifiers in the industry! Rugged all-welded construction and hermetic sealing mean greater reliability—longer life. Types available in 3 series. Request Bulletin SR-143B.



These units consist of hermetically sealed junction diodes mounted on copper cooling fins, stacked to include the interconnections required for specific circuits. Junction ratings: 1.25 amps. DC output; 70 to 350 AC input volts rms. Request Bulletin SR-137A.

# International Rectifier

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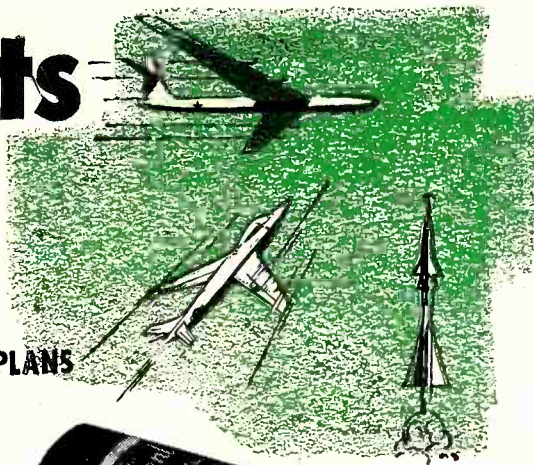
THE WORLD'S LARGEST SUPPLIER OF INDUSTRIAL METALLIC RECTIFIERS

# Precision Products

BY

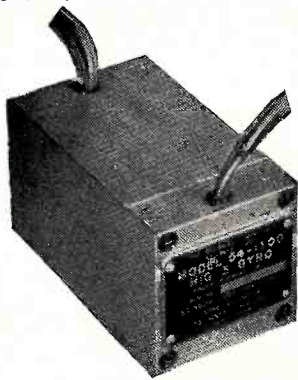
**Greenleaf**

FOR TODAY'S PROJECTS — TOMORROW'S PLANS



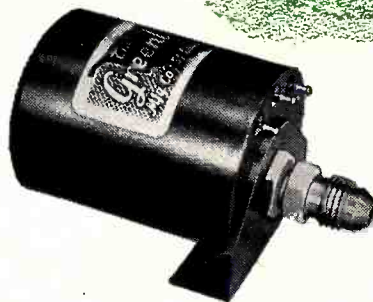
## HIG-3 MODEL 2 INTEGRATING GYROSCOPE

This smallest integrating Gyro is dimensionally  $1\frac{1}{2} \times 1\frac{1}{2} \times 2\frac{3}{4}$ " including heater block and is being used in fire control and navigation systems. Has viscous damping, single degree of freedom and a maximum drift rate of .2 milliradians/second.



## PRESSURE SENSING DEVICES

Used for the measurement of absolute, differential and gage pressures. Accuracies within  $\pm 2\%$  or better throughout entire operating range.

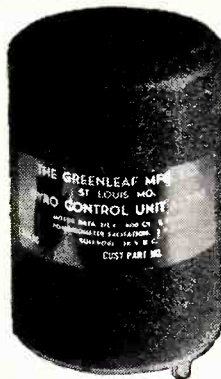


## HIG-4 MODEL 2 GYRO

Greater accuracy, including low drift rate, is a feature of this HIG-4 Gyro, now being used for missile guidance and fire control systems. The design and development phases of this Gyro have long been completed and it is now a production item.

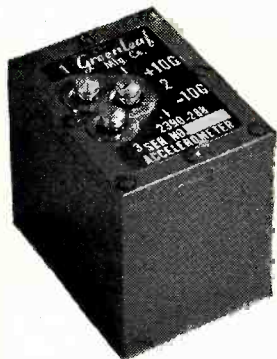
## FREE, RATE, DIRECTIONAL AND VERTICAL GYROS

For telemetering, missile guidance, inertial guidance and navigation. Whatever your gyroscope requirements, Greenleaf has the accurate, economical answer.



## ACCELEROMETERS

The Greenleaf line includes linear, angular and three-axis accelerometers. Accuracy is within  $\pm 2\%$  or better throughout the entire operating range. Military environmental conditions were considered in the design of these units in order to comply with the reliability concept.



All these, and other Greenleaf products, may readily be modified in many respects to meet your individual requirements.

Complete specifications and technical Bulletins will be sent immediately upon request. Write, wire or 'phone today.

GRE-55RR

THE **Greenleaf**

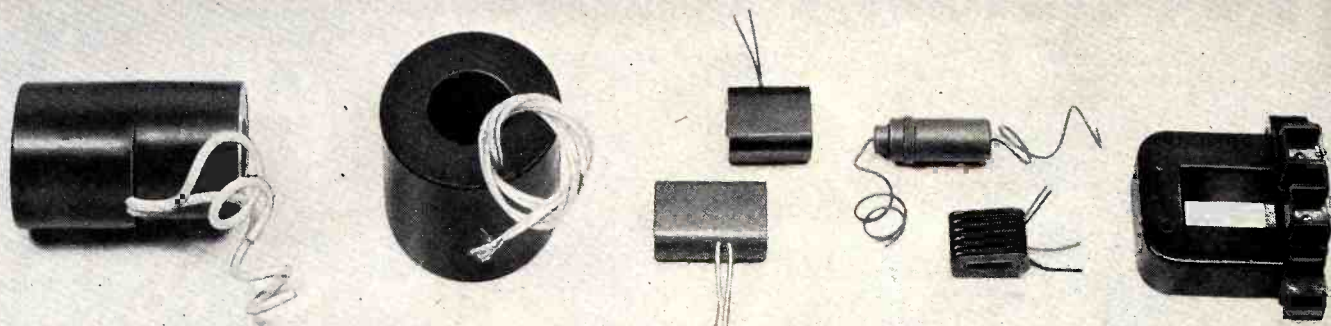
**MANUFACTURING COMPANY**

A DIVISION OF MANDREL INDUSTRIES, INC.

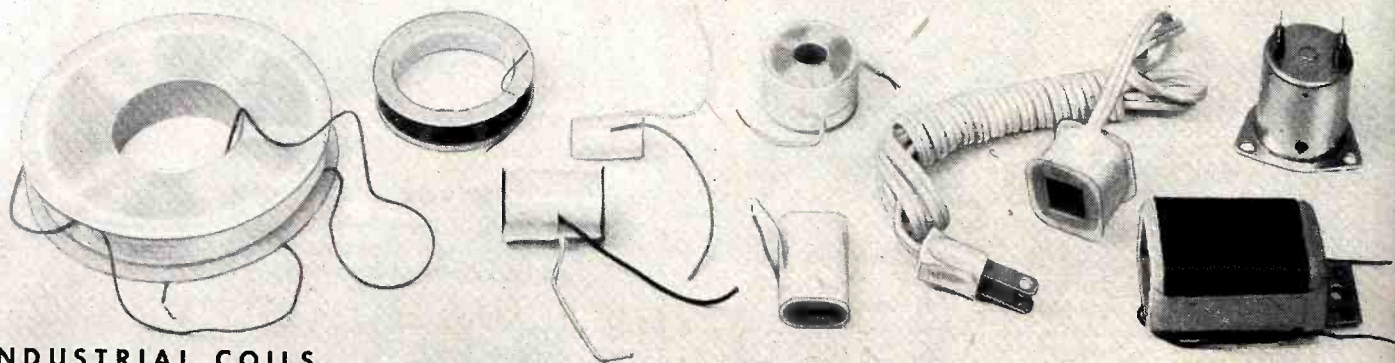
7814 Maplewood Industrial Court, Saint Louis 17, Missouri



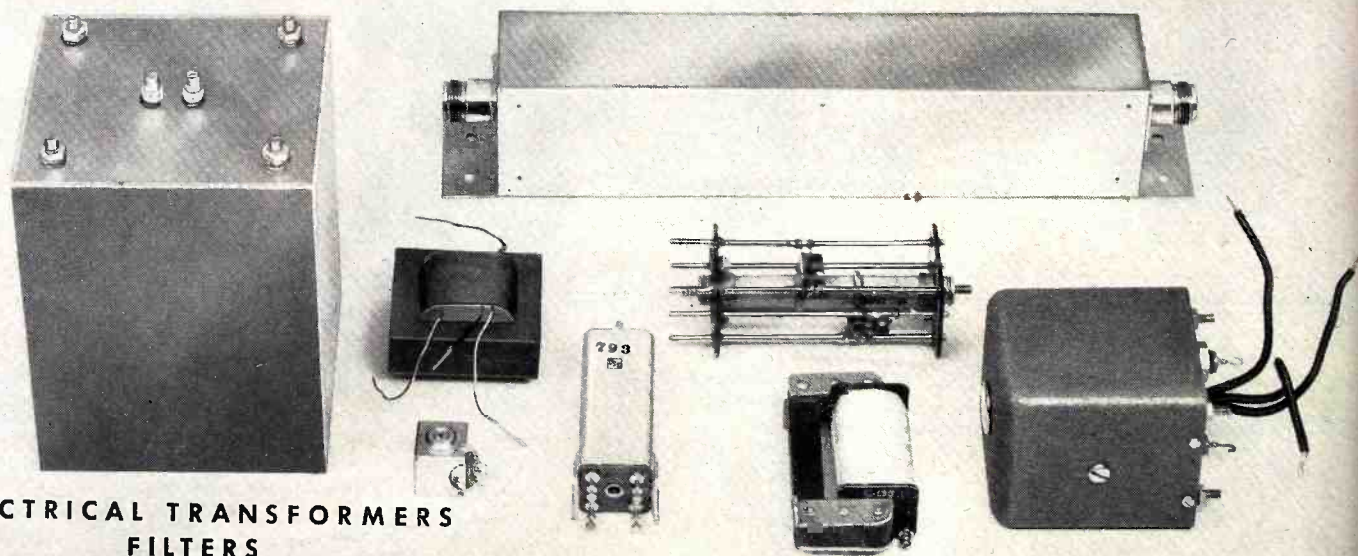
# Nothing but...COILS, MOLDED COILS and TRANSFORMERS



**MOLDED COILS**



**INDUSTRIAL COILS**



**ELECTRICAL TRANSFORMERS  
FILTERS**

**MOLDED COILS**

"Uselon" Epoxy Resin	Guided Missile
Solenoid Valve	Computer
Refrigeration	Automation
Aircraft	Transistor
Miniature	Control
Magnetic Clutch	Industrial

**INDUSTRIAL COILS**

Motor Coils	Filter Coils
Magnet Coils	R.F. Coils
Clock Coils	High Temp. Solenoids
Relay Coils	Magnetic Clutch
Solenoids	Miniature
Choke Coils	Transistor

**ELECTRICAL TRANSFORMERS — FILTERS**

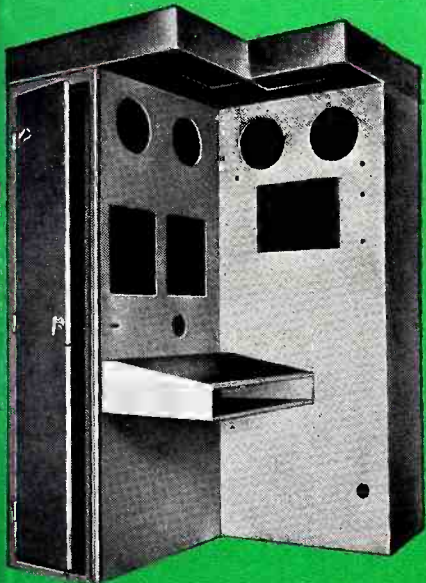
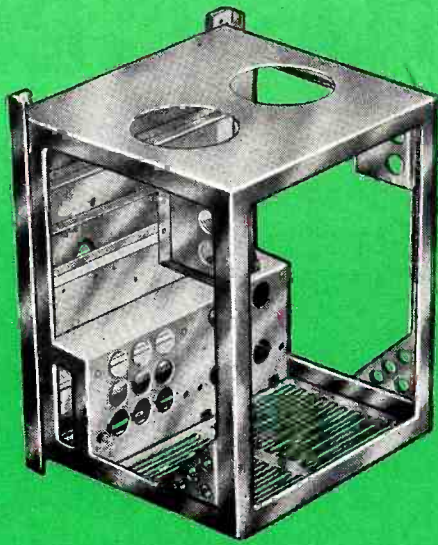
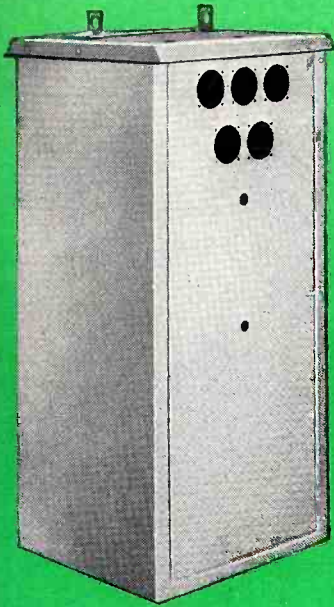
Transistor	Antenna Filters
Power	Power Filters
Filament	R.F. Filters
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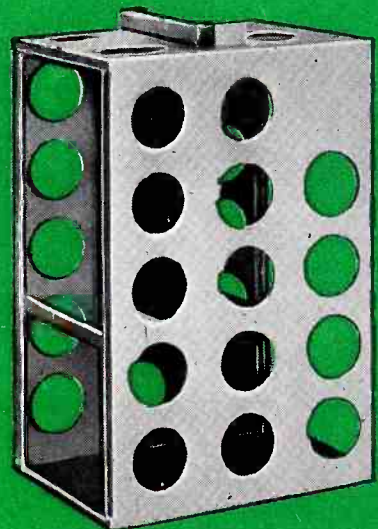
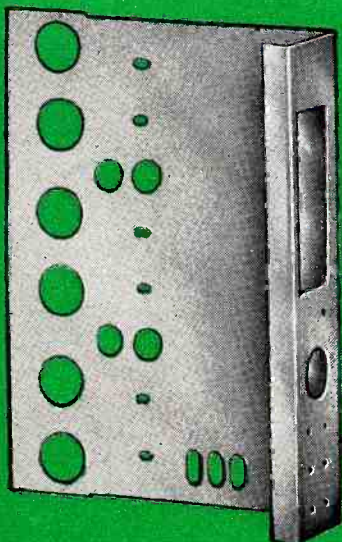
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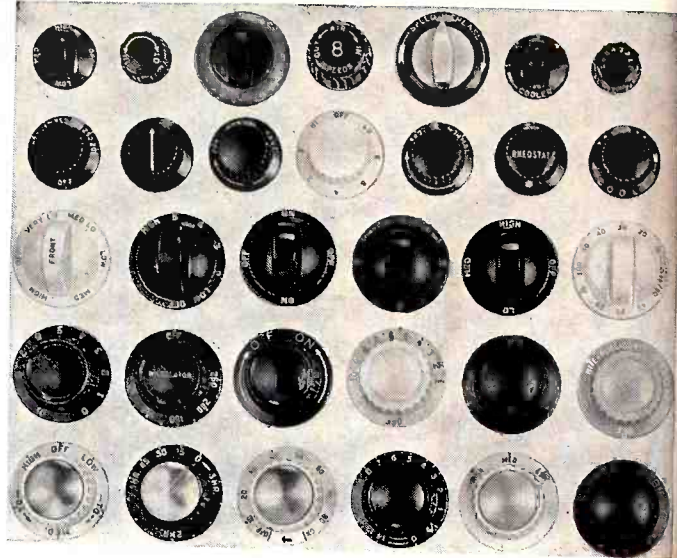
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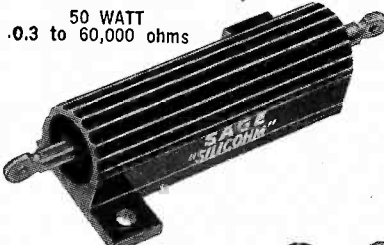


## GOES DIELECTRIC STRENGTH

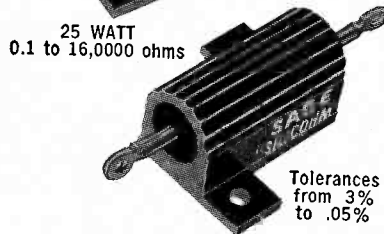
(Up to 2,500 VRMS\* as required by MIL Specs—even up to 3,000 VRMS\*)

## GOES INTERNAL TEMP. RISE

(25% cooler internal hot spot)



50 WATT  
0.3 to 60,000 ohms



25 WATT  
0.1 to 16,000 ohms

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Miniaturized 3/4" diameter composition



Molded shaft twist ear mounted 15/16" diameter composition



Solder or clinch ear mounted 15/16" diameter composition with flush shaft



Miniaturized 3/4" diameter 1/2 watt composition



15/16" diameter composition



Hollow shaft twist ear mounted 15/16" diameter composition for screwdriver adjustment



Bushing mounted 15/16" diameter concentric tandem composition with SPST switch



15/16" diameter 1 watt composition



15/16" diameter composition with SPST switch



Twist ear mounted 15/16" diameter composition with flattened shaft for push-on knobs



Self-supporting snap-in mounted 15/16" diameter composition



15/16" diameter composition with water-seal between shaft and bushing and panel



1-1/8" diameter concentric tandem tone switch and composition variable resistor with SPST on-off switch



Twist ear mounted 15/16" diameter composition with SPST switch



Self-supporting snap-in bracket mounted 15/16" diameter composition with SPST switch



1-1/8" diameter composition



1-1/8" diameter composition with SPST switch



Twist ear mounted 15/16" diameter pre-set tandem



Self-supporting snap-in mounted compact 3-section multiple composition



1-1/8" diameter 2 watt composition



1-17/64" diameter 2 watt wirewound



Miniaturized clinch ear mounted composition



Miniaturized bushing mounted 3/4" diameter composition



1-17/64" diameter 2 watt wirewound with locking type bushing



1-17/32" diameter 4 watt wirewound



Miniaturized clinch ear mounted composition with SPST switch

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Bushing mounted 15/16" diameter composition with SPST switch



1-17/32" diameter 4 watt wirewound

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MIL-W-76A Hook-up Wire

Type LW

Type MW

Type HW

Type MW Glass Braid

Type MW Nylon Jacket

Type MW Shielded

Antenna Wire

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## MICROWAVE MIXER AND VIDEO DIODES

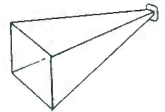
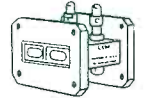
## SILICON POWER RECTIFIERS

## MAGNETRONS

## DUPLEXER TUBES

## PRESSURE WINDOWS

## WAVE GUIDE COMPONENTS and TEST EQUIPMENT



### MICROWAVE MIXER DIODES

FORWARD POLARITY	REVERSE POLARITY (FIXED)	MATCHED PAIR <sup>6</sup>		REVERSIBLE POLARITY <sup>5</sup>	TEST FREQUENCY (mc)	MAX. CONVERSION LOSS (db)	MAX. OUTPUT NOISE RATIO (times)	MAX. VSWR IN STD. MIXER	POWER LEVEL (mw)	BURN-OUT (ergs)	CALC. OVERALL REC'R NOISE FIGURE Nif 1.5 DB	STD. LOAD IMP.		IF IMP. (ohms)	STANDARD MIXER
		Forward Pair	Forward & Reverse									D.C.	A.C.		
1B	1N21BR	1N21BM	1N21BMR	1N416B	3060	6.5	2.0	—	0.5	2.0	10.34	100	400Ω	200-800 <sup>9</sup>	JAN 124 & 125
1C	1N21CR	1N21CM	1N21CMR	1N416C	3060	5.5	1.5	—	0.5	2.0	8.33	100	400Ω	200-800 <sup>9</sup>	JAN 124 & 125
1D	1N21DR	1N21DM	1N21DMR	1N416D	3060	5.0	1.3	1.5	0.5	2.0	7.34	100	400Ω	400-500 <sup>7</sup>	JAN 124 & 125
1E7	1N21ER	1N21EM	1N21EMR	1N416E	3060	—	—	1.3	0.5	5.0	7.0 <sup>8</sup>	100	400Ω	400-500 <sup>7</sup>	JAN 124 & 125
150	1N150R	1N150M	1N150MR	MA-419A	6750	6.0	2.0	1.5	1.0	1.0	9.83	100	400Ω	250-500	MA-570
160	1N160R	1N160M	1N160MR	MA-419	6750	6.5	2.7	—	1.0	1.0	11.44	100	400Ω	200-500 <sup>9</sup>	MA-570
13B	1N23BR	1N23BM	1N23BMR	1N415B	9375	6.5	2.7	—	1.0	0.3	11.43	100	400Ω	300-600 <sup>9</sup>	JAN 105 & 106
13C	1N23CR	1N23CM	1N23CMR	1N415C	9375	6.0	2.0	1.5	1.0	1.0	9.83	100	400Ω	325-475	JAN 105 & 106
149	1N149R	1N149M	1N149MR	MA-414	9375	5.5	1.5	1.5	1.0	1.0	8.32	100	400Ω	325-475	JAN 105 & 106
13D	1N23DR	1N23DM	1N23DMR	1N415D	9375	5.0	1.7	1.3	1.0	1.0	8.25	100	400Ω	350-450	JAN 105 & 106
13E7	1N23ER	1N23EM	1N23EMR	1N415E	9375	—	—	1.3	1.0	2.0	7.5 <sup>8</sup>	100	400Ω	350-450	JAN 105 & 106
1400 <sup>1</sup>	—	—	—	MA-400	10000	6.0	2.0	1.6	1.0	0.3	9.83	100	500Ω	350-550	MA 650 <sup>2</sup>
1407 <sup>1</sup>	—	—	—	MA-407	10000	6.5	2.0	—	1.0	0.3	10.30	100	500Ω	400-800	MA 650 <sup>2</sup>
17B	—	—	—	—	16000	7.5	2.5	—	1.0	0.3	12.14	100	500Ω	325-625	JAN 201
178A	—	—	—	—	16000	7.0	1.5	1.6	1.0	0.3	9.82	100	500Ω	365-565	JAN 201
176	—	—	—	—	23984	8.5	2.5	—	1.0	0.1	13.14	100	500Ω	300-600	JAN-107
153	—	1N53M	—	—	34860	8.5	2.5	1.6	1.0	0.1	13.14	100	500Ω	400-800	JAN-174
153A <sup>1</sup>	—	—	—	—	34860	8.5	2.5	1.6	1.0	0.3	13.14	100	500Ω	400-800	JAN-174

1401 Classified Mixer Crystal for Use in RG-98/U Waveguide  
 1412 RG-98/U Ridged Waveguide Mounted (26.5-75 Kmc) suitable for mixer or video use

### MICROWAVE VIDEO DETECTOR DIODES

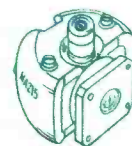
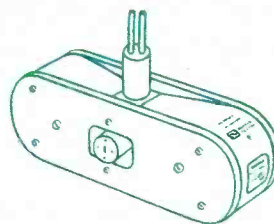
FORWARD POLARITY	REVERSE POLARITY (FIXED)	REVERSIBLE POLARITY <sup>5</sup>	TEST FREQUENCY (mc)	POWER LEVEL (μW.)	FIGURE OF MERIT (MIN.)	PULSE BURN-OUT (volts)	D.C. BIAS	MINIMUM SENSITIVITY (dbm) <sup>10</sup>	VIDEO IMPEDANCE (ohms)	STANDARD HOLDER
12	IN32R	MA-417	3295	5.0	85	6	—	—	4000-22000	JAN-152
1408	MA-408R	MA-418	9000	1.0	130	4	+50μA	-50	1700-3100	MA-611
1408A	MA-408AR	MA-418A	9000	1.0	160	4	+50μA	-51	1700-3100	MA-611
1408B	MA-408BR	MA-418B	9000	1.0	220	4	+50μA	-53	1700-3100	MA-611

Overall Length of MA-400 and MA-407 is .086 inches shorter than standard cartridge diode assemblies designed for use with 0.2 x 0.750 X-band Miniature Waveguide.  
 153A is intended as a replacement for the JAN 1N53 in applications requiring broad bandwidth (12%) and increased burnout resistance.  
 The 1N32 and MA-408 series are interchangeable with 1N21 and 1N23 series mixer diodes but insure improved signal to noise video receiver performance.  
 In the past, mixer and video cartridge types were manufactured only in forward or reverse polarity cartridges but now for the first time are available in convenient reversible assemblies. The new reversible cartridge diodes are electrically and mechanically equivalent to and are directly interchangeable with standard types and meet all requirements of MIL-E-1 specifications.  
 Matched pairs of all Microwave Associates mixer diodes are available and are matched to the following limits: IF impedance ± 25 ohms; Rectified current ± 10%; VSWR unbalance less than 10% of applied signal.  
<sup>9</sup> Nominal Range. Not Part of Specification.  
<sup>10</sup> Theoretical tangential sensitivity for a receiver bandwidth of 10 mc/s.  
 Maximum overall noise figure measured at mixer terminals with Nif = 1.5 db. (30 mc/s IF).  
**Mixers and holders for all of the above MA types are available**

### SILICON POWER RECTIFIERS†

TYPE	*AV. FORWARD CURRENT (ma)	*RMS VOLTAGE (VOLTS)	PEAK RECURRENT INVERSE VOLTAGE (V)	PEAK RECURRENT FORWARD CURRENT (A)	MAX. SURGE CURRENT (A)
1N253	1000	65	100	4.0	4.0
1N254	400	135	200	1.2	1.5
1N255	400	270	400	1.2	1.5
1N256	200	400	600	0.6	1.0

†Max. ratings at 135°C case temp. — MIL-E-1-1024, 989A, 990A, 991A \*Resistive or inductive load



### X-BAND PULSED MAGNETRONS

(FIXED TUNED EXCEPT 6229)

TUBE TYPE	FREQUENCY	NOMINAL PEAK OUTPUT	PEAK VOLTAGE ANODE	VOLTAGE RATE OF RISE	AV. ANODE CURRENT	PEAK ANODE CURRENT	PULSE DURATION	DUTY CYCLE	PULLING FACTOR (Max)	INITIAL HEATER	
										VOLTAGE	CURRENT
	MC	KW	KV	KV/μS	MA	A	μS		MC	V	A
2J42	9345-9405	8	5.3-5.7	60	9.0	4.5	1.0	.002	15	6.3	0.43-0.60
	9345-9405	8	5.3-5.7	60	4.0	4.5	2.2	.0009	15	6.3	0.43-0.60
	9345-9405	8	5.3-5.7	60	1.44	4.5	0.4	.00032	15	6.3	0.43-0.60
6270 6272 6273 6274 6275	9501-9600 9406-9500 9101-9200 9000-9100 9201-9345	All Other Characteristics Same As 2J42									
2J42H	9435-9405	2J42 Modified for High Altitude Unpressurized Operation to 60,000 Feet									
6817 6818 6819 6820 6821 6822	9000-9100 9101-9200 9201-9300 9301-9400 9401-9500 9501-9600	All Other Characteristics Same As 2J42H									
6027 (2J42A)	9345-9405	20	6.4-7.4	60	7.5	7.5	1.0	.001	15	6.3	0.43-0.53
	9345-9405	10	6.0-7.0	60	7.0	3.5	1.0	.002	15	6.3	0.43-0.53
MA-201	9345-9405	20	7.4-7.8	60	7.5	7.5	1.0	.001	18	6.3	0.43-0.53
	9345-9405	20	7.4-7.8	60	2.4	7.5	0.4	.00032	18	6.3	0.43-0.53
MA-201-F1 MA-201-F2 MA-201-F3 MA-201-F4 MA-201-F5 MA-201-F6	9000-9099 9100-9199 9200-9299 9300-9399 9400-9499 9500-9600	All Other Characteristics Same As MA-201									
6229	8900-9400 Tunable	1	4.0-4.5	—	0.25	0.5	.25	.0005	20	5.0	.40-.50
MA-213	8800-10000	5 watts	450-500 volts	—	15.0	0.060	1.0	.25	15	6.0	.50-.60
MA-215	8800-9600	40 watts	800 volts	—	50.0	0.200	5 max.	.25	20	6.3	.6-.7

### X BAND CW MAGNETRONS

(FIXED TUNED)

TUBE TYPE	FREQUENCY	NOMINAL OUTPUT	ANODE VOLTAGE	ANODE CURRENT	PULLING FACTOR	INITIAL HEATER	
						VOLTAGE	CURRENT
	Mc	(watts)	V	MA	(Max) mc/s	V	A
ESM-48 6444-F1	9800-10000	1	450-500	15	10	6.0	0.4-0.5
6444-F2 6444-F3 6444-F4 6444-F5 6444-F6	9600-9799 9400-9599 9200-9399 9000-9199 8800-8999	All Other Characteristics Same As 6444-F1. This series may be pulse modulated as MA-213 shown above.					

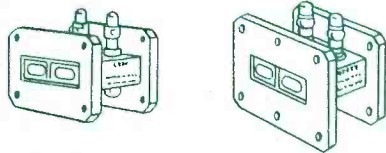
### 35,000 mc/s PULSED MAGNETRONS

(FIXED TUNED)

TUBE TYPE	FREQUENCY	NOMINAL PEAK OUTPUT	ANODE OPERATION			PULSE DURATION	DUTY CYCLE	PULLING FACTOR	INITIAL HEATER	
			PEAK VOLTAGE	AVERAGE CURRENT	PEAK CURRENT				VOLTAGE	CURRENT
	MC	KW	KV	MA	A	μS		(Max) Mc/s	V	A
5789	34512-35208	40	10.0-13.0	5.0	20.0	0.25	.00025	40	6.0	2.0-2.4
	34512-35208	30	10.0-13.0	6.0	15.0	0.5	.0004	40	6.0	2.0-2.4
	34512-35208	20	10.0-13.0	6.0	10.0	1.0	.0006	40	6.0	2.0-2.4
MA-200*	34700-35000	40	11.0-13.0	5.0	20.0	0.25	.00025	40	12.6	2.6-3.0
MA-206*	34700-35000	20	11.0-13.0	5.0	10.0	0.25	.0005	40	12.6	2.6-3.0
MA-207*	34700-35000	60	11.0-13.0	8.0	20.0	0.25	.0004	—	12.6	2.6-3.0

\*No Change in Operating Characteristics During Vibration of 15G up to 1000 cps. Ideally suited for Airborne or Mobile Use. Same Physical Outline.  
 CONTACT MICROWAVE ASSOCIATES, INC. OR THE SALES OFFICE IN YOUR AREA FOR FURTHER DETAILS ON ANY OF THE ABOVE TYPES AND CLASSIFIED OR DEVELOPMENTAL TYPES NOT YET LISTED.

# DUPLEXER TUBES



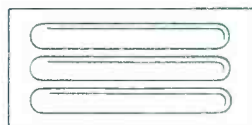
## S-BAND TR TUBES

## X BAND TR-ATR TUBES

TUBE TYPE	FREQUENCY (Mc/s)	PEAK POWER (KW)	DESCRIPTION	WAVEGUIDE TYPE	
				INPUT	OUTPUT
1858	2664-2969	750	Band-Pass, Fixed-Tuned TR	RG-48/U	RG-48/U
1817	2664-2969	750	1B58 with Extra Holes for Pressurization	RG-48/U	RG-48/U
1853	2900-3200	750	Band-Pass, Fixed-Tuned TR	RG-48/U	RG-48/U
1827	3100-3500	750	Band-Pass, Fixed-Tuned TR	RG-48/U	RG-48/U

TUBE TYPE	FREQUENCY (Mc/s)	PEAK POWER (KW)	DESCRIPTION	WAVEGUIDE TYPE	
				INPUT	OUTPUT
1B24A	8490-9600	100	Integral Cavity Tunable TR	RG-52/U	RG-52/U
1B63A	8490-9578	200	Band-Pass, Fixed-Tuned TR	RG-52/U	RG-52/U
MA-316/6232	8490-9578	200	Similar to 1B63A	RG-51/U	RG-52/U
5863	8490-9578	250	Band-Pass TR	RG-51/U	RG-51/U
6164	8500-9600	200	Band-Pass, Fixed-Tuned TR Controlled Phase & VSWR	RG-51/U	RG-51/U
MA-311	8490-9578	250	6164 Outline, 5863 Electrical Specs	RG-51/U	RG-51/U
6163	8500-9600	250	ATR Used in Tandem in Special Mount for RG-51 U Waveguide	—	—
6334	8490-9600	200	Dual 1B63-A	RG-52/U	RG-52/U
MA-306	8490-9578	250	Dual Band-Pass TR	RG-51/U	RG-52/U
MA-306B	8490-9578	500	Dual Band-Pass TR	RG-51/U	RG-52/U
MA-326	8490-9578	200	Dual Band-Pass TR (low leakage & controlled phase)	RG-52/U	RG-52/U
MA-334	8490-9578	350	Dual Band-Pass TR	RG-52/U	RG-52/U
MA-335 Series	8400- 10,000	1	Fixed Tuned TR: Low Level Crystal protector, 200Mc Band Pass	RG-52/U	RG-52/U

## WAVEGUIDE PRESSURE WINDOWS



## Cover Flange Mounted Windows

DESIGNATION	BAND	CENTER FREQ. (MC)	FREQUENCY RANGE (KMC)	MAX. VSWR (Band Edges)	PEAK POWER (KW)	WAVEGUIDE SIZE RG-	MAX. PRESSURE (PSI)	MATES WITH UG-	FLANGE THICKNESS	WINDOW DESCRIPTION
MA-1326	S	2800	2.45- 3.15	1.25	1200	48/U	45/30	54A/U	.250	Triple Iris
MA-1329	Xi	9000	7.5 -10.0	1.15	500	51/U	45/20	52A/U	.060	Single Iris
MA-1330A	X	9000	8.4 - 9.6	1.15	200	52/U	60/30	40A/U	.156	Triple Iris
MA-1344	X	9000	8.5 - 9.6	1.08	300	52/U	45/30	40A/U	.060	Single Iris
MA-1330B	X	9800	8.2 -12.4	1.20	200	52/U	60/30	40A/U	.156	Triple Iris
MA-1345	X	9800	8.2 -12.4	1.20	300	52/U	45/30	40A/U	.060	Single Iris
MA-1339	X	9800	9.5 -10.1	1.10	20	2x 91D	45/30	1 187 Dia.	.060	Single Iris
MA-1333B	Ke	13500	12.8 -14.2	1.10	125	91/U	45/30	541/U	.125	Single Iris
MA-1340	Ke	13500	12.8 -14.2	1.10	125	91/U	45/30	541/U	.060	Single Iris
MA-1333A	Ku	15000	12.4 -18.0	1.20	125	91/U	45/30	541/U	.125	Single Iris
MA-1342	Ku	15000	12.4 -18.0	1.20	125	91/U	45/30	541/U	.060	Single Iris
MA-1333C	Ku	16000	15.2 -16.8	1.10	125	91/U	45/30	541/U	.125	Single Iris
MA-1341	Ku	16000	15.2 -16.8	1.10	125	91/U	45/30	541/U	.060	Single Iris

## Solderable Windows

MA-1318	S	2800	2.75- 2.85	1.25	170	48/U	60/45	1 500 2 975	.120	Single Iris
MA-1325	S	2800	2.45- 3.15	1.25	1200	48/U	45/30	1 500 3 000	.120	Triple Iris
MA-1306	S	3300	3.25- 3.35	1.25	170	48/U	60/45	1 500 3 000	.120	Single Iris
MA-1321	X	8800	8.5 - 9.1	1.25	100	52/U	60/45	500 1 000	.075	Single Iris
MA-1301	X	9000	8.8 - 9.2	1.25	20	52/U	60/45	500 1 000	.050	Single Iris
MA-1310	X	9000	8.8 - 9.2	1.25	20	52/U	45/30	.494 .988	.055	Single Iris
MA-1320	X	9000	8.7 - 9.3	1.25	100	52/U	60/45	500 1 000	.075	Single Iris
MA-1327	X	9000	8.4 - 9.6	1.25	150	52/U	45/30	500 1 000	.065	Single Iris
MA-1302	X	9200	8.9 - 9.5	1.25	100	52/U	60/45	500 1 000	.075	Single Iris
MA-1312	X	9310	9.0 - 9.6	1.25	100	52/U	60/30	500 1 000	.075	Single Iris
MA-1319	X	9375	9.1 - 9.7	1.25	100	52/U	60/45	500 1 000	.075	Single Iris
MA-1317	X	9600	8.35-11.0	1.25	200	52/U	60/30	600 1 100	.050	Triple Iris
MA-1322	X	9600	9.3 - 9.9	1.25	100	52/U	60/45	500 1 000	.075	Single Iris
MA-1303	X	9800	9.5 -10.2	1.25	150	52/U	45/30	500 1 000	.075	Single Iris
MA-1324	X	9800	9.6 -10.0	1.25	20	52/U	45/30	.494 .988	.055	Single Iris
MA-1331	X	9800	9.6 -10.2	1.10	150	52/U	45/30	500 1 000	.065	Single Iris
MA-1311	X	9900	8.2 -12.4	1.25	200	52/U	60/30	600 1 100	.050	Triple Iris
MA-1323	X	9900	9.6 -10.2	1.25	100	52/U	60/45	500 1 000	.075	Single Iris
MA-1314	X	10150	9.8 -10.55	1.25	150	52/U	45/30	500 1 000	.075	Single Iris
MA-1328	X	10700	10.0 -11.4	1.25	150	52/U	45/30	500 1 000	.065	Single Iris
MA-1336	Ke	13500	13.0 -14.0	1.25	40	91/U	45/30	.380 .690	.045	Single Iris
MA-1337	Ku	16000	15.4 -16.6	1.25	40	91/U	45/30	.380 .690	.045	Single Iris

### ADDITIONAL WINDOW DATA:

A safety factor of 2 in power has been included in the data. Power is measured under operating conditions of one microsecond pulse duration at 1000 cps at atmospheric pressure on both sides of the window at sea level. Maximum window VSWR at the center frequency is less than 1.05. Maximum pressure ratings listed in the table apply to pressure in both directions. The windows will withstand maximum pressure when mounted with the glass coating on the high pressure side of the seal.

The resonant frequency of any window style can be adjusted for other requirements on request.

Microwave Associates windows provide a vacuum tight seal and protection against humidity, dust etc. They are used to seal resonant cavities, waveguide and antenna systems, gas discharge tubes, vacuum tubes and ferrite components.

Write for our free window brochure 57-W. This brochure describes pressure windows in detail and includes helpful tips on the installation of windows.



# WAVEGUIDE COMPONENTS AND TEST EQUIPMENT

ARRANGED BY FUNCTION AND WAVEGUIDE SIZE

Waveguide Frequency Range	8.2-12.4 kmc/s	12.4-18.0 kmc/s	18.0-26.5 kmc/s	26.5-40.0 kmc/s	50.0-75.0 kmc/s
Waveguide Type	RG-52/U	RG-91/U	RG-53/U	RG-96/U	RG-98/U
Waveguide Size	1 x 1/2	.702 x .391	1/2 x 1/4	.360 x .220	.228 x .154
Band	X	KU	K	KA	V
<b>Waveguide Accessories</b>					
E-Plane 90° Bends	MA-635 \$25	MA-632 \$28	MA-555 \$34	MA-556A \$39	MA-630 \$39
H-Plane 90° Bends	MA-636 \$25	MA-633 \$28	MA-553 \$34	MA-557A \$39	MA-631 \$39
Waveguide 90° Twists	MA-642 \$28	MA-643 \$28	MA-644 \$28	MA-558A \$28	MA-645 \$28
Waveguide to Type N Transition	MA-562B \$40			MA-550A/B/C/D \$30	MA-512 \$90 (Ridged to RG-98/U for MA-412 Crystal)
Adaptors; Double Choke Flange	MA-660A \$15	MA-661A \$15	MA-674A \$15	MA-675A \$15	
Adaptors; Double Cover Flange	MA-660B \$12	MA-661B \$12	MA-674B \$12	MA-675B \$12	
<b>Power Dividers</b>					
E-Plane (Series) Tees	MA-620 \$30	MA-616 \$32	MA-618 \$33	MA-560A \$40	MA-622 \$50
H-Plane (Shunt) Tees	MA-621 \$30	MA-617 \$32	MA-619 \$33	MA-561A \$40	MA-623 \$45
Hybrid Tees	MA-637 \$45	MA-638 \$48	MA-639 \$58	MA-640 \$70	MA-641 \$80
Magic Tees (Matched)	MA-541 \$75				
Rat Race Power Dividers		MA-569C \$150	MA-605 \$165	MA-538A/B \$175	MA-606 \$375
Directional Couplers (Branch Guide)	MA-524A/B \$100 (10, 20 db)			MA-1036A/B/C/D \$167 (10, 15, 20, 25 db)	MA-655 \$170 (10 db)
Directional Couplers (Side Wall)	*MA-663A/B (20, 30 db)		MA-552A \$85 (30 db)	MA-662A/B \$110 (30, 40 db)	MA-668A/B \$110 (20, 30 db)
<b>Detection &amp; Power Measurement Instruments</b>					
Crystal Mounts (Fixed Tuned)	MA-536/A \$70 (for 1N23)		MA-1043A/B \$105 (for 1N26)	MA-513C \$85 (for 1N53)	MA-607A/B \$80 (for MA-401)
Crystal Mounts (Fixed Tuned)	MA-611 \$125 (for MA-408)	MA-595 \$110 (for 1N78)		MA-1028A/B \$110 (for 1N53)	
Crystal Mounts (tunable)	*MA-536C (for 1N23)		MA-1039A/B \$140 (for 1N26)	MA-539A/B \$140 (for 1N53)	MA-669 \$175 (for 1N53/ MA-571)
Water Load Calorimeters				MA-513D \$110 (for 1N53)	MA-102 \$820 *MA-103
Water Load Calibrator				MA-101A/B \$790	
Tunable Thermistor Mounts (With Thermistor)				*MA-103	
<b>Bolometers:</b>					
Barreters		*MA-672 (1N78 Geometry)	*MA-673 (1N26 Geometry)	MA-571 \$20 (1N53 Geometry)	
Thermistors	MA-677 \$10 (1N23 Geometry)	*MA-666 (1N78 Geometry)	*MA-665 (1N26 Geometry)		
<b>Frequency Meters (Reaction Type)</b>					
Narrow Band Frequency Meters	MA-548 \$110 (8.55-9.80 kmc/s)			MA-506 \$165 (34-36.5 kmc/s)	MA-1152 \$250 (68-73 kmc/s)
Wide Band Frequency Meters		MA-582A \$175	MA-588 \$175	MA-518 \$185	*MA-671
<b>Attenuators &amp; Terminations</b>					
Fixed Pads (10, 20, 30 db)	MA-609A/B/C \$55	MA-577A/B/C \$60	MA-575A/B/C \$60	MA-576A/B/C \$65	MA-579A/B/C \$65
High Power Attenuators (6, 12 db)	*MA-554A/B				
Variable Attenuators	MA-534A \$65	MA-578A \$150	MA-586 \$150	MA-1023A \$160	MA-1151 \$195
Precision Variable Attenuators	MA-535 \$165	MA-580 \$195	MA-587 \$190	MA-527A \$198	*MA-670
Low Power Terminations	MA-648 \$25	MA-646 \$30	MA-629 \$34	MA-540B \$36	MA-626 \$40
Dummy Loads, Coaxial Crystal		MA-594 \$75 (simulates 1N78)	MA-1044 \$75 (simulates 1N26)	MA-1029B \$75 (simulates 1N53)	
Dummy Loads, High Power	MA-533 \$120		MA-551 \$120	MA-537 \$120	
<b>Tuners &amp; Standing Wave Detectors</b>					
Adjustable Waveguide Shorts	MA-546 \$45	*MA-568	*MA-656	MA-567 \$41	*MA-597
Precision Adjustable Waveguide Shorts				MA-567A \$85	MA-597A \$95
High Power Roving Stub Tuners				MA-526 \$1075	
E/H Plane Tuners	MA-520 \$120	*MA-615	*MA-654	MA-526 \$1075	*MA-598
Precision E/H Plane Tuners				MA-559 \$125	MA-598A \$210
Low Level Standing Wave Detectors				MA-559A \$180	MA-584 \$900
High Power Standing Wave Detectors				MA-1022/A \$650, \$625 MA-545A \$1075	
<b>Antenna Components</b>					
Precision Standard Horns	MA-647 \$100 (16 db)	MA-628 \$110 (20 db)	MA-653 \$110 (20 db)	MA-572 \$110 (25 db)	MA-627 \$150 (25 db)
Antenna Rear Feeds	MA-625 \$150	MA-624 \$150		MA-1046A \$150	
Rotary Joints		*MA-651		MA-1037A/B/C \$300, \$280, \$300	
<b>RF Switches</b>					
Precision RF Switches (Y Type)				MA-1041B \$310	
Rotary Crystal Shutters				MA-1034 \$185	
<b>Radar System Components</b>					
Balanced Mixers				MA-1026A/B \$310	MA-649 \$535
Double Balanced Mixers				MA-531/A \$750	
Transition Harmonic Generator & Mixers				MA-519A \$250	
Duplexers			*MA-1030	MA-1032A/B \$200, \$180	
Radar RF Units				MA-1031 \$1875	
Echo Boxes				MA-0111 \$1200	
Spectrum Analyzer Adaptor				MA-530A \$600	
Test Benches				MA-1019 \$1390	MA-1018A \$1725
<b>Circular Waveguide Equipment</b>					
(Low Loss, High Power TE01 Mode)					
Circular Waveguide Terminations	*MA-659A	*MA-659D	*MA-659B	*MA-659C	
Circular Waveguide Rotary Joints	*MA-593A	*MA-593D	*MA-593B	*MA-593C	
Circular Waveguide Mode Absorbers	MA-589A \$375	MA-589D \$350	MA-589B \$310	MA-589C \$310	
Circular Waveguide Bends	MA-600A \$550	MA-600D \$410	MA-600B \$350	MA-600C \$350	
Circular Waveguide Transitions	MA-601A \$525	MA-601D \$430	MA-601B \$375	MA-601C \$375	
Circular Waveguide Male Connectors	MA-612A \$13	MA-612D \$12.50	MA-612B \$11.50	MA-612C \$11.50	
Circular Waveguide Female Connectors	MA-613A \$14	MA-613D \$13.50	MA-613B \$12	MA-613C \$12	

COAXIAL COMPONENTS (2.63-3.95 kmc/s) MA-543A/B Transition Waveguide to Type N \$75. MA-1143 (1) Right Angle Stub \$75. MA-1150 Magnetron Coupler for 4J61-4J64 Magnetrons \$110. MA-1142 (1) & (2) Probe Coupler \$90. MA-1141 (1) Fixed Power Divider \$90. MA-547 (2) Frequency Meter \$250. MA-1148 (2) Filter Cavity \$250. \*MA-0220 Coaxial Rat Race RG-51/U.

WAVEGUIDE COMPONENTS (7.05-10 kmc): MA-563A Water Load with Heater \$350. MA-652A/B/C Fixed Pad Attenuator (10, 20, 30 db) \$50. \*MA-676A/B Adaptors (Double Choke, Double Cover) \$15., \$12.

(1) For use with RG-44/U (7/8" Coaxial).

(2) For use with RG-8/U, RG-9/U RF Cable.

\*Price and Delivery available upon request.

Data and prices subject to change without notice.

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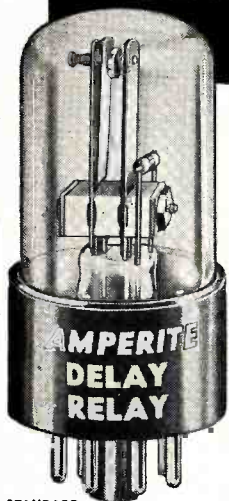
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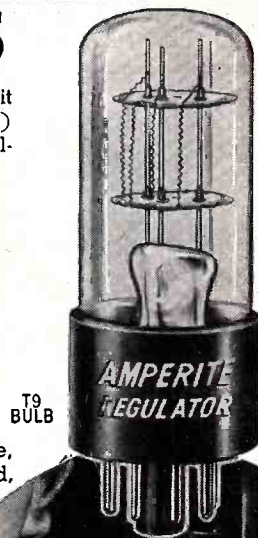
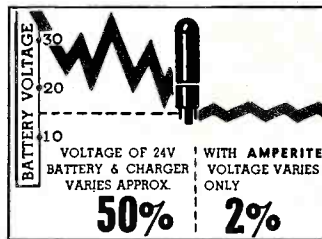
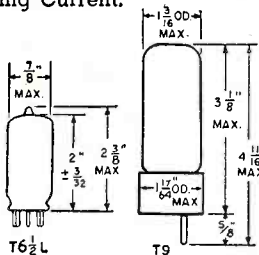
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# HIGH VOLTAGE

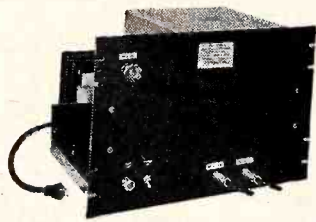
## RF TYPE POWER SUPPLIES



### MODEL 2040 40 KV DC POWER SUPPLY

A ruggedly built RF type power supply which is in constant use in laboratories and industrial plants throughout the world for condenser charging, electrostatic spraying and stress testing, etc. In wide use for spot knocking by TV tube manufacturers. Nothing finer available at five times the price. Designed for constant use and will stand severe abuse. Available with either positive or negative 40 KV output. Voltage range of approx. 15 to 40 KV. The 15 to 40 KV variance in voltage is controlled through a knob on the front panel. If required for TV use, a voltage output of approx. 4 to 6 KV is available through a tap. Voltage supplied through a 6 ft. HV Safety Cable. Specify desired polarity when ordering. 19" wide x 12 1/4" high x 13" deep.

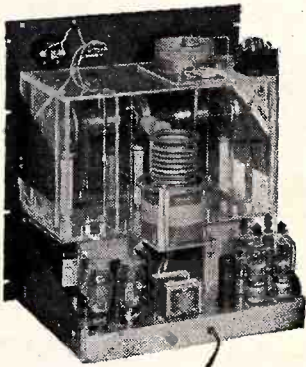
**\$150.00 Net**  
With HV meter installed in front panel.....\$50 additional



### MODEL PN-30R REVERSIBLE POLARITY CONTINUOUSLY VARIABLE 1-30 KV UNREGULATED DC POWER SUPPLY

A light, compact unit in wide use for insulation testing, precipitators and laboratory research. Polarity reversible from front panel. Current output—approx. 2 milliamperes at 20 KV; 250 microamperes at 30 KV. Input—110V AC 60 cycles. Dimensions: 19" x 12 1/4" x 13" .....

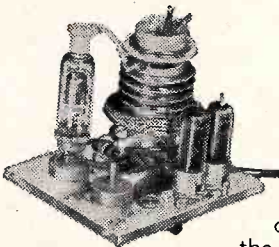
**\$205 Net**  
With meter installed on front panel.....\$50 additional



### MODEL PN-60 REVERSIBLE POLARITY RF TYPE DC POWER SUPPLY

Polarity changes made on front panel. Continuously variable from 0 KV to 60 KV. Current output 1 milliampere at 60 KV. Overall Dimensions 22 1/2" x 21" x 15". Ideal for electrostatic paint spraying, capacitor charging and testing as well as many other uses.

**PN-60 Complete with Meter \$675.00 Net**



### MODEL 4575 4 1/2 KV POWER SUPPLY

This compact, well designed, ruggedly built DC supply utilizes two 6AQ5 tubes as a parallel oscillator feeding a 1X2 rectifier tube. For an output voltage of 4 1/2 KV DC at 1 milliampere, the low voltage input requirement is 250 V at 50 milliamperes. By varying the DC input the output voltage can be varied from approx. 1 KV to 7 1/2 KV. Dimensions: 5 3/8" high x 5" deep x 4 1/4" wide. In completely enclosed metal housing (not shown). Less low voltage DC supply.....

**\$32.50 Net**

### MODEL LAB-30PN • REVERSIBLE POLARITY—Continuously Variable 1 to 30 KV

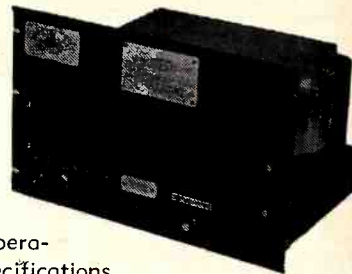
Regulated DC Power Supply with regulations of 0.5% at 1 milliampere. Although rated at 1 ma. this unit is capable of 2 ma. operation within regulation specifications.

This 16 tube unit is of the RF type consisting of a separate oscillator and buffer feeding the power oscillator into a doubler rectifier. Regulations accomplished through feed-back into a DC amplifier plus simultaneous output control of the buffer. Polarity reversible from front panel. Standard Rack Model—19" wide x 12" high x 13" deep. Standard Bench Model—21" wide x 14" high x 15" deep.

**With Meter \$645 Net—Less Meter \$595 Net**

**MODEL LAB-30** is a positive polarity output regulated High Voltage DC Power Supply with same electrical characteristics and dimensions as the LAB-30PN. Available in either positive or negative polarity.

**With Meter \$545 Net—Less Meter \$495 Net**

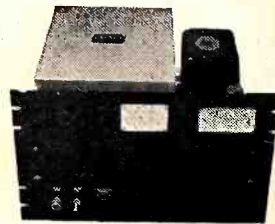


### MODEL RG-30 Continuously Variable 15-30 KV Regulated DC Power Supply With Regulated Focus Voltage Tap

A high grade supply which incorporates a voltage tap in the range of 4 to 6 KV for use with 5WP15, 5TP4 and flying spot tubes. Regulations better than .5% at 1 milliampere. In wide use for color tube development work, transcription recording systems. 19" wide x 12" high x 13" deep.

**\$295 Net**

With meter installed on front panel.....\$50 additional



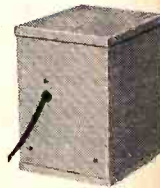
**MODEL RG-40**—Same specifications as above except high voltage range is approx. 15 KV to 40 KV. In wide use in projection television systems .....

**\$295 Net**  
With meter installed on front panel.....\$50 additional

### MODEL 7512—7 1/2 KV POWER SUPPLY

Voltage output of approx. 7.5 to 12 KV. 1 ma. of current may be drawn throughout the voltage range. To obtain an output voltage of 7.5 KV at 1 ma., low voltage input requirement is 300 V DC at 50 ma. By varying the DC input, the output voltage can be increased. Maximum input voltage of 425 V at 100 ma. will give an output of 12 KV at 1 ma. 5 3/4" W., 8 1/4" H., 6 3/4" D.

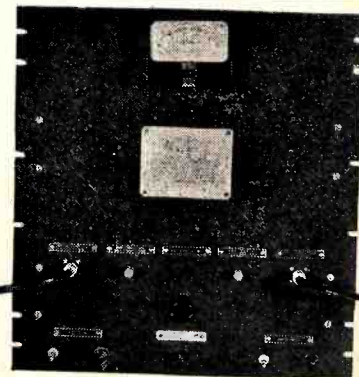
**\$42.50 Net**



### MODEL LAB-60 Continuously Variable 0-60 KV DC Regulated Power Supply

Current output 1 ma. at 60 KV. 2 ma. may be drawn from 50 KV to 0. Supplied with either positive polarity or negative polarity output. Regulation stability—1% at 1 ma. 21 3/4" wide x 22 3/4" high x 15 1/4" deep.

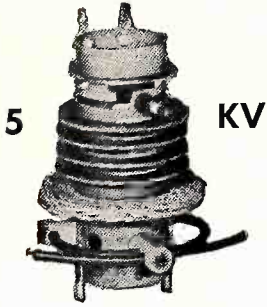
**LAB-60 Complete with meter . . . \$695.00 Net**  
**LAB-60 PN Reversible polarity model of above \$745.00 Net**



**SPELLMAN TELEVISION CO., INC.** 3029 WEBSTER AVENUE  
N. Y. 67, N. Y. Kingsbridge 7-0306

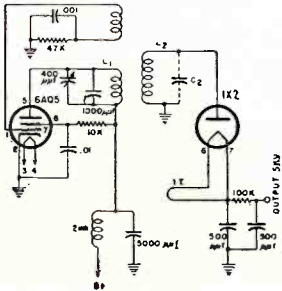
# HIGH VOLTAGE

## RF STEP-UP COILS



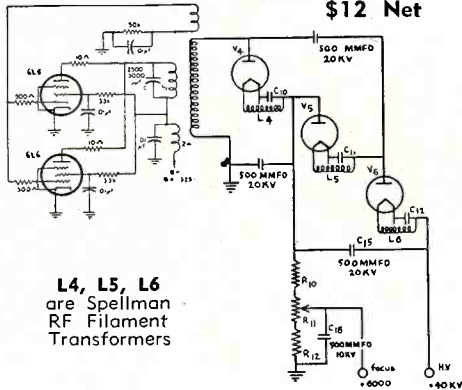
5 KV

Secondary Height ..... 3 1/2"  
 Secondary Windings ..... 1 3/4"  
 Consisting of 4 Pie Windings  
 Primary Diameter ..... 2 1/4"  
 Secondary Voltage Output .. 5 KV  
 Secondary Current .2 Milliampers  
 Approx. Frequency ..... 300 KC  
**\$7.00 Net**



10-15 KV

Secondary Height ..... 5 1/4"  
 Secondary Windings ..... 1 3/4"  
 Consisting of 7 Pie Windings  
 Diameter ..... 2 1/2"  
 Secondary Voltage Output  
 10-15KV  
 Secondary Current .2 Milliampers  
 Approx. Frequency ..... 175 KC  
**\$12 Net**

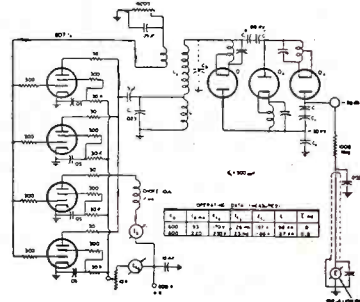


L4, L5, L6  
 are Spellman  
 RF Filament  
 Transformers



35 KV

Secondary Height ..... 7"  
 Secondary Windings ..... 3" dia.  
 Consisting of 10 Pie Windings  
 Primary (separate from secondary)  
 Height ..... 4"  
 Diameter ..... 4 1/4"  
 Secondary Voltage Output .. 35 KV  
 Secondary Current .5 Milliampers  
 Approx. Frequency ..... 70KC  
**\$42.00 Net**  
**25KV**—Same as 35 KV except  
 Secondary Height ..... 6"  
**\$36.00 Net**



D1, D2 and  
 D3 are RCA  
 type 5825  
 tubes.

## 70 KV RF STEP-UP COILS

Secondary Height ..... 10"  
 Secondary Windings ..... 4" dia.  
 Consisting of 12 Pie Windings  
 Primary (separate from secondary)  
 Height ..... 4"  
 Diameter ..... 5"  
 Secondary Voltage Output .. 70 KV  
 Secondary Current .5 Milliampers  
 Approx. Frequency ..... 70 KC  
**\$75.00 Net**



## RF FILAMENT TRANSFORMERS

A self-resonant auto transformer for use with type 1B3 Rectifier tube. Will operate with Spellman HV calls ..... **\$1.50**  
**TUNING PADDER** for Filament Transformer ..... **0.58**



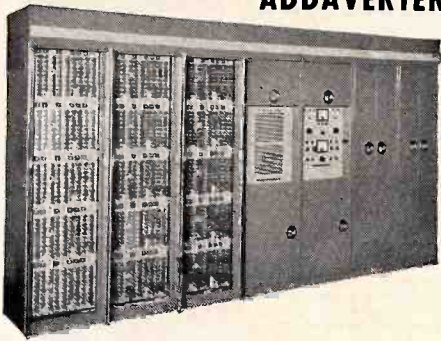
## ULTRASONIC CERAMIC TRANSDUCER and MATCHING TRANSFORMER KIT

Designed to operate at 40 KC. Output transformer will operate from 16 or 500 ohm output of audio amplifier at 40 watts max. Furnished complete with operating instructions and information on how to mount barium titanate driver to metal tanks, rods, etc., using an epoxy resin which is supplied with ultrasonic kit.  
 MODEL 16500 ..... **\$69.50**  
 MODEL HP—Designed to operate from the plates of the output tubes ..... **\$69.50**

**SPELLMAN** TELEVISION CO., INC.

3029 WEBSTER AVENUE  
 N. Y. 67, N. Y. Kingsbridge 7-0306

## ADDAVERTER



The Epsco ADDAVERTER is a bi-lingual translator for linking a high-speed general-purpose digital computer, such as the IBM 704, and a general-purpose large-scale analog computer. The ADDAVERTER makes possible bi-directional communications between these computers, translating the digital language of one into the analog language of the other, and vice versa. Command control of linking system is with the program of the digital computer.

By integrating an analog and a digital computer into a single system, the ADDAVERTER provides a powerful computational tool for the solution of many types of dynamic problems. In a typical case, the analog computer is programmed by the digital computer, with the input variables for each analog operation being calculated from the results of the preceding analog operations.

Each converter within the unit has an over-all resolution of 18 bits for its bipolar range and a dynamic range of  $\pm 17$  binary bits. The complete analog-to-digital conversion of 18 bits is completed in 100  $\mu$ sec. The complete digital-to-analog conversion of 18 bits is completed in 25  $\mu$ sec. The accuracy of the ADDAVERTER is  $\pm .05$  per cent of the actual value. The dynamic range is greater than  $10^6$ .

## FM Telemeter Analog-to-digital Conversion System

Numerous requirements exist for complete data processing systems capable of converting FM telemetering data on magnetic tape recordings to a digital

format suitable for further processing by a large digital computer. The Epsco FM telemetering analog-to-digital conversion system is designed to handle all of the accepted types of modulation and time multiplexing, operate on all of the standard sub-carrier frequency bands at various Modulation Indexes, and provide a practical method for obtaining accurate analog data plots for "quick look" observation and editing. The system is capable of searching out and locating any desired data on any channel at any time in accordance with the findings of the pre-edited information or from the command of the digital computer.

The system is capable of compensating for any speed variations in the magnetic tape recorder or for any drift or gain changes in the airborne sub-carrier equipment. It is also capable of transferring data to the digital computer directly via the computer high-speed input-output link as well as via the computer input tape mechanism. Changes in channel frequencies, filter values, and selection of the various modes of operation are accomplished remotely and, if necessary,

## DATRAC — Reversible Voltage-to-digital Converter, Model B-611

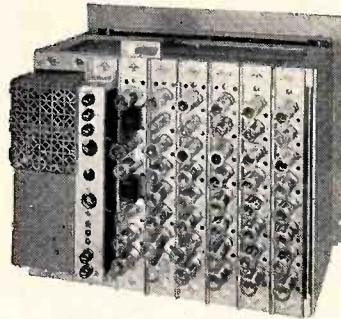


A high-speed, highly accurate voltage-to-digital converter capable of converting unknown input voltages to digital coded form at high speeds and at precise times. Approximately 45,000 independent data conversions per second for an 11-place binary code can be accomplished with an accuracy of better than  $\pm 0.05\%$   $\pm \frac{1}{2}$  the least significant digit.

### FEATURES

- **Proved reliability** — field service over 5000 hours continuous operation without maintenance or servicing.
- **Long-term stability** — all normal conditions of component aging, power-source variation, and operational shock and vibration will not affect encoded value by more than one least-significant digit for the life of the equipment.
- **Simplicity of operation** — except for the mode-of-operation selector and the power switch, there are no operator adjustments or controls on this equipment.
- **Versatility of data handling capabilities** — high conversion speed allows for many combinations of inputs, from a single 15 kc data-input channel (without multiplexing) to hundreds of data-input channels of lower frequency response when used with electronic and/or electro-mechanical multiplexers. The reversible feature allows it to convert either from analog to digital or digital to analog.
- **Serial and parallel outputs** — both a serial pulse train and a parallel output are provided for simultaneous transmittal over a radio or wire link and storage in a recording medium.

## Electronic Multiplexer Model EM-51



This five-channel multiplexer is designed to time-multiplex five separate voltage inputs into a single output of sampled voltages. It is designed for full-range input levels from 1.0 to 100 volts. Input levels from  $\pm 20$  millivolts can be obtained through use of the associated Models DA-30 or DA-31 d-c amplifiers. Each of the five channels can be sampled at any rate up to about 4 kc. The rate and sequence of switching may be controlled by an external programmer, such as the Epsco Model MP-50 Multiplexer Programmer. The output of the EM-51 may be fed directly into DATRAC voltage-to-digital converter. Any number of units may be employed to handle additional channels; i.e., 10, 15, 20, 25, 30 channels. Since each channel is a separate plug-in unit, numbers of channels other than multiples of five can be obtained by including only the desired number.

### FEATURES

- **High static accuracy** — due to incorporation of all switching functions within the feed-back loop of a high-gain chopper-stabilized d-c amplifier; the input-output ratio is determined by precision wire-wound resistors.
- **High dynamic accuracy** — the short effective sampling time of the amplifier, limited only by the turn-off time of the sampling switch, allows rapidly changing signals to be sampled with little loss in accuracy from signal change during sampling intervals.
- **Long-term stability** — is obtained through the combination of chopper-stabilized high-gain amplifiers and stable wire-wound resistors.

## Secondary-standard Voltage-reference Source Model VR-607



A precision, ultra-stable voltage source which will provide any output voltage from +211.112 to -211.112 volts, selectable in steps of one millivolt by means of a series of decade switches. The guaranteed initial absolute accuracy of the reference voltage is 0.01%. The accuracy of the selectable output, relative to the reference output, is 0.01% of setting  $\pm 500$  microvolts. Model VR-607B is a similar equipment employing binary rather than decade selector switches.

### FEATURES

- **Long-term accuracy** — continuous d-c reference outputs of  $\pm 100.00$  volts. Initial accuracy  $\pm 0.01\%$ ; max. drift  $\pm 0.02\%$  per year.
- **High resolution** — selectable output voltage from +111.112 volts to -111.112 volts in discrete steps of one millivolt. Vernier interpolation provides resolution of less than 10  $\mu$ v.
- **Versatility of application** — this versatile, easy-to-use instrument is valuable as: a secondary standard for precision voltage measurement; a meter-and-transducer calibrator; an absolute reference source for analog computers; a standard reference for use with Epsco's DATRAC and ADDAVERTER Voltage-to-digital Conversion Equipment; a low-impedance precision attenuator.
- **High-quality components** — quality internal standard cell reference and ultraprecision resistors.

# in DATA PROCESSING

automatically. The system operates without the necessity for any manual adjustments whatsoever to within an accuracy of 0.5 percent.

## Pulse Code Modulation Telemetry System

The Epsco sub-miniaturized airborne voltage-to-digital converter MINIDATRAC permits the encoding of data developed in airborne missiles or aircraft. By encoding the data into digital form while aloft and transmitting the data as sequential discrete pulses, the signal-to-noise advantage of PCM (Pulse Code Modulation) may be utilized, providing essentially error-free transmission of information. PCM offers the most accurate means of transmitting and recording multi-channel instrumentation data.

The Epsco PCM Telemetry System affords a means of encoding multiple inputs, while in the air, to an absolute accuracy of approximately 0.1%, recording the data on an airborne digital tape recorder or transmitting the data by means of an r.f. link to a recorder on the

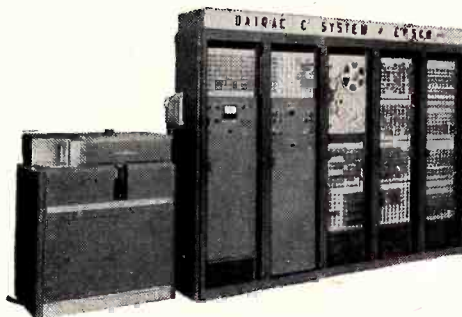
ground. The data can be obtained in various formats suitable for processing by a digital computer.

In addition to the accuracy and ease of entry into digital computers afforded by this method of data acquisition, the system permits flexibility in allocating channel bandwidth and is capable of re-converting the digital data accurately into analog form at the ground station. Controlling the speed of the digital magnetic tape transport during playback through a digital-to-analog converter, permits the time scale of the original analog inputs to be compressed or expanded, as desired.

## The DATRAC C 700 System

The DATRAC C 700 System is designed to provide rapid acquisition and digital recording of quasi-static and dynamic input data from as many as 400 separate sources. The overall system has a conversion rate of 1250 independent conversions a second, and individual channels can be sampled at any rate up to 50 times a second.

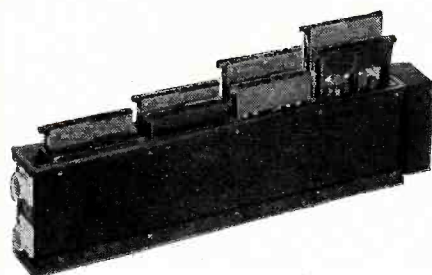
Various input functional units of the system may be arranged to provide



from one to four hundred input channels, either single-ended or differentially connected, and having full-scale ranges of  $\pm 10$  millivolts to  $\pm 100$  volts. The input data are converted into numerical form, either binary coded decimal or straight binary representation.

The digital data are recorded directly on magnetic tape with appropriate block or time codes. Magnetic tape formats available in the system allow direct tape input to the IBM 650 or 700 series computers and provide for IBM card output through use of a separate tape-to-card converter.

## MINIDATRAC Sub-miniature Voltage-to-digital Converter Model SVD-610

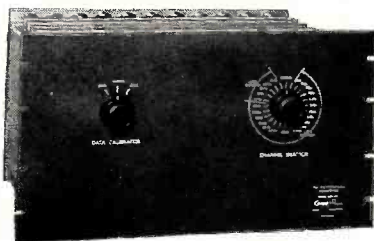


The Epsco MINIDATRAC is a high-speed, highly accurate voltage-to-digital converter, designed and packaged for airborne use under severe environmental conditions. It provides an accuracy of better than 0.1% without adjustments or calibration, and a maximum speed of approximately 50,000 data point conversions per second.

### FEATURES

- **Simplicity of Operation** — There are no operator adjustments on this equipment except for a scale-factor adjustment.
- **Versatility** — this equipment may be used to transmit data serially over a radio or wire link (pulse code modulation) or to record data in parallel on a storage medium such as a magnetic tape recorder. The high conversion speed allows for many combinations of inputs from a single 16.3 kc data input channel to hundreds of lower response data inputs when electronic and/or electro-mechanical multiplexing is used.
- **Reliability** — extremely conservative computer design coupled with the most advanced sub-miniature packaging techniques have resulted in an equipment of highest reliability.
- **Long-term stability** — stability for all conditions of component aging, power-source variation, and operational shock and vibration will not affect the encoded value by more than one least significant digit for the life of the equipment.

## FM-to-Voltage Converter FM-108



Designed to provide an ultra-stable, dynamically accurate and inherently reliable data converter for use in telemetry receiving installations and data processing systems. Each converter can be operated on any one of the 23 IRTWG bands by a front-panel selector switch or from a remotely located band-switch.

### FEATURES

- **Accuracy** — the absolute accuracy of the converter is better than 0.05% and the dynamic accuracy, from the input to the associated band-pass filter through the low-pass output filter, is better than 0.2%.
- **Long-term stability** — converter design allows accuracy and performance characteristics to be met for the life of the equipment without any manual corrections for component aging, drift, gain variations.
- **Simplicity of operation** — there are no adjustments or controls on the equipment other than the channel selector and zero and 100% data calibrator switch.
- **Wow and flutter compensation** — automatic compensation of wow and flutter components from magnetic tape recordings is accomplished by use of an Epsco FM-106 Velocity Deviation Detector and Epsco CD-601 Velocity Deviation Compensation Distributor.
- **Dynamically accurate selectable low-pass filters** — a unique 5-pole filter design utilizing precision wire wound resistors and ultra-stable polystyrene capacitors in combination with chopper-stabilized d-c amplifiers provides: linear phase characteristics, a pass band which is flat within  $\pm 0.1$  percent (0.01 db) to  $F_c$ , and a minimum attenuation of 54 db of nearest beat frequencies between sub-carrier channels. A total of 62 different low-pass filter bandwidths are selectable from 11 cps to 3,490 cps.

## All-channel Sub-carrier Oscillator Model VCO-718



An extremely linear, stable, self-contained, voltage-controlled oscillator that can provide an output signal on any of the 23 IRTWG telemetry bands. Contains a novel, direct-coupled, free-running multivibrator that inherently yields symmetrical operation. The basic technique used is that of alternately switching precision-controlled currents into matched, stable capacitors, the value of which, together with the magnitude of the voltage-controlled switching current, determines the period of the cathode-coupled multivibrator. Channel switching is accomplished by changing the magnitude of the current.

### FEATURES

- **Linearity** — non-linear deviation from a mean straight line, over the entire frequency-deviation range for most channels, does not exceed 0.03%.
- **Stability** — precision components and military-type tubes are used throughout the equipment. The deviation control and vernier frequency control are instrumented with precision, multi-turn potentiometers.
- **Simplicity of operation** — switching to any one of the 23 IRTWG channels is fully accomplished by a rotary selector switch.

In the East, contact Fred S. Korb  
108-03 Queens Blvd., Forest Hills 75, New York  
Tel: Boulevard 1-7042

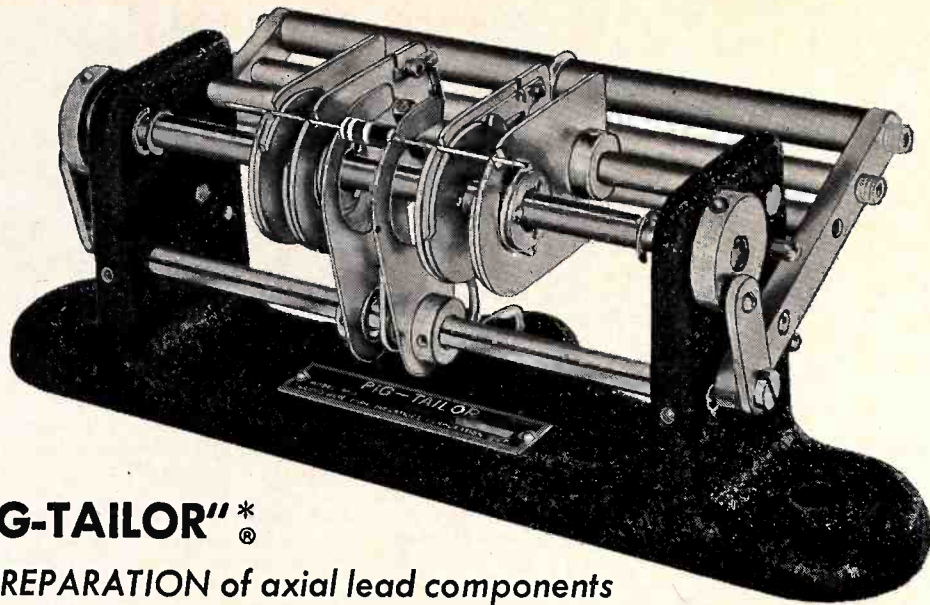
In the West, contact Epsco Serv. Corp. of Calif.  
1722 Westwood Blvd., Los Angeles 24, Calif.  
Tel: Granite 7-1754



588 COMMONWEALTH AVENUE

BOSTON 15, MASSACHUSETTS

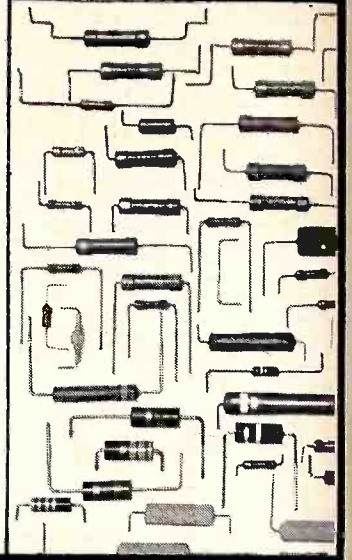
# PROVEN-on the assembly line!



**"PIG-TAILOR"\***®

For PREPARATION of axial lead components

**PREPARED  
COMPONENTS  
IN SECONDS  
WITH THE  
"PIG-TAILOR"**



## "PIG-TAILORING"

... a revolutionary new mechanical process for higher production at lower costs. Fastest PREPARATION and ASSEMBLY of Resistors, Capacitors, Diodes and all other axial lead components for TERMINAL BOARDS, PRINTED CIRCUITS and MINIATURIZED ASSEMBLIES.

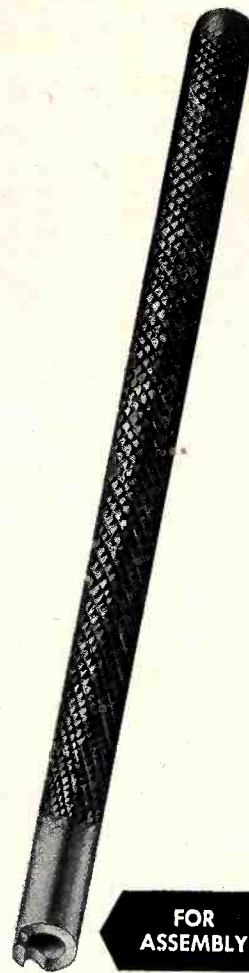
The "PIG-TAILOR" plus "SPIN-PIN"—accurately MEASURES, CUTS, BENDS, EJECTS & ASSEMBLES both leads simultaneously to individual lengths and shapes—3 minute set-up—No accessories—Foot operated—1 hour training time.

### PIG-TAILORING provides:

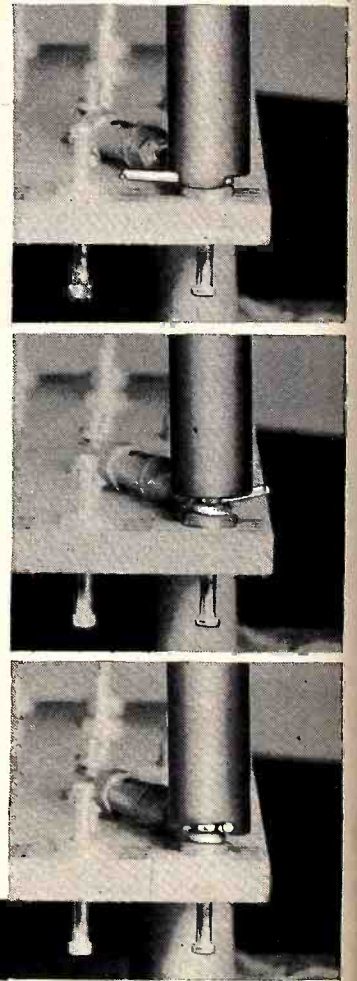
1. Uniform component position.
2. Uniform marking exposure.
3. Miniaturization spacing control.
4. "S" leads for terminals.
5. "U" leads for printed circuits.
6. Individual cut and bend lengths.
7. Better time/rate analysis.
8. Closer cost control.
9. Invaluable labor saving.
10. Immediate cost recovery.

### PIG-TAILORING eliminates:

1. Diagonal cutters!
2. Long-nose pliers!
3. Operator judgment!
4. 90% operator training time!
5. Broken components!
6. Broken leads!
7. Short circuits from clippings!
8. 65% chassis handling!
9. Excessive lead tautness!
10. Haphazard assembly methods!



**FOR  
ASSEMBLY**



**"SPIN-PIN"\***® Close-up views of "SPIN-PIN" illustrate fast assembly of tailored-lead wire to terminal.

\* PATENT  
PENDING

Write for illustrated, descriptive text on "PIG-TAILORING" to Dept. BG-6

**BRUNO-NEW YORK INDUSTRIES CORPORATION**  
DESIGNERS AND MANUFACTURERS OF ELECTRONIC EQUIPMENT  
460 WEST 34th STREET • NEW YORK 1, N. Y.



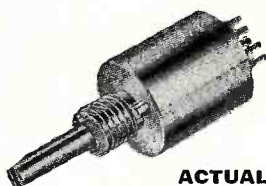
# DeJUR

# precision potentiometers

**...THE ONE  
BEST ANSWER  
TO YOUR  
DESIGN  
PROBLEMS**

### SERIES C-050

SUB-MINIATURE 1/2" • SEALED CONSTRUCTION



ACTUAL SIZE

- One piece nickel plated bronze case and bearing.
- Electrical rotation—320°; Mechanical rotation—325°, or continuous 360°
- Voltage breakdown—1000 volts AC.
- Threaded bushing mounting.

### SERIES C-078

MINIATURE 3/8" • GANGED MULTIPLES • INDEPENDENT PHASING



ACTUAL SIZE

- Unit height 3/8"; weight 1/2 oz.
- Independent linearity: ± 1% is standard.
- Linear or non-linear windings on flat card; res. tol. — ± 5% std., ± 1% on order.

### SERIES C-158

INTERMEDIATE 1 1/2" • GANGED MULTIPLES • INDEPENDENT PHASING

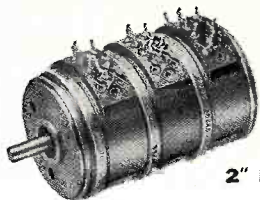


1/2  
ACTUAL SIZE

- Independent linearity: ± 0.5% of total resistance is standard.
- Linear or non-linear windings std., ± 1% on order.
- on flat card; res. tol — ± 5%
- Rotation: electrical — 320°. Mechanical—325°.

### SERIES C-200 (sleeve bearing) BC-200 (ball bearing)

IN-FIELD GANGING • UNLIMITED MULTIPLES • ADJUSTABLE TAPS

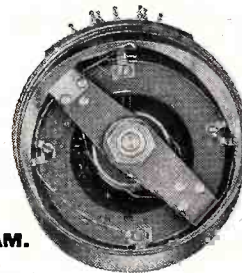


2" DIAM.

- Resistance ± 5% standard; to ± 1% on special order.
- Linearity: ± 0.5% independent linearity is standard; ± 0.3% on special order for C-200; ± 0.2% on special order for BC-200.
- Mounting: Servo type or single hole mounting with optional non-turn device.

### SERIES C-300

SINE-COSINE



3" DIAM.

- Independent brush contacts produce accurate sine and cosine outputs.
- Function accuracies of ± 1% are standard.
- Multiple ganged units are available.

### SERIES KS-200 (sleeve bearing) K-200 (ball bearing)

LONG FUNCTION ANGLES • CLAMP PHASING • HIGH RESOLUTION



2" DIAM.

- Resistance: linear, on triple Formvar copper mandrel.
- Independent linearity: ± 0.5% is standard; ± .1% on order.
- K-200 pots are completely enclosed and may be used as single or multiple ganged units.

### SERIES HP-200, HP-300, HP-500

HIGH RESOLUTION • LONG FUNCTION ANGLES • GANGING MULTIPLES



2", 3", 5"  
DIAM.

- Linearity: ± .5% standard to ± .1% on order.
- Resistance: ± 5% standard to ± 1% on order.
- Rotation: 360° mechanical; 356° ± 1/2° electrical standard.

### WRITE FOR COMPLETE TECHNICAL LITERATURE

Our engineering department can supply prototypes to meet unusual design specifications for tests and approval. Send us your specs for analysis. Electronic Sales Division, DeJUR-Amsco Corporation, 45-01 Northern Blvd., Long Island City 1, New York.

You're  
always  
sure  
with

# DeJUR

PRECISION POTENTIOMETERS

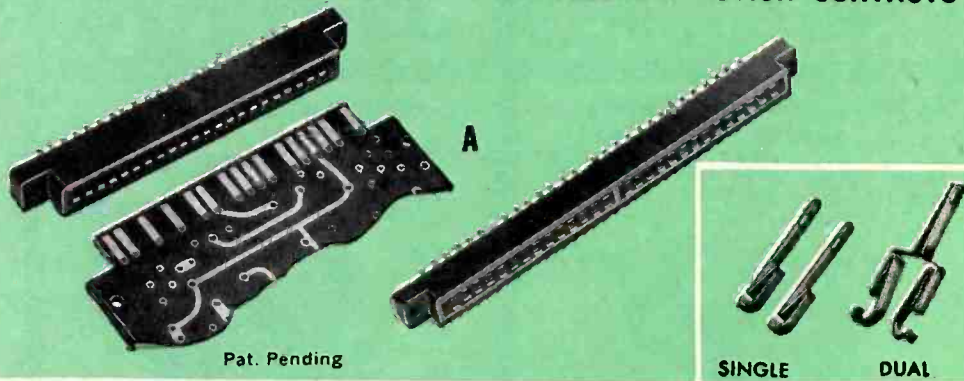


# Continental Connectors

**AMERICA'S FASTEST GROWING LINE**

*featuring the most important  
connector developments in recent years*

## PRINTED CIRCUIT CONNECTORS with "BELLOWS ACTION CONTACTS"



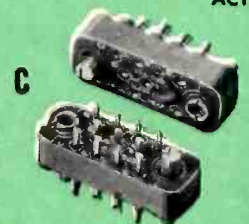
Pat. Pending

SINGLE

DUAL

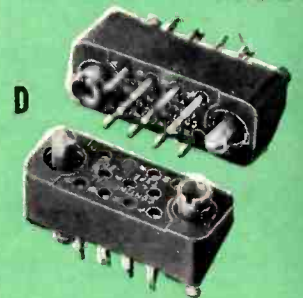
## MICRO-MINIATURE CONNECTORS

ACTUAL SIZE

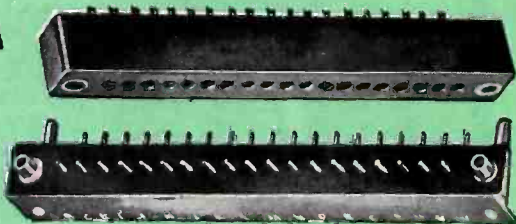


## SUBMINIATURE CONNECTORS

ACTUAL SIZE



AA



B



Patent #2746022

D

**PRINTED CIRCUIT CONNECTORS** A) New Series PC "Bellows Action Contacts" grip printed circuit board over 100% of board contact area. Contacts in single or double rows permit up to 56 connections. AA) Right Angle Printed Circuit Pin and Socket Connectors for dip soldering to printed circuit boards. Available in 4, 8 and 19 contacts.

**B) POLARIZING SCREWLOCKS** to prevent accidental disconnection due to vibration now available in Series 20 Miniature and Series SM-20 Subminiature Continental Connectors.

**C) SERIES 22 MICRO-MINIATURE** Connectors offer the ultimate in miniaturization without sacrifice of performance. Available with 7, 11, 14, 20, 26, 29 and 34 contacts for #22 AWG wire. Rating: 3 amps; Voltage: 1800V. RMS.

**D) SERIES SM-20.** Model shown has 11 contacts for #20 AWG wire. Available in 7, 11, 14, 20, 26 and 34 contacts. Rating: 5 amps; Voltage: 1900V. RMS.

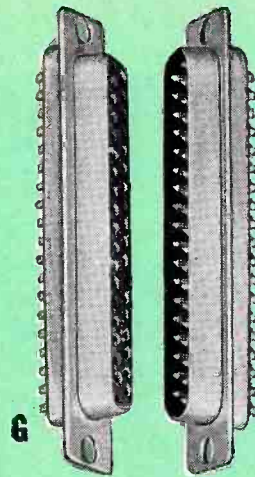
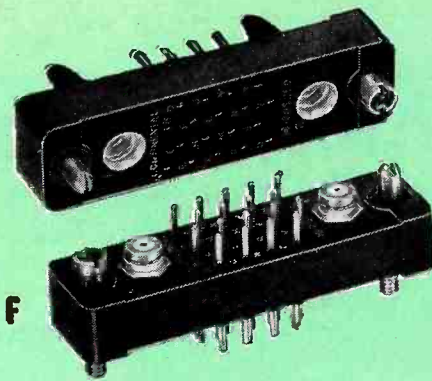
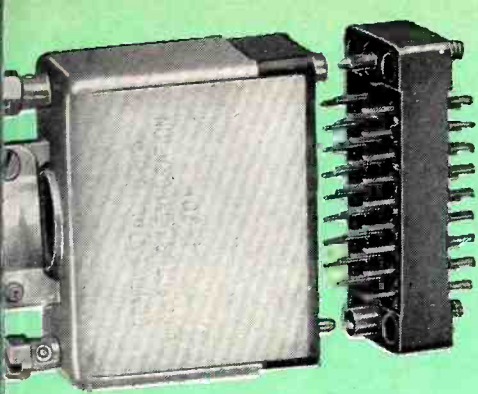
**E) SERIES 20 MINIATURE CONNECTOR** with Hood and Polarizing Screwlocks. Available with 7, 8, 9, 11, 14, 18, 20, 21, 26, 34, 41, 50, 75 and 104 contacts for #20 AWG wire. Rating: 5 amps; Voltage 2100V. RMS.

**F) SERIES 20** with 50-ohm matched impedance coaxial contacts and 14 or 18 standard #20 contacts. Rating: 5 amps; Voltage: 2100V. RMS.

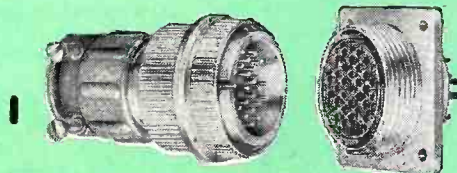
**G) SERIES CCC 20** in stainless steel shells, recommended for airborne applications. 37 contacts for #20 AWG wire. (15 and 25 contacts on request.)

**H) SERIES E-Z** Easy Release Connectors with up to 34 solder cups or solderless taper pin contacts. Aluminum hoods, polarizing screwlocks and coaxial contacts available on order. Rating: 10 amps; Voltage: 4500V. RMS.

*High precision, dependable Continental Connectors have achieved a reputation for excellence throughout the aircraft and electronics industries. The widest range of applications can be made from our standard line.*



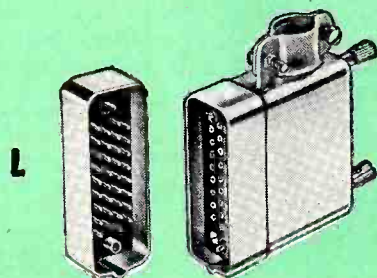
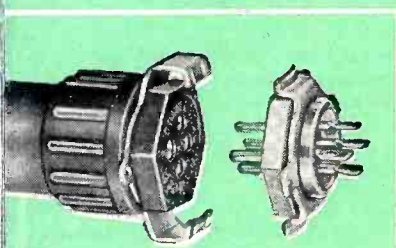
## CONTINENTAL "SERIES 20" MINIATURE CONNECTORS



### EASY RELEASE

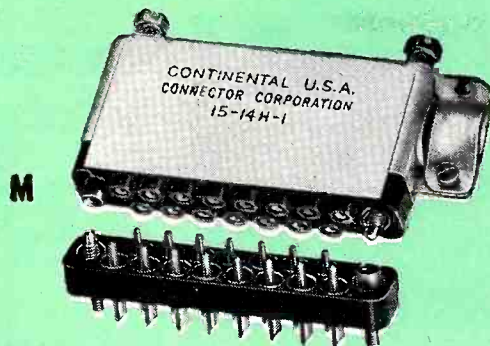
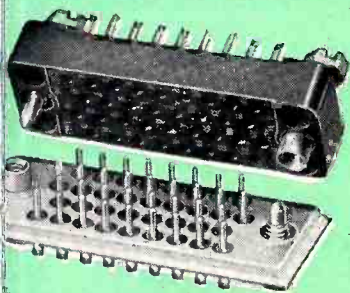
Patent #2736870

### MINIATURE AN-TYPE



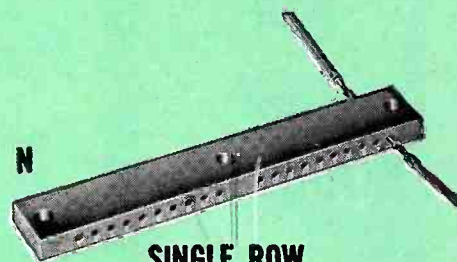
### PROTECTIVE SHELLS

### HERMETIC SEAL CONNECTORS

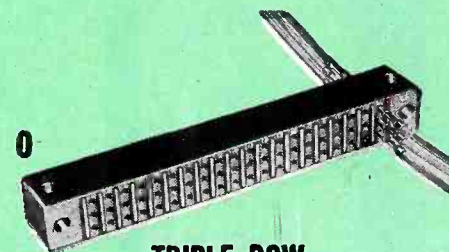


### POWER CONNECTORS

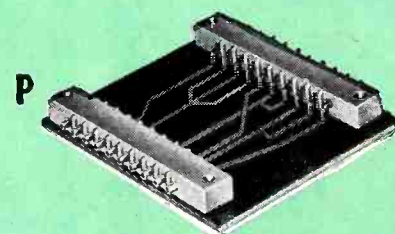
### TAPER PIN TERMINAL BLOCKS



#### SINGLE ROW



#### TRIPLE ROW



#### RIGHT-ANGLE CONNECTOR

**SERIES 1300 MINIATURE AN-TYPE** Connector with one-piece inserts. Rating: 7.5 amps; Voltage: 3000V. RMS. Two sizes: 3, 4, 5 contacts, and 15, 19, 27, 31 contacts.

**SERIES HC-20 HEXAGONAL** Hermetic Plug has solid glass seal. Choice of 4, 5, 7, 9 and 10 contacts.

**SERIES H-20** Hermetic Plug for #20 AWG wire. Contacts individually compression sealed in glass. Fits Series 20 receptacles. With polarizing screwlock or guide pin and guide socket.

**MOLDED ALUMINUM SHELLS** give complete protection against physical damage on Miniature Series 20 and Subminiature Series 20. Obtainable with or without corrosion-resistant stainless steel polarizing screwlocks.

**SERIES 14** Power Connector (illustrated with hood and polarizing screwlock.) Choice of 7, 9, 10, 15 or 18 contacts for #14 AWG wire. Rating: 10 amps; Voltage: 4500V. RMS.

**N) SERIES 145-58** Single Row Taper Pin Terminal Blocks. Available in any combination of feed-through shorting or non-shortening terminals. Molded holes for stacking or mounting.

**O) SERIES 145-48** Triple Stacked Taper Pin Terminal Blocks. Continental will supply stacked taper pin blocks in any combination of feed-through shorting or non-shortening terminals. Molded holes for right angle and perpendicular mounting.

**P) SERIES 145-60** Taper Pin Terminal Blocks for Printed Circuitry. Precision tapered molded-in right angle terminals for dip soldering to printed circuit boards.

For special designs and technical data sheets on these connectors write Electronics Sales Div., DeJUR-Amsco Corporation, 45-01 Northern Blvd., Long Island City 1, N. Y.

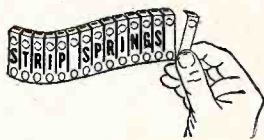
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# I-S SPRINGS of beryllium copper can help you

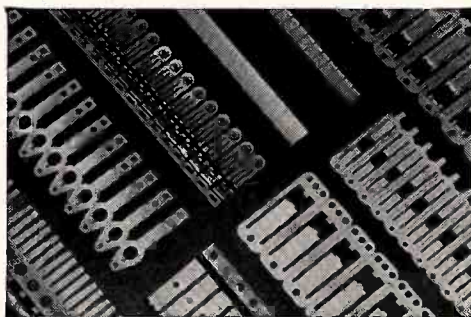
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Instrument Specialties Company specializes in the design and custom manufacture of age-hardened alloy springs. With our specially developed processes and machines, our engineers are able to

realize the fullest performance potential from the superior spring materials around which I-S service to designers and manufacturers has been developed.



**FOR  
HIGH  
PRODUCTION**



## STRIP SPRINGS

Fabricated from beryllium copper.

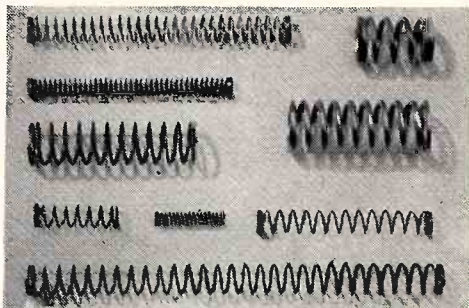
Easily handled, readily broken apart by hand or used in automatic or semi-automatic assembling devices and contact riveting machines.

Individual pieces may be broken off without trace of burr.

Eliminate sorting, untangling and handling of loose pieces.

Springs may be produced in strips to various shapes; formed angles may be held within plus or minus one degree.

Heat treated in multiple fixtures to insure uniformity, close tolerances and elimination of variations in spring-back.



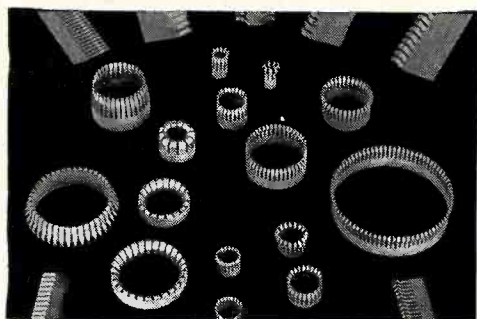
## COIL SPRINGS

Made from laboratory tested beryllium copper wire. Special coiling and heat treating equipment insures 100% uniformity.

Guaranteed rigid tolerances held on diameter and load tests at specified deflection.

These factors combine to assure increased service life through higher endurance strength — make products perform more consistently by eliminating drift, set or fatigue. Furthermore, they eliminate expensive hand adjustment and reduce inspection costs of finished product.

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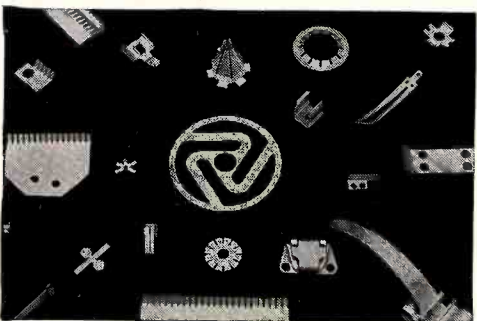


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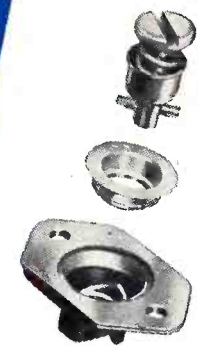
with

## **CAMLOC FASTENING DEVICES**

Modern product designs, production techniques and fabrication requirements demand more speed, more accessibility, more versatility in fasteners. In the electronics, aircraft, machinery and many other industries leading original equipment manufacturers call on Camloc's engineering department for fastener designs that help improve the product, decrease its cost and increase its sale.


Specify your needs for fasteners. These and other Camloc products offer modern solutions to modern design problems.

### QUARTER-TURN FASTENERS



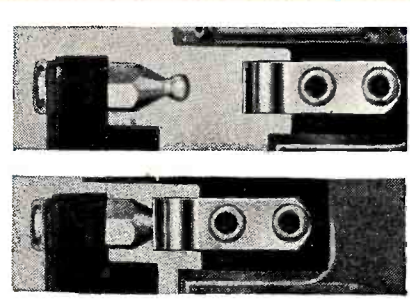
To get to the heart of the problem fast a quarter turn of this popular fastener is all it takes. Access panels, doors, other closures open fast, close fast, hold fast! And because fewer fasteners are required to do any given job, Camloc Quarter-Turn Fasteners cost less to use.

### ACCESS DOORS



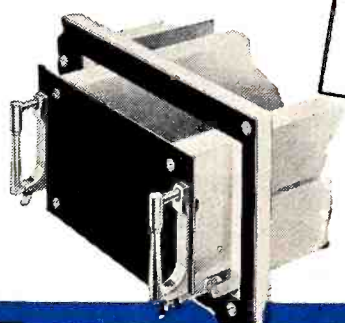
For flush-finished surfaces use these Camloc "captive" Access Doors. Opens by pushing with whatever tool is used to perform adjustments, closes automatically when tool is withdrawn. Standard size,  $\frac{3}{4}$ " dia.

### PRINTED CIRCUIT FASTENERS



This unusual fastener holds printed circuit boards in place with pull-out force of about 12 pounds. Consists of ball stud and two spring tempered steel clips. Stud also serves as attaching nut for contact plug mounting.

### ELECTRONIC CHASSIS LATCH



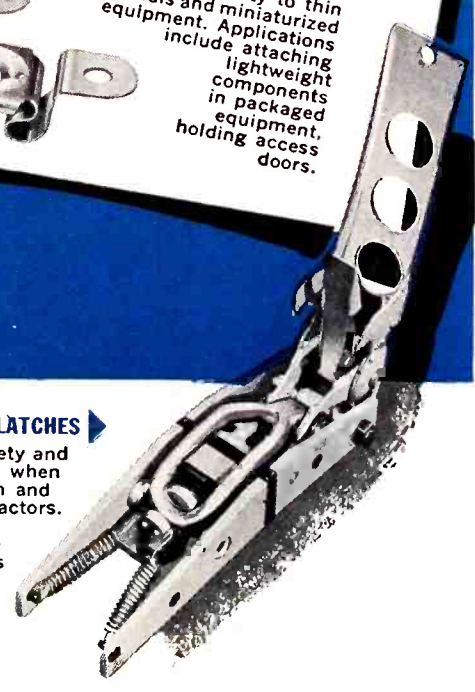
Inexpensive, vibration-proof Chassis Latch of attractive design eliminates protruding attaching bolts and hole preparation... Opens and closes easily... provides leverage to overcome frictional loads of multiple contact plugs.

### 5F SERIES QUARTER-TURN FASTENERS



Lightweight, low-cost 5F has all the features of standard Quarter-Turn Fasteners plus adaptability to thin materials and miniaturized equipment. Applications include attaching lightweight components in packaged equipment, holding access doors.

### HIGH STRENGTH LATCHES



For maximum safety and ease of operation when high shear-tension and heavy loads are factors. Long fatigue life under loads. Wide range of strengths and sizes fulfills a variety of requirements.

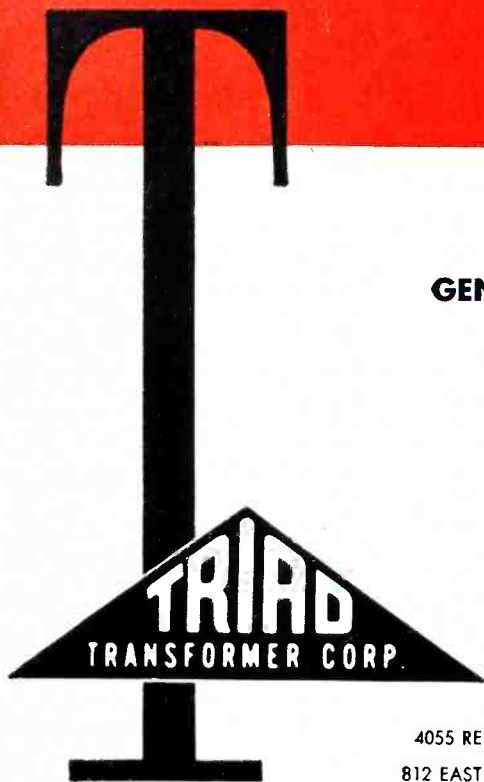
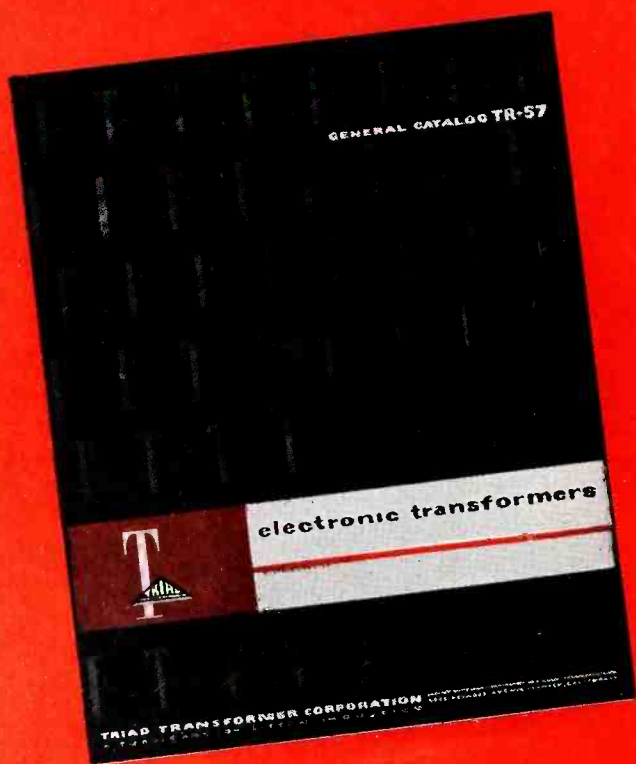
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# THE 17<sup>TH</sup> YEAR

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# GENERAL TRANSISTOR

## MAXIMUM RATINGS AT 25°C

## TYPICAL CHARACTERISTICS AT 25°C

	Polarity	Transistor Dissipation (mW)	Collector to Base Voltage (Emitter Open) (Volts)	DC Collector Current (ma)	Peak Collector Current (ma)	Storage Temperature (°C)	DC Current Gain (B)		Power gain (dB)	Noise Figure (dB)	Collector Cutoff Current		Alpha Cutoff Frequency (mc)	Collector Voltage (Volts)	Emitter Current (ma)	Applications
							Conditions	Gain			Conditions	( $I_{CE}$ )				
	PNP	125	25	100		85		28	36	16	VCB=10V	6	4.5	1	Audio, Gen. purpose	
	PNP	125	25	100		85		42	40	16	VCB=10V	6	4.5	1	Audio, Gen. purpose	
	PNP	125	25	100		85		15	32	16	VCB=10V	6	4.5	1	Audio, Gen. purpose	
	PNP	125	25	100		85		75	42	<12	VCB=10V	6	4.5	1	Audio, Gen. purpose	
	PNP	125	25	100		85		150	44	<12	VCB=10V	6	4.5	1	Audio, Gen. purpose	
	PNP	125	25	100		85		75	42	16	VCB=10V	6	4.5	1	Audio, Gen. purpose	
S*	PNP	150	25	200		85		120	44	16	VCB=10V	6	4.5	1	Audio, Gen. purpose	
	PNP	125	25	100		85		150	46	16	VCB=10V	6	4.5	1	Audio, Gen. purpose	
	PNP	125	25	100		85		120	44	16	VCB=10V	6	4.5	1	Audio, matched pair	
	PNP	125	12	100		85		20	30	30	VCB=10V	6	4.5	1	Audio, Gen. purpose	
	PNP	90	12	50		75		28	36	12	VCB=10V	6	4.5	1	Hearing Aid	
	PNP	90	12	50		75		42	40	12	VCB=10V	6	4.5	1	Hearing Aid	
	PNP	90	12	50		75		80	42	12	VCB=10V	6	4.5	1	Hearing Aid	
M	PNP	90	12	50		75		15-250	>34	>29	VCB=10V	<25	4.5	1	Hearing Aid	
R	PNP	90	12	100		75		25	24 $\phi$			6	2.5	4.5	1	R.F. & I.F.
R	PNP	90	10	100		75		40	28 $\phi$			6	5	4.5	1	R.F. & I.F.
R	PNP	90	10	100		75		70	32 $\phi$			6	11	4.5	1	R.F. & I.F.
R	PNP	90	6	100		75		120	34 $\phi$			6	17	4.5	1	R.F. & I.F.
	PNP	125	25	200	500	85		35-49	40	16		10	<.7	4.5	1	Low Speed Computer
	PNP	125	25	200	500	85		38	36	16		10	.5	4.5	1	Low Speed Computer
	PNP	125	25	200	500	85		80	42	16		10				Low Speed Computer
	PNP	125	25	200	500	85		80	42	16		10	1.5	4.5	1	Low Speed Computer
	PNP	100	15	‡		-55 to +85		IC=10ma VCE=5V	25-75		VCB=15V	<60				Low Speed Computer
	PNP	100	>20	200	500	-55 to +85		15	20 $\phi$	16	VCB=15V	<5	<.5	4.5	1	Low Speed Computer
	PNP	100	>20	200	500	-55 to +85	30-150				VCB=20V	<6	>5	4.5	1	High Speed Computer
	PNP	100	>30	200	500	-55 to +85	>20				VCB=20V	<5				High Speed Computer
	PNP	100	25	200	500	-55 to +85					VCB=12V	<4	>4	4.5	1	High Speed Computer
	PNP	100	>20	200	500	-55 to +85		20	24 $\phi$	16	VCB=15V	<5	.5 to 3	4.5	1	High Speed Computer
	PNP	100	15	50		-55 to +85		40	28 $\phi$	16		1	5	4.5	1	High Speed Computer
	PNP	100	15	50		-55 to +85		75	32 $\phi$	16		1	10	4.5	1	High Speed Computer
	PNP	100	6	50		-55 to +85		100	34 $\phi$	16		1	20	4.5	1	High Speed Computer
	PNP	100	6	50		-55 to +85		120	35 $\phi$	16		1	30	4.5	1	High Speed Computer
	PNP	100	>20	200	500	-55 to +85		200		16	VCB=15V	<5	>25	4.5	1	High Speed Computer
	PNP	150	45	50		-55 to +85		32-65	>12	<20	VCB=45V	16	>.4	5	1	Military-Type
	PNP	150	45	50		-55 to +85		16-32	34-43	<33	VCB=45V	15	>.4	5	1	Military-Type
	PNP	100	20	200	500	-55 to +85			IC=100ma VCE=.2V	20	VCB=5V	1	5	5	1	Switching computer
	PNP	100	20	200	500	-55 to +85			IC=200ma VCE=.2V	30	VCB=5V	1	12	5	1	Switching computer
	PNP	100	20	200	500	-55 to +85			IC=400ma VCE=.2V	30	VCB=5V	1	20	5	1	Switching computer
	NPN	100	>30	200	500	-55 to +85			IC=100ma VCE=.25V	30	VCB=5V	<5	3	5	1	Switching computer
	NPN	100	>30	200	500	-55 to +85			IC=200ma VCE=.25V	30	VCB=5V	<5	6	5	1	Switching computer
	NPN	100	>30	200	500	-55 to +85			IC=300ma VCE=.25V	30	VCB=5V	<5	9	5	1	Switching computer
T-66)	PNP	50	12	20		85		100	42	20		10		4.5	1	Phototransistor
	PNP	150	50	‡		85		10	32	16		10		4.5	1	High Voltage
	PNP	125	100	200	500	85		18			VCB=100V	<450		4.5	1	Neon light
	PNP	125	40	200	500	-55 to +85		15	32	24	VCB=15V	15		4.5	1	Bi-directional
n35)†	NPN	100	25	100	200	-40 to +75		40	40	16	VCB=12V	12		5	1	Audio, Gen. purpose
	NPN	100	>10	200	500	-55 to +85		>10		30	VCB=10V	<10		5	1	Experimental Amateur
	NPN	100	25	200	500	85		>25			VCB=15V	<10	>5	5	1	High speed switching computer
	NPN	100	15	‡		-55 to +85		IC=10ma VCE=5V	25-75		VCB=15V	<60				High medium speed switching computer
	NPN	100	20	100	200	-55 to +85		IC=5ma VCE=5V	37-160		VCB=5V	6	4.8	5	3	Switching computer
	NPN	100	20	200	500	-55 to +85		IB=1ma VCE=.2V	35-70		VCB=20V	<25				High & med. speed switching computer
	NPN	100	20	200	500	-40 to +75		IB=1ma VCE=.2V	>30		VCB=20V	<25	>4	5	1	High speed switching computer
	NPN	100	20	200	500	-55 to +85		IB=1ma VCE=.2V	20-40		VCB=20V	<25				High & med. speed switching computer
	NPN	100	15	200	500	-55 to +85		IB=1ma VCE=.2V	>40		VCB=10V	<25				High & med. speed switching computer
	NPN	100	20	200	500	-55 to +85		IB=1ma VCE=3.5V	>30		VCB=20V	<20	>4	5	3	High & med. speed switching computer
	NPN	100	30	200	500	-55 to +85		IB=1ma VCE=3.5V	>30		VCB=30V	<25	>.7	5	3	High & med. speed switching computer

‡ Limited only by Collector Dissipation  $\phi$  Frequency = 455KC † Preliminary Specifications — Subject to Revision at any Time by General Transistor Corp.  
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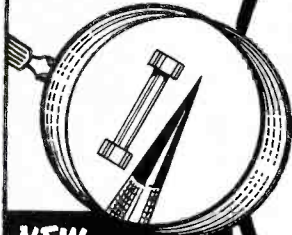
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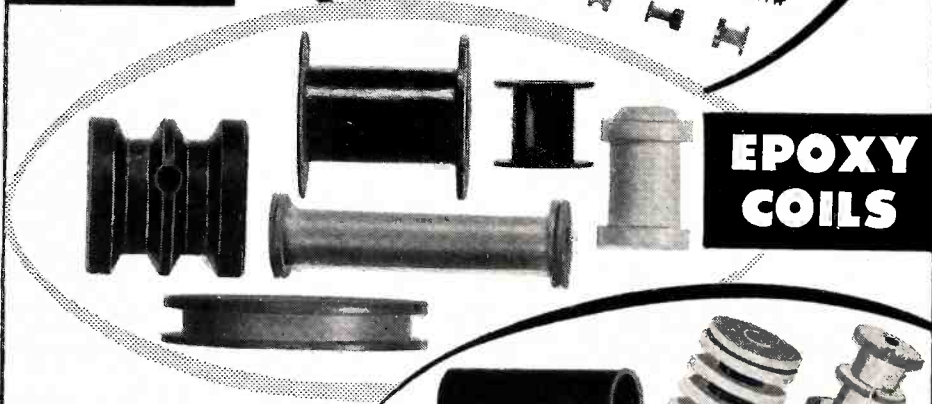
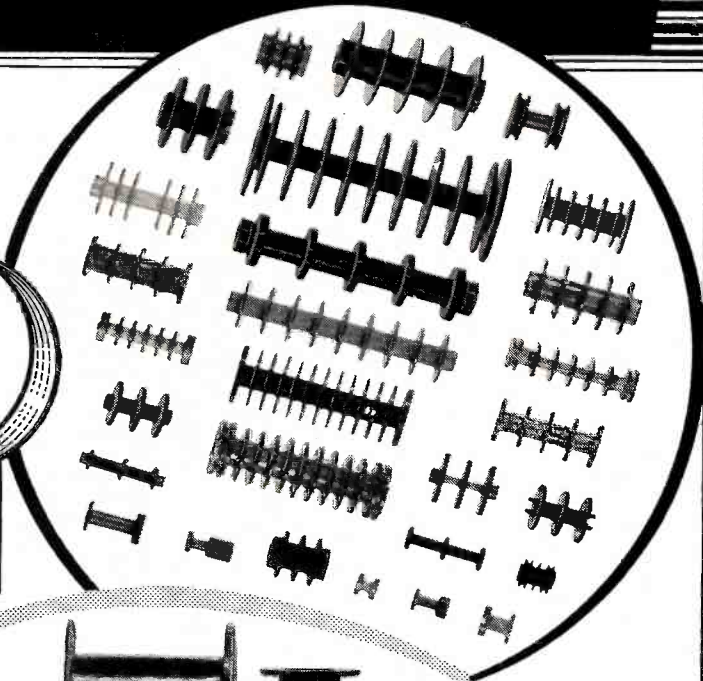
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**For Product Data . . .**

## the electronics BUYERS' GUIDE

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**DAVEN'S NEW MINIATURE WIRE WOUND RESISTORS PROVIDE AS MUCH AS 400K RESISTANCE IN  $\frac{1}{4}$ " X  $\frac{5}{16}$ " SPACE**

DAVEN's fully encapsulated, miniature, precision wire wound resistors offer the design and development engineer the solution to critical space limitation problems. DAVEN's advanced techniques provide the needed resistance value in a minimum of space, without sacrificing reliability. Where space conservation is a prime factor in your design, specify DAVEN miniature wire wounds.

### Types and Specifications

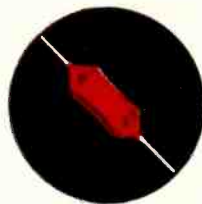
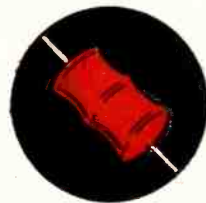
Type	Dia.	Length	Max. Ohms	Max. Watts
1274	3/16	3/8	100K	0.25
1273	1/4	5/16	400K	0.25
1283	1/4	5/16	400K	0.25
1284	1/4	27/64	.5 Meg.	0.25
1250	1/4	1/2	900K	0.33
1170A	7/16	1/2	1.2 Meg.	0.50
1170	1/2	1/2	1.8 Meg.	0.50

- Fully encapsulated • Meet and exceed all humidity, salt water immersion and cycling tests as specified in MIL-R-93A, Amendment 3 • Operate at 125°C continuous power without de-rating • Can be obtained in tolerances as close as  $\pm 0.02\%$  • Standard temperature coefficient is  $\pm 20\text{PPM}/^\circ\text{C}$ .



THE **DAVEN** CO.

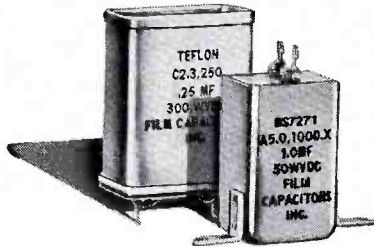
526 West Mt. Pleasant Ave.  
Route 10, Livingston, N. J.



Special temperature coefficients can be supplied on request.

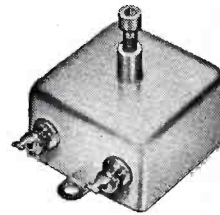
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- Lowest Dielectric Absorption ("Soakage")
- Lowest Power Factor
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### ADJUSTABLE CAPACITORS

- Large Capacitances at Close Tolerance
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- Same Electrical Characteristics as Above

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precision capacitor  
for critical applications*



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- Small Size - Light Weight - Low Price
- Operation Up to 125°C.
- Voltage Up to 60,000 V

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TO MEET EXACTING  
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### TYPE D CAPACITORS

- Small Size - Low Cost
- Very High Insulation Resistance
- Moderate Dielectric Absorption ("Soakage")
- Available in Styles CP04, CP53, CP70, and Ceramic Jacketed



### ELECTRICAL CHARACTERISTICS

	POLYSTYRENE	TEFLON	ADJUSTABLE	H.V.	TYPE D
Operating Temperature Range	-55°C. to +85°C.	-55°C. to +200°C.	Available with either polystyrene or teflon characteristics	-55°C. to +125°C.	-55°C. to +125°C
Voltage Range, DC	100 to 30,000	100 to 30,000		2,000 to 60,000	100 to 1,000
Capacitance Range	.001 to 20 mf	.001 to 20 mf		.0001 to 0.1 mf	.0001 to 25 mf
Power Factor	.02% @ 1 kc	.02% @ 1 kc		0.3% @ 1 kc	0.3% @ 1 kc
Dielectric Absorption	.01%	.01%		0.1%	0.1%
Voltage Derating at 85°C.	none	none		30%	none
Voltage Derating at 125°C.	not operable	none		66%	30%
Voltage Derating at 150°C.	not operable	none		not operable	60%
Voltage Derating at 200°C.	not operable	33%		not operable	not operable
Temperature Coefficient	-100 ppm/°C.	-100 ppm/°C.		+500 ppm/°C.	+500 ppm/°C.
I.R. at Room Temperature	10 <sup>6</sup> megohms/mf	10 <sup>6</sup> megohms/mf		10 <sup>4</sup> megohms/mf	10 <sup>4</sup> megohms/mf
Capacitance Stability	0.1%	0.1%		0.5%	0.5%

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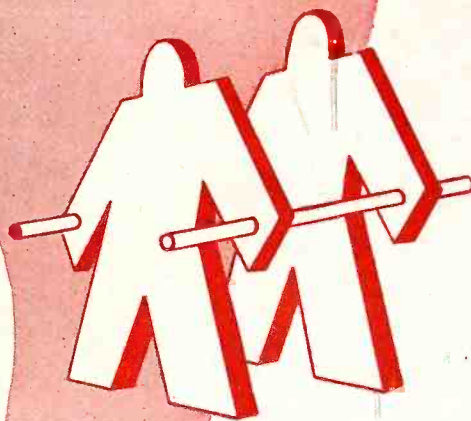
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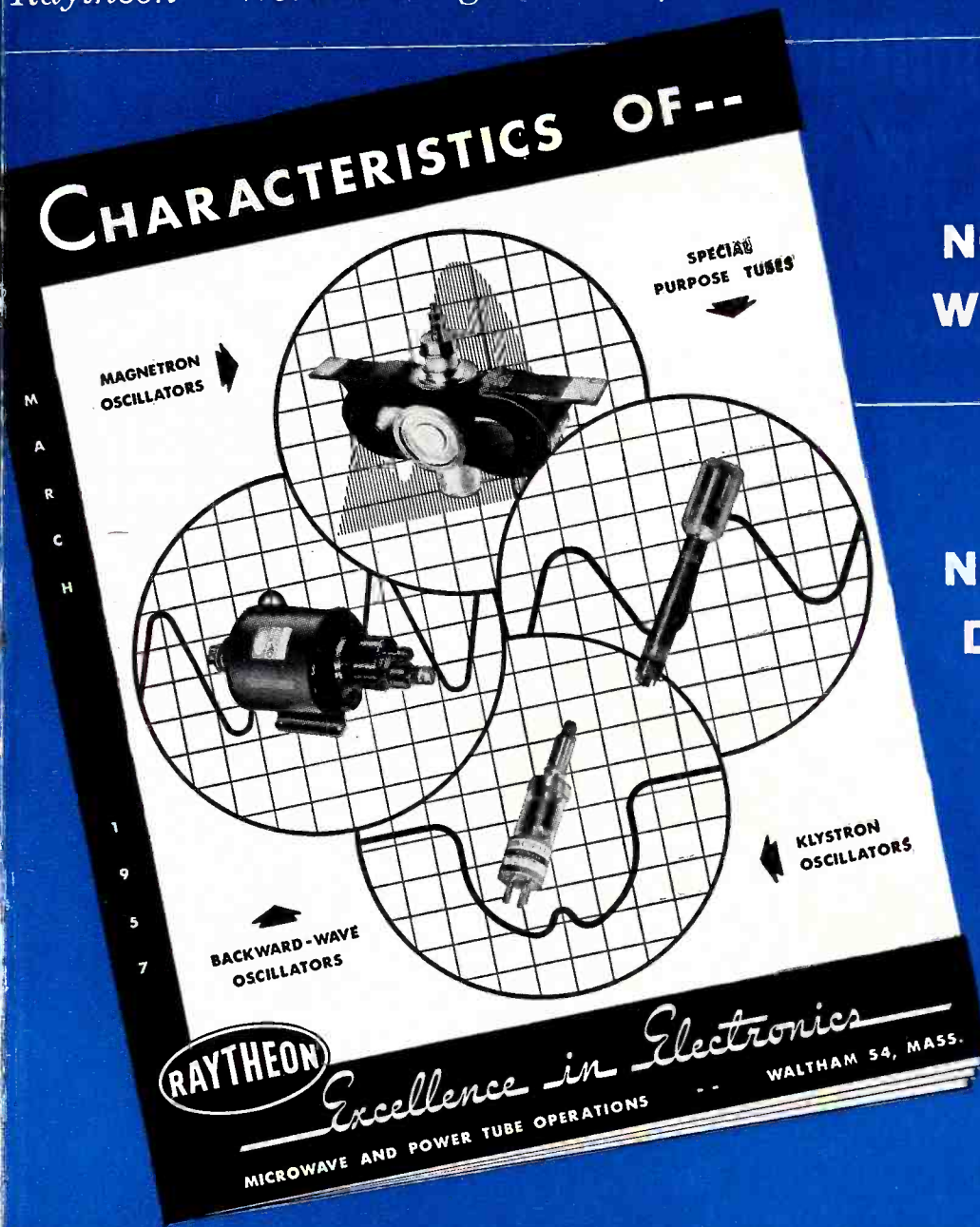
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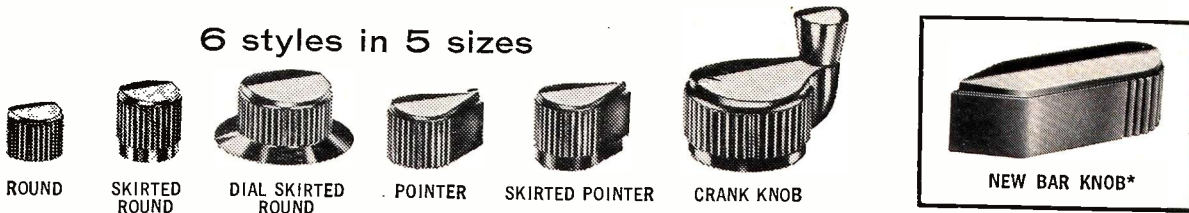
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AVAILABLE MODELS for 1/4" shafts											
Description	70 Series		90 Series		125 Series		175 Series		225 Series		
Style	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	
Round	70-1-2	12	90-1-2	12	125-1-2	6	175-1-2	6	225-1-2	4	
Skirted Round	70-2-2	12	90-2-2	12	125-2-2	6	175-2-2	6	225-2-2	4	
Dial Skirted Round	70-3-2	12	90-3-2	6	125-3-2	6	175-3-2	2	225-3-2	2	
Pointer	70-4-2	12	90-4-2	12	—	—	—	—	—	—	
Skirted Pointer	70-5-2	12	90-5-2	12	—	—	—	—	—	—	
Crank	—	—	—	—	125-6-2	4	175-6-2	2	225-6-2	2	

Cat. Nos. above for mirror finish. For matte finish, add "G" to end of number.

\*Bar Knob—Cat. No. 1154-G1 (mirror), 1154-G2 (matte)

ROUND & DIAL	Series	A	B	C	D	E
	70	.80	.62	.65	.72	1.14
90	1.03	.80	.83	.93	1.51	
125	.87	.70	1.16	1.27	1.82	
175	1.09	.85	1.67	1.77	2.45	
225	1.11	.89	2.16	2.27	3.01	

POINTER					
Series	A	B	C	D	E
70	.80	.62	.94	1.06	.32
90	1.03	.80	1.23	1.38	.42

CRANK			
Series	A	B	C
125	.87	1.38	1.09
175	1.09	1.77	1.50
225	1.11	1.80	1.75

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### Standard Test Jack

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Specially designed for printed circuit use • Accepts standard 0.080" test prod • Simple mounting—just insert and dip-solder • 9 brilliant insulator colors for circuit coding



### Subminiature Test Jack

Fixed or snap-in contact types available • Fast, easy expansion mounting • Accept standard 0.080" test prod • Colored insulators for circuit coding



### Knob Lock

Prevents control movement by shock or vibration • Replaces potentiometer mounting hardware • Neat appearance—matches standard Raytheon knobs • Available in Mirror or Matte finish



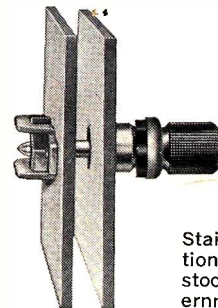
### Binding Posts

Provides 5-way connection • High strength nylon and brass construction • Accept standard 0.080" test prod • Available in black or red



### Shaft Lock

For use with screwdriver-adjusted controls • Constant friction drag prevents accidental rotation • Provides seal against dirt and moisture • Replaces standard mounting hardware



### Captive Hardware

Stainless steel construction • Wide assortment of stock sizes • Meets government specifications • Neoprene gasket provides dirt and moisture seal



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Provides rigid support under shock or vibration • Mounts single or double panels • Meets military specifications • Cold-rolled carbon steel, cadmium plated



A-4030

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# RAYTHEON VOLTAGE STABILIZERS

## Standard Catalog Models

Catalog No.	Output Capacity Watts	Style	Dimensions in Inches						Voltages		Net Wt. Lbs.
			Overall			Mounting		Input	Output		
			L	W	H	L	W				
VR-6110	15	F	6 $\frac{1}{4}$	2 $\frac{3}{8}$	3	5 $\frac{1}{8}$	5 $\frac{1}{8}$	95-130	115	4	
VR-61F0**	15	F	5 $\frac{3}{4}$	2 $\frac{5}{8}$	4 $\frac{1}{8}$	5 $\frac{3}{4}$	4 $\frac{1}{8}$	95-130	6.3	4	
VR-61D0**	15	D	3 $\frac{1}{8}$	2 $\frac{5}{8}$	4 $\frac{1}{8}$	2 $\frac{1}{4}$	1 $\frac{5}{8}$	95-130	6.3	6	
VR-6710**	25	W	7 $\frac{5}{8}$	3 $\frac{1}{8}$	3 $\frac{3}{8}$	7 $\frac{1}{8}$	1 $\frac{1}{2}$	95-130	6.0	4	
VR-6101	30	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	95-130	6.0/7.5	5	
VR-6111	30	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	95-130	115	5	
VR-6111-CP	30	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	95-130	115	5	
VR-6221	30	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	190-260	230	5	
VR-6112***	60	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	95-130	115	8	
VR-6112CP†	60	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	95-130	115	8	
VR-6222	60	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	190-260	230	8	
VR-6113***	120	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	5 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	95-130	115	14	
VR-6113CP†	120	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	5 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	95-130	115	14	
VR-6223	120	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	5 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	190-260	230	14	
VR-6114	250	E	12 $\frac{3}{8}$	5	7 $\frac{5}{8}$	11 $\frac{1}{8}$	3 $\frac{1}{2}$	95-130	115	25	
VR-6224	250	E	12 $\frac{3}{8}$	5	7 $\frac{5}{8}$	11 $\frac{1}{8}$	3 $\frac{1}{2}$	190-260	230	25	
VR-6115	500	E	12 $\frac{3}{8}$	5	7 $\frac{5}{8}$	11 $\frac{1}{8}$	3 $\frac{1}{2}$	95-130	115	45	
VR-6225	500	E	12 $\frac{3}{8}$	5	7 $\frac{5}{8}$	11 $\frac{1}{8}$	3 $\frac{1}{2}$	190-260	230	45	
VR-6116	1000	H	13 $\frac{3}{8}$	14 $\frac{1}{8}$	9 $\frac{5}{8}$	11 $\frac{1}{8}$	12 $\frac{7}{8}$	95-130	115	92	
VR-6226	1000	H	13 $\frac{3}{8}$	14 $\frac{1}{8}$	9 $\frac{5}{8}$	11 $\frac{1}{8}$	12 $\frac{7}{8}$	190-260	230	92	
VR-6117	2000	H	36 $\frac{1}{4}$	14 $\frac{5}{8}$	10 $\frac{1}{8}$	34	12 $\frac{1}{2}$	95-130	115	185	
VR-6227	2000	H	36 $\frac{1}{4}$	14 $\frac{5}{8}$	10 $\frac{1}{8}$	34	12 $\frac{1}{2}$	190-260	230	185	
VR-7B	2000	C	16 $\frac{1}{4}$	14 $\frac{3}{4}$	11 $\frac{3}{8}$	9 $\frac{7}{8}$	13 $\frac{5}{8}$	115/230	115/230	200	
VHF-6114*	250	E	14 $\frac{1}{8}$	13 $\frac{3}{8}$	9 $\frac{5}{8}$	12 $\frac{7}{8}$	11 $\frac{1}{8}$	95-130	115	49	
VHF-6115*	500	E	14 $\frac{1}{8}$	13 $\frac{3}{8}$	9 $\frac{5}{8}$	12 $\frac{7}{8}$	11 $\frac{1}{8}$	95-130	115	75	
VHF-6116*	1000	E	29 $\frac{1}{4}$	14 $\frac{3}{8}$	10 $\frac{1}{4}$	27 $\frac{1}{8}$	12 $\frac{1}{8}$	95-130	115	150	

\*Harmonic filtered models. Harmonic content less than 3%.

\*\*Isolated secondary units.

\*\*\*Available with isolated secondary if desired.

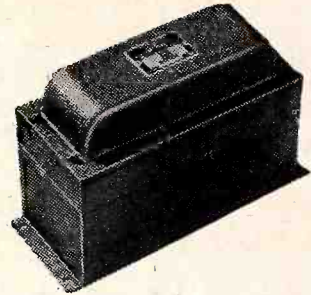
†Portable models, supplied with cord and plug and output receptacle.

### FEATURES

1. Deliver accurate AC voltage within  $\pm 1/2\%$
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8. Less change in output as frequencies fluctuate
9. Smaller, lighter, more compact; no moving parts
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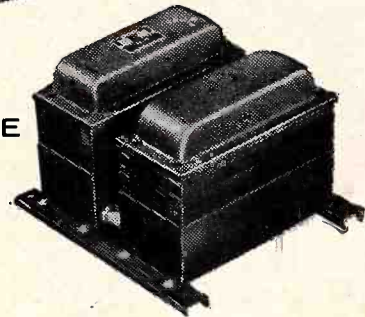
STYLE D



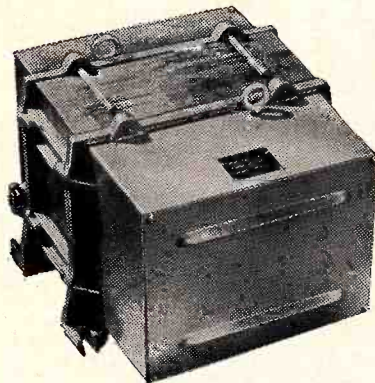
STYLE E



STYLE F



STYLE H



STYLE C

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Typical Sizes Type UM (Round, tubular)

.1 mfd.....	150 V.D.C.....	5/16" dia. x 7/8"
.05 mfd.....	200 V.D.C.....	9/32" dia. x 7/8"
.1 mfd.....	200 V.D.C.....	11/32" dia. x 7/8"
.05 mfd.....	400 V.D.C.....	5/16" dia. x 1"
.005 mfd.....	600 V.D.C.....	1/4" dia. x 3/4"

Typical Sizes Type UMF (Flat, rectangular)

.47 mfd.....	150 V.D.C.....	7/16" x 23/32" x 1-1/4"
.33 mfd.....	400 V.D.C.....	3/8" x 11/16" x 1-7/8"

Temperature— -55° C to +90° C at rated voltage and 125° C with 50% voltage derating.

Life Test—140% of rating for 250 hours.

Humidity Test—500 hours at 40° C and 95% humidity.

Dielectric Strength—All capacitors tested at 200% of rating.

Insulation Resistance—50,000 meg./mfd. before humidity cycle, 50,000 meg. after humidity cycle.

Power Factor—Less than 1% at 1,000 cycles at 25° C

\* DuPont T. M.

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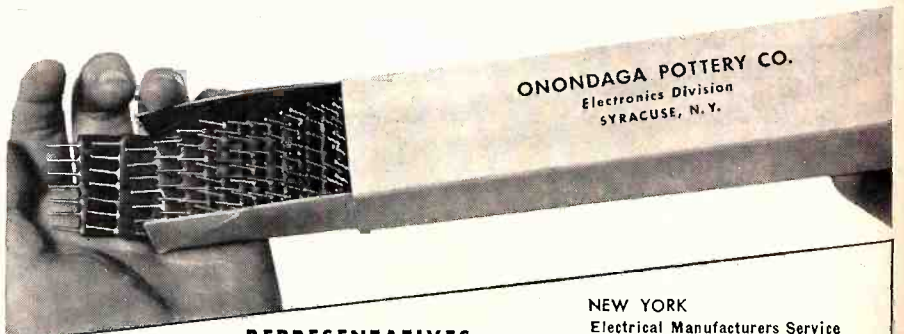
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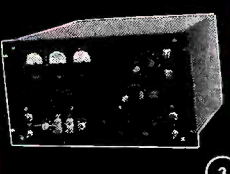
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 Antenna Positioners  
 Various models available



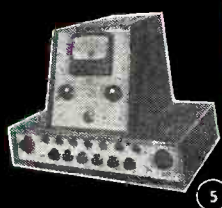
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 Rectangular Coordinate  
 Recorder  
 \$7950 w/console



TYPE 116R  
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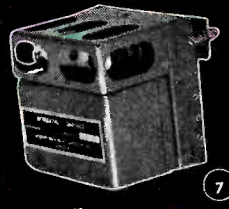


TYPE 124  
 Power Oscillator  
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 2.5-20 watts (Min.)  
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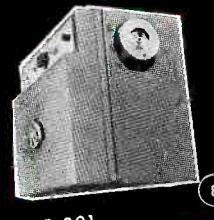


TYPE 160  
 Electronic  
 Gaging Control\*

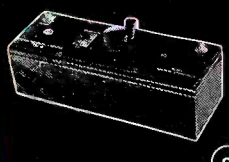
TYPE 150  
 MICROtrol  
 Plunge Grinder Size  
 Control\*



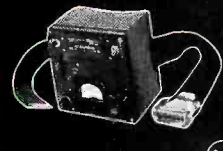
TYPE 40  
 Integrating Amplifier &  
 Long-Time Memory  
 \$375



TYPE 201  
 Inchworm Motor  
 Centerless Grinder Size  
 Control\*



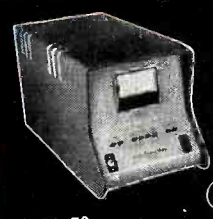
TYPE 30  
 I-F Attenuators  
 Accuracy: 0.005 db per db  
 of indicated increment  
 \$395



TYPE 2861  
 ADF Calibrator  
 \$1575 less recorder



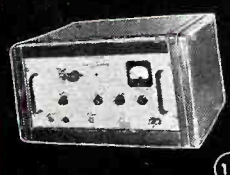
TYPE 70A  
 Argon Noise Source  
 200-2600 Mc  
 \$330  
 (others to 26 Kmc)



TYPE 72  
 Automatic Noise-Figure  
 Indicator  
 N:F Range: 0-20 db  
 \$1490



TYPE 390A-3  
 Microwave Crystal  
 Test Set  
 \$97



TYPE 130  
 Test Receiver for  
 Precise Selectivity, Gain  
 & N-F Measurements  
 \$1350



STRIPLINE  
 Printed R-F Circuitry\*

**Airborne Instruments Laboratory**

INCORPORATED  
 160 OLD COUNTRY ROAD • MINEOLA, N.Y.

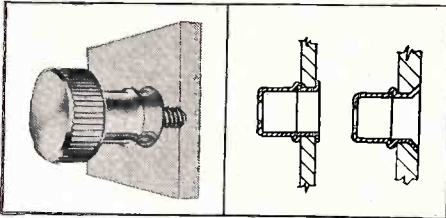


\*Quoted to meet your requirements



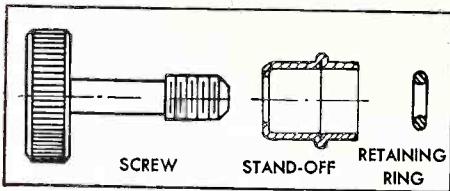
# SELECT CLOSURE HARDWARE TO IMPROVE UTILITY, APPEARANCE, AND TO LOWER COST

## QUICKLY INSTALLED SOUTHCO CAPTIVE PANEL SCREWS END MISALIGNMENT PROBLEM . . .



Simplicity of design contributes to clean, distinctive appearance and fast, low-cost installation. Stand-off is slipped into panel hole and secured by flaring. Screw is passed through stand-off and made captive by vinyl o-ring.

"Floating" screw design eliminates costly close tolerance manufacture and permits easy engagement regardless of panel distortion encountered under adverse use conditions.



### SPECIFICATIONS

**Material:** Screw is brass, chrome plated; can be supplied in stainless steel. O-ring is vinyl plastic.  
**Overall length of screw:** 1 3/16"  
**Depth of screw head:** 1/4"

**Sizes:**

SCREW HEAD DIAMETER	THREAD SIZE
3/4"	1/4-20
5/16"	1/4-20, 12-24
7/16"	10-24, 10-32

**Length of thread:** 3/8"

Screw head is supplied plain, as shown, or slotted for screw driver.

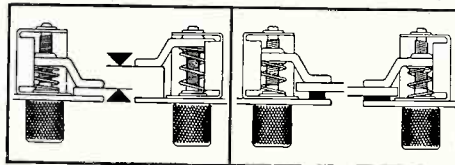
## PRE-ASSEMBLED PAWL ADJUSTS TO DESIRED THICKNESS AND PRESSURE



This neat, compact Southco panel and door fastener is supplied assembled, requires but two rivets or bolts for low cost installation. It is available in three models—large, intermediate and midget.

The unique feature of Southco Pawl Fasteners is the fact that, by merely turning the knob, the pawl is adjusted to a wide range of frame thicknesses. This assures a tight grip without precision setting regardless of variations in frame or door dimensions or changes that are produced by wear or warping of sheets.

Pressure exerted by the pawl on the frame is controlled in the same way, by merely turning the knob. Against gasketed frames, pressure can be easily applied to compress the gasket.



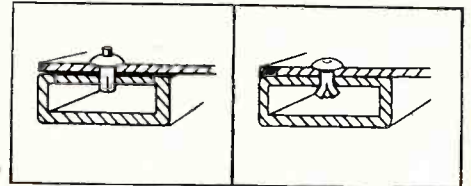
### SPECIFICATIONS

**Knob:** Cadmium or chromium plated steel.

**Head Styles:** Protruding ribbed or knurled knob; flush screw driver slotted for large size only.

	LARGE	INTERMEDIATE	MIDGET
Knob diameter	7/8"	5/16"	1 1/32"
Total width	2 1/2"	1 3/4"	1 1/8"
Total height	1 5/16"	7/8"	35/64"
Back of panel depth	1 23/32"	1 1/4"	7/8"
Knob length	1 1/8"	1 5/16"	3/32"

## FAST, HAMMER-DRIVEN BLIND RIVETS CUT INSTALLATION TIME



You "hit-the-pin" and the rivet's in. No special tools to limit production or require maintenance, no bucking, no finishing. For blind or open applications, Southco Drive Rivets save time, reduce costs.

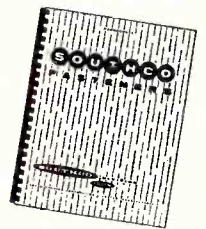
Automatic "pull-up" action assures uniform, tight grip.

Southco Rivets are made of aluminum or cadmium plated steel with cadmium plated or stainless steel pins. Diameters are from 1/8" to 1/4", grip range is from 1/16" to 3/8".

Increased widespread use is due to low installed cost and elimination of down time and maintenance associated with fasteners requiring special tools.

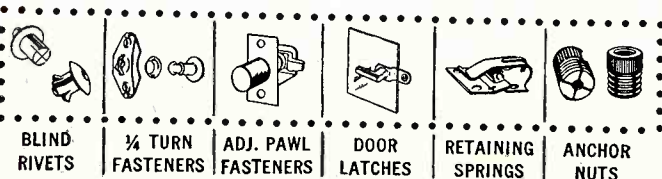
### FREE!

Fastener Handbook



Send for your free copy of Handbook No. 7, just released. Gives complete data for designers on these and many other specialty fasteners. 52 pages, in two colors.

Write on your letterhead to Southco Division, South Chester Corporation, 255 Industrial Highway, Lester, Pa.



BLIND RIVETS

1/4 TURN FASTENERS

ADJ. PAWL FASTENERS

DOOR LATCHES

RETAINING SPRINGS

ANCHOR NUTS



©1957

*AMP's custom-designed  
and versatile line*

## FOR RADAR AND ELECTRONIC

### EQUIPMENT APPLICATIONS

**Ampli-FILM®** the all-purpose high voltage dielectric  
... is not affected by acids or organic solvents  
... undergoes no distortion under high temperatures and pressures  
... is readily bonded by adhesives  
... is easy to handle and fabricate

**CAPITRON® WAFER CAPACITOR**—Ampli-FILM® dielectric sheets and high conductivity copper electrodes are bonded together under high heat in hydraulic presses using a special non-polar thermo-plastic bonding resin to obtain a solid, void-free sealed capacitor for rugged requirements in high voltage circuits. Having indefinite shelf life, these capacitors are designed for use in oil filled assembly, but also they are well suited for many applications in potted or encapsulated assemblies. They can be supplied in various form factors including curved shapes.

**CAPITRON® POWER SUPPLIES**—Use of Capitron® Wafer Capacitors enables AMP to provide a wide variety of high voltage power supplies for radar indicators and radar modulators. The small size and light weight of these units dictates their use in many airborne applications. They are supplied either as oil filled metal cased units or as epoxy encapsulated units. AMP's LGH terminals solve high altitude application problems.

**CAPITRON® ARMORED WAFER CAPACITOR**—Factors of this Capacitor are as follows

- Armor type encapsulation to resist extreme thermal and mechanical shock.
- Eliminates high altitude flash-over, as metal terminals are not exposed . . . they are enclosed within the armor encasement.
- Multiple connections to capacitor leads can be made with little or no increase in over-all size of the capacitor.
- Versatility of design eliminates revamping assembly to accommodate the capacitor.

**CAPITRON® PULSE SYSTEM PACKAGE**—Charging choke, pulse forming network and pulse transformers are combined in a unit of minimum size and weight to work with a specific magnetron. All components are designed by and manufactured under the direct control of AMP's pulse specialists.

**CAPITRON® PULSE FORMING NETWORKS**—AMP pulse forming networks can be supplied to meet rigorous specifications with special emphasis on high reliability, small size and light weight for airborne radar applications.



CAPITRON® WAFER CAPACITOR



CAPITRON®  
CURVED WAFER CAPACITOR



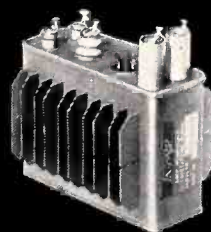
CAPITRON® POWER SUPPLY



CAPITRON® POWER PACK



CAPITRON®  
ARMORED WAFER CAPACITOR



CAPITRON®  
PULSE SYSTEM PACKAGE



CAPITRON®  
PULSE FORMING NETWORKS

**AMP INCORPORATED**  
**CHEMICAL AND DIELECTRIC DIVISION**  
**155 Park Street, Elizabethtown, Pennsylvania**

Wholly Owned Subsidiaries: Aircraft-Marine Products of Canada Ltd., Toronto, Canada • Aircraft-Marine Products (Great Britain) Ltd., London, England • Societe AMP de France, Le Pre St. Gervais, Seine, France  
AMP—Holland N. V. 's-Hertogenbosch, Holland

Distributor in Japan: Oriental Terminal Products Co., Ltd., Tokyo, Japan

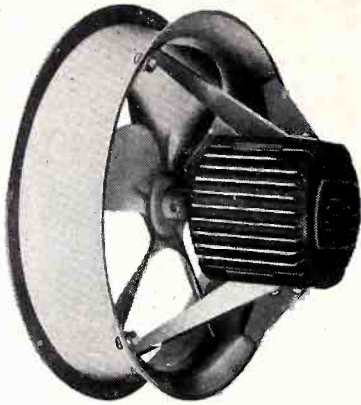




**CENTRIFUGAL BLOWERS—LOOSE SCROLL**  
 $N_s=30,000-70,000$



**VANEAXIAL FANS**  
 $N_s=50,000-125,000$



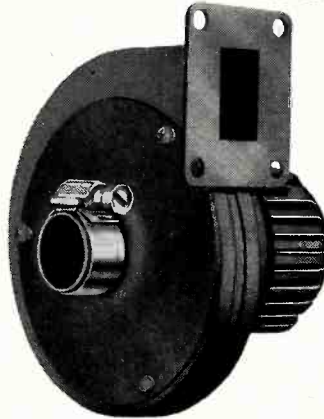
**PROPELLER FANS**  
 $N_s=100,000-400,000$

Engineered to  $\frac{NV\sqrt{Q}}{\Delta P^{0.75}} = L_s$

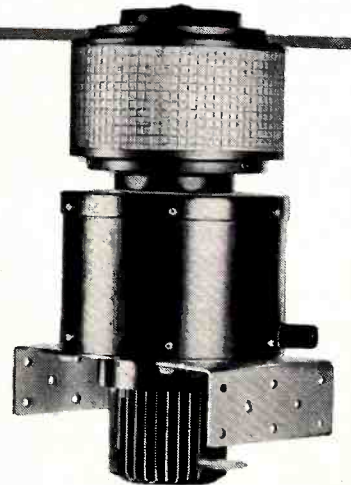
Our Fans and Your Equipment  
 Become Smaller, Quieter and Cheaper



**CENTRIFUGAL BLOWERS—TIGHT SCROLL**  
 $N_s=9,000-40,000$



**RADIAL WHEEL BLOWERS**  
 $N_s=4,000-20,000$



**MULTISTAGE BLOWERS**  
 $N_s=900-9,000$



The wide range of ROTRON FAN types enables our Application Engineers to match accurately the SPECIFIC SPEED ( $N_s$ ) of our air movers with the LOAD-SPEED ( $L_s$ ) characteristics of your equipment for ultimate cooling efficiency. Send for CATALOG SHEET #20201-5.

**ROTRON** MANUFACTURING CO., INC.  
 WOODSTOCK • NEW YORK

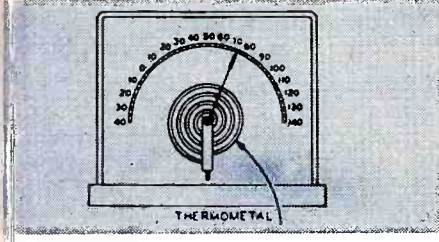
10.1  
 a series of ads  
 dealing with basic  
 facts about  
 thermostatic metals.

# Designing for Product Improvement With WILCO THERMOMETAL®

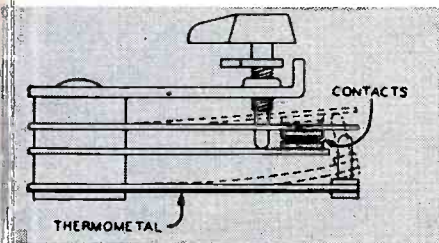
Thermometal (thermostatic metals) are laminations of two or more different metals with unequal coefficients of expansion. The difference in rate of expansion causes them to change shape with changes in temperature and, if restrained, to build up force.

This basic fact is of great industrial importance, for it makes possible the application of Thermometal in indicating and controls devices in 4 broad categories.

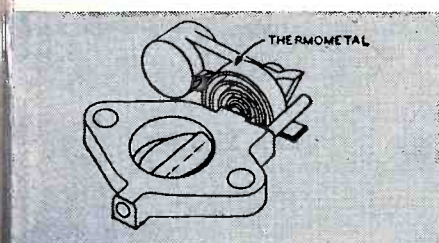
**Temperature Indication**, as in thermometal thermometers.



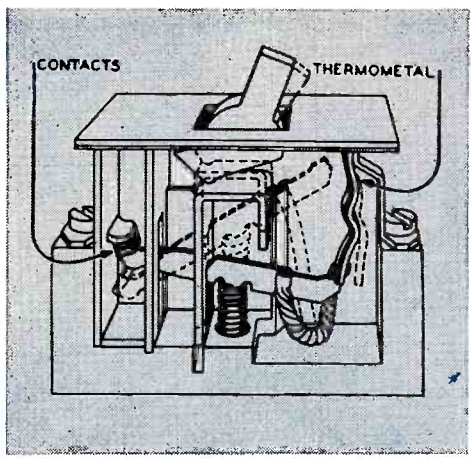
**Temperature Control**, as in electric fans, toasters, or room thermostats.



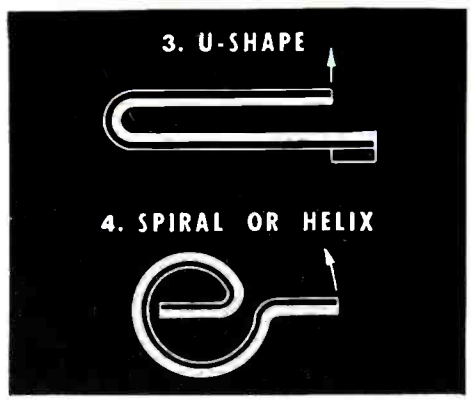
**Temperature Compensation**, as in automotive heat manifold control.



**4. Sequence Control by Functional Heating**, as in electric circuit breakers for overload protection.



Thermometal can be rolled to any desired thickness and formed into almost any shape, and still respond to temperature changes. For this reason it is a unique thermal element, which functions without linkages, seals, special mountings, and in most applications without electrical energy. Thermometal can be made to perform simple flexing motion, rapid snap action, and rotary or twisting motions. Four basic shapes are used alone or in combinations to obtain these motions:

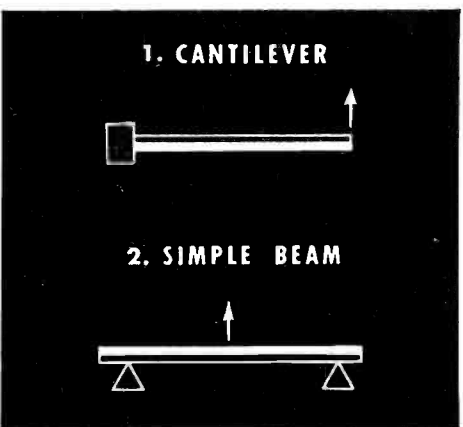
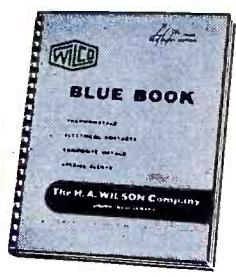


According to the application, the selection of Thermometal is generally governed by four performance factors:

1. Maximum temperature encountered in service: (300°F, 500°F, 800°F, or 1000°F)
2. Temperature range over which maximum sensitivity is required: 50°-300°F (low); 150°-450°F (medium); 300°-600°F (high); 500°-800°F (extra high)
3. Deflection and force required
4. Electrical conductivity

The H. A. Wilson Company is the American pioneer in the development and manufacture of thermostatic metals. We produce over 40 metals for this use. Also we make a complete line of electrical contacts for use with Thermometal.

Reprints of this series are available on request. For further information about our products, ask for the Wilco Blue Book, the most complete reference manual ever written on Thermometal. And if you have an immediate application problem for Thermometal or other Wilco products, please tell us. Our engineering service is at your disposal.



**THERMOMETAL**  
**ELECTRICAL CONTACTS**  
**COMPOSITE METALS**  
**SPECIAL PURPOSE ALLOYS**

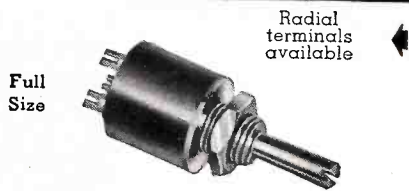
**THE H. A. WILSON COMPANY**  
 2655 U. S. Route 22, Union, New Jersey  
 Branch Offices: Chicago • Detroit • Los Angeles • Providence



# Waters POTENTIOMETERS Precision

## Waters Wire Wound Precision Potentiometers

are available in many variations — ganged, tapped, with various electrical and mechanical angles, locking shafts, anti-rotation pins, "O" rings, custom shafts and the new dual Concentric Shaft construction. Write for catalog.



Full Size

Radial terminals available



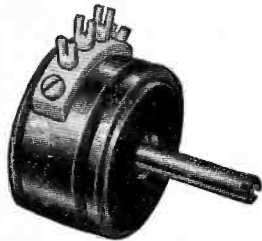
Full Size



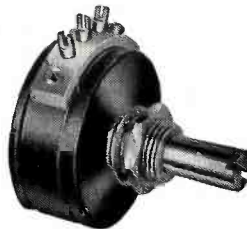
Full Size

**AP<sup>1</sup>/<sub>2</sub> BUSHING** **Micro-Miniature AP<sup>1</sup>/<sub>2</sub>S SERVO**  
The AP <sup>1</sup>/<sub>2</sub> is micro-miniature potentiometer that meets the requirements of today and tomorrow for high performance while retaining the rugged dependability of the approved Waters design.

N  
E  
W



**RT/RTS<sup>7</sup>/<sub>8</sub> BUSHING** **Miniature RT<sup>7</sup>/<sub>8</sub>S SERVO**  
The RT<sup>7</sup>/<sub>8</sub> has been proven reliable in thousands of Military and Commercial installations. The RTS<sup>7</sup>/<sub>8</sub> is available in a dual unit with Waters new Concentric Shaft construction.



**LT<sup>7</sup>/<sub>8</sub> "LO TORK" LLT<sup>7</sup>/<sub>8</sub>**  
Ball Bearings **Miniature Low Torque** Jewel Bearings  
Extremely low torque is now available in two miniature models. Use jewel bearings for extra low torque or because of a contaminated environment.

**AP<sup>1</sup>-1/16 BUSHING** **Miniature AP<sup>1</sup>-1/16S SERVO**  
The AP 11/16 offers Waters reliability in the AIA nominal one inch diameter. Available as a servo or bushing mounted unit, it offers excellent precision in a miniature potentiometer.

**AP<sup>1</sup>/<sub>8</sub> BUSHING** **Miniature AP<sup>1</sup>/<sub>8</sub>S SERVO**  
The AP <sup>1</sup>/<sub>8</sub> provides higher resistance values with better resolution and linearity, and yet is a miniature unit in every sense. The AP <sup>1</sup>/<sub>8</sub> is available as a dual unit with Waters new Concentric Shafts.

**WP<sup>1</sup>5/8 BUSHING** **Precision WP<sup>1</sup>5/8S SERVO**  
Applying proved miniature design and assembly techniques to a standard size unit, Waters can offer reliability and precision in the <sup>1</sup>/<sub>8</sub> inch size equivalent to many 2 inch or larger potentiometers.

## ADVANCE NOTICE

Available August 1, 1957

### STANDARD WATERS ELECTRICAL AND MECHANICAL SPECIFICATIONS

Model	Resistance Range ±5%*	Linearity (Bushing)*	Linearity (Servo) (S)*	Case Diameter	Case Length (Bushing)	Case Length (Servo) (S)	Shaft Diameter
AP <sup>1</sup> / <sub>2</sub>	1/2-250 K ohm	5% - 2% over 50 K	3% - 2% over 50 K	1/2 inch	3/8 inch min.	1/2 inch min.	1/8 inch
RT/RTS <sup>7</sup> / <sub>8</sub>	1/2-250 K ohm	3%	2%	7/8 inch	3/8 inch	1/2 inch	1/8"-RT <sup>7</sup> / <sub>8</sub> -1/4"
LT <sup>7</sup> / <sub>8</sub>	25-100 K ohm	None	0.5%	7/8 inch	None	0.80 inch	1/8 inch
LLT <sup>7</sup> / <sub>8</sub>	1/2-150 K ohm	None	0.5%	7/8 inch	None	0.80 inch	0.040"
AP 1 1/16	1/2-350 K ohm	2%	1%	1 1/16 inch	1/2 inch	1 1/16 inch	1/8 inch
AP 1 <sup>1</sup> / <sub>8</sub>	1/2-350 K ohm	2%	1%	1 1/8 inch	1/2 inch	1 1/16 inch	1/4 inch
WP 1 <sup>5</sup> / <sub>8</sub>	1/2-500 K ohm	0.5%	0.5%	1 5/8 inch	2 5/32 inch	1 1/32 inch	1/4 inch

STANDARD RESISTANCES — ALL SERIES, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K. IN ADDITION, 40K and 50K ON RT/RTS<sup>7</sup>/<sub>8</sub> AND "LO TORK" SERIES AND 40K, 50K AND 100K ON AP 1 1/16, AP 1 <sup>1</sup>/<sub>8</sub> AND WP 1 <sup>5</sup>/<sub>8</sub> SERIES.



### "TORQUE WATCH"

measures low torque

Gauges for measuring torque of servomechanisms, variable condensers, potentiometers, and small rotating machinery. Six Standard Models

One-way—300°  
Two-way—600°

Accurate — repeatable accuracy of ±5%

Easy to read linear scale on a one-inch dial

Compact—1 1/2" dia. x 3-7/16" long, including Jacobs chuck for shafts to 1/4" dia.

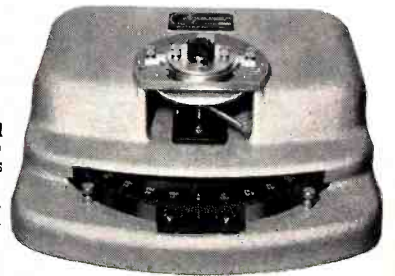
### Other Potentiometer Test Equipment

**ANGLYZER** — Checks electrical and mechanical angles (illus.)  
**LINEARITY ANALYZER** — checks electrical characteristics.

**CONFORMITY STANDARD** — step by step non-linear potentiometer testing.

**POT TEST STATION** — All units above completely integrated.

\*Variations available on special order, forward requirements for prompt analysis. Details subject to change without notice.



# Waters

MANUFACTURING, inc.

Wayland, Massachusetts  
P. O. Box 368, So. Sudbury, Mass.  
APPLICATION ENGINEERING OFFICES  
IN PRINCIPAL CITIES

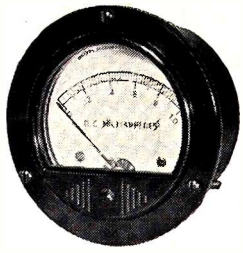


# Waters COMPONENTS and PANEL METERS

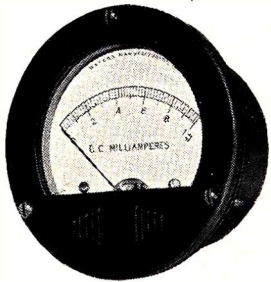
## Waters Components and Panel Meters

include an ever-increasing variety of high-quality products. Write for our latest catalogs whenever you need electronic components.

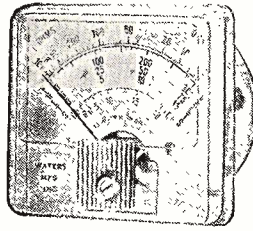
### PANEL METERS



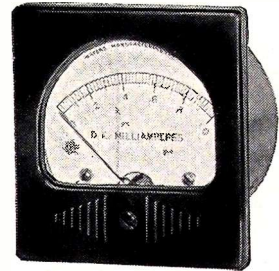
Model 250



Model 360



Model PS250



Model 350S

The complete line of Waters Panel Meters includes all standard sizes and styles. Custom meters can be furnished to your specifications regarding scales, graduations, ranges, colors,

and special markings. All meters have D'Arsonval-type movements with standard accuracy 2% of full scale. All a-c meters have internal rectifiers. Rear illumination can be furnished to your specification.

Model	Size	Description
250	2 1/2"	Round Bakelite case
260	2 1/2"	Round metal case*
PS250	2 1/2"	Rectangular, clear plastic case
350	3 1/2"	Round Bakelite case
360	3 1/2"	Round metal case*
PS350	3 1/2"	Rectangular, clear plastic case
250-S	2 1/2"	Rectangular black Bakelite case
350-S	3 1/2"	Rectangular black Bakelite case
450-S	4 1/2"	Rectangular black Bakelite case
450-SP	4 1/2"	Rectangular black Bakelite case; has provision for front illumination
460	4 1/2"	Round metal case*

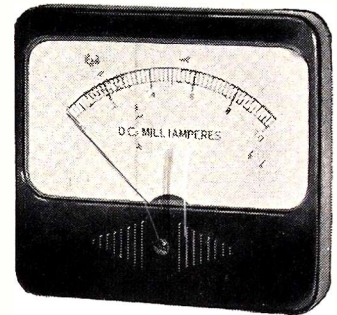
Ranges	D-c Types	A-c Rectifier Types
Microamperes	0-25 to 0-9000	0-100 to 0-900
Milliamperes	0-1 to 0-1000	0-1 to 0-500
Amperes	0-1 to 0-20 <sup>1</sup>	—
Millivolts	0-10 to 0-1000	—
Volts	0-1 to 0-500 <sup>2,3</sup>	0-1 to 0-500 <sup>3</sup>

<sup>1</sup> Over 20 amperes, a 50-millivolt movement is used with an external shunt.

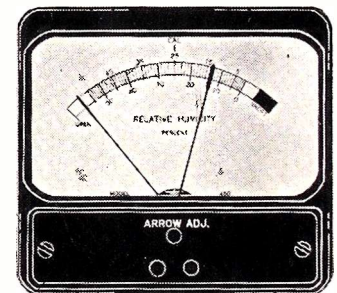
<sup>2</sup> 1000 ohms per volt.

<sup>3</sup> External resistor required over 500 volts.

\*Hermetically sealed MIL-M-6A JAN-I-6

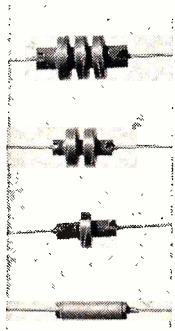


Model 450S



Model 450SP

### R-F CHOKES



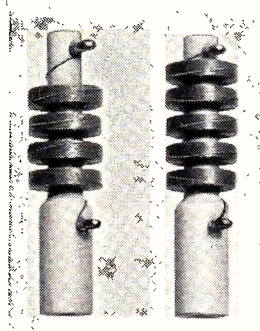
Waters R-F Chokes provide high Q in small size. Standard constructions include:

- Solenoids on phenolic & powdered-iron forms.
- Pie-wound coils on ferrite cores & powdered-iron or phenolic forms.
- Pie-wound coils on ceramic forms.

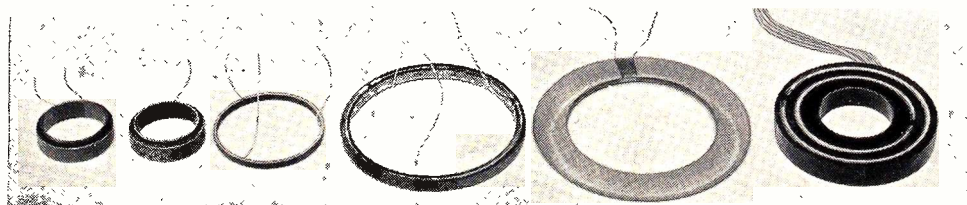
Designs features are:

- Finish to MIL-V-173A or to your specification.
- Inductance ratings from 1.1  $\mu$ h up.
- Current ratings from 50 to 2800 ma.

Write for free data sheet #C-657 giving inductance, resistance, current rating, Q vs frequency, distributed capacitance, and core sizes. Ask for quotation on special units.



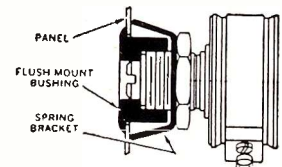
### PRECISION TOROIDS



A toroidal winding offers the most stable and accurate means of producing precision circular resistance elements for all angles to a full 360°. Waters engineering department can assist you in the proper design of single layer toroidal windings to achieve top lineari-

ty and resolution. Special facilities are available for precision tapping, buffing, baking and other finishing or assembly operations. Winding forms may be small or large. Winding wire can be below 1 mil. Forward your specifications for prompt analysis.

### Pot-Hook Panel Mount



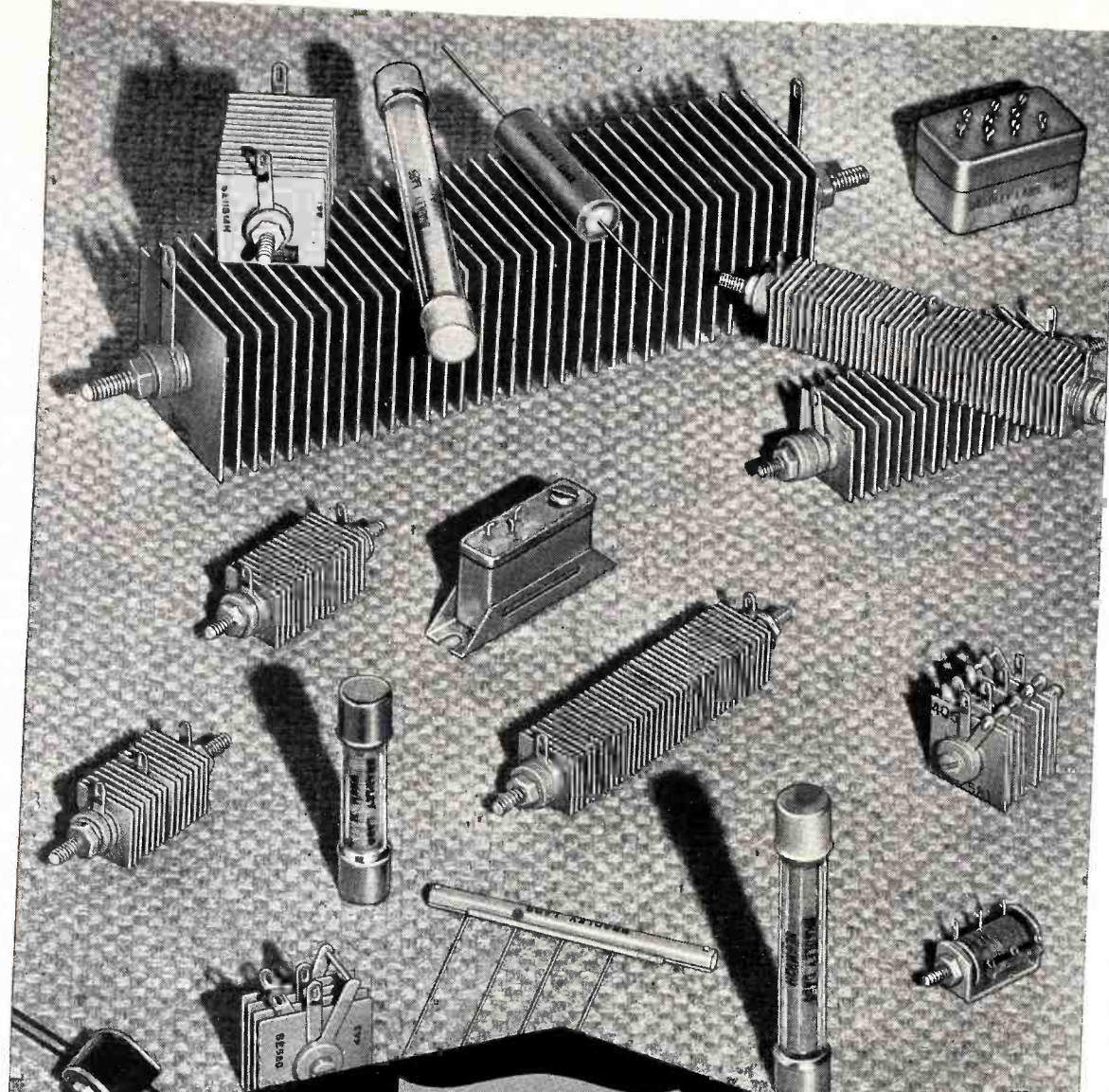
Now you can easily make any single-hole-mounting pot or trimmer into a flush-mounted or recessed control. Just use the Waters "Pot-Hook".

# Waters

MANUFACTURING, inc.

Wayland, Massachusetts  
P. O. Box 368, So. Sudbury, Mass.  
APPLICATION ENGINEERING OFFICES  
IN PRINCIPAL CITIES





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**Glenn M. Hathaway Electronics Inc.**  
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**SPECIAL RECTIFIERS ARE STANDARD AT BRADLEY LABORATORIES**

High Temperature, Limiters, Control, Limited Life, Instrument, Magnetic Amplifier,  
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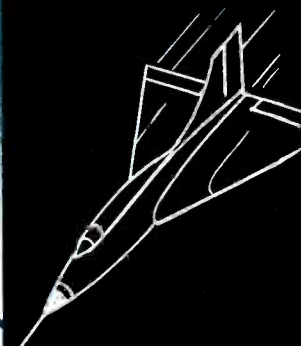
# TENSOLON

TEFLON<sup>®</sup> INSULATED WIRE AND CABLE

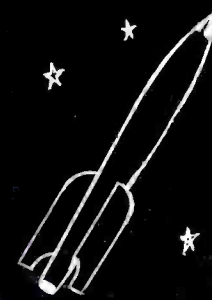
® Du Pont



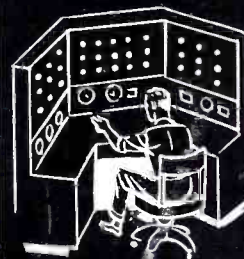
- QUALITY AND RELIABILITY
- -90°C TO +250°C RANGE
- HIGH DIELECTRIC STRENGTH
- SUPERIOR CHEMICAL RESISTANCE
- EASE OF STRIPPING AND SOLDERING
- UNLIMITED COLOR CODING
- MINIATURIZATION



AVIATION



DEFENSE



TELEMETERING



RESEARCH  
AND  
DEVELOPMENT

*Tensolite*

INSULATED WIRE CO., INC.  
TARRYTOWN, N. Y.      LOS ANGELES, CALIF.





# ONLY *Tensolite* MAKES ALL

... IN HOOK-UP WIRE



*Special Features*

1. Operating temperature range:  $-90^{\circ}\text{C}$  to  $+250^{\circ}\text{C}$
2. Excellent solderability
3. High insulation resistance
4. Unlimited color coding—with up to 819 stripe combinations
5. Conformance to MIL-W-16878B
6. Ease of stripping—either manual or automatic

## EXTRUDED — PARALLEL WRAPPED — SPIRAL WRAPPED

CONDUCTOR Silver-Plated Copper Wire			TYPE E—600 VOLTS .010" Nominal Wall Thickness				TYPE EE—1000 VOLTS .015" Nominal Wall Thickness			
AWG	Stranding	Circ. Mils Nominal	Dia. Over Insulation (Max)	Catalog No. EXTRUDED	Catalog No. PARALLEL WRAP	Catalog No. SPIRAL WRAP	Dia. Over Insulation (Max)	Catalog No. EXTRUDED	Catalog No. PARALLEL WRAP	Catalog No. SPIRAL WRAP
32	7/40	69	.033"	32401A-1	32101A-1	— —	.043"	32601A-1	32301A-1	— —
30	7/38	110	.036"	30401A-1	30101A-1	30501A-1	.046"	30601A-1	30301A-1	— —
28	7/36	175	.039"	28401A-1	28101A-1	28501A-1	.049"	28601A-1	28301A-1	28902A-1
26	7/34	278	.043"	26401A-1	26101A-1	26501A-1	.053"	26601A-1	26301A-1	26901A-1
24	7/32	442	.048"	24401A-1	24101A-1	24501A-1	.058"	24601A-1	24301A-1	24901A-1
24	19/36	475	.048"	24403A-1	24107A-1	24506A-1	.058"	24603A-1	24305A-1	24903A-1
22	7/30	700	.054"	22401A-1	22101A-1	22501A-1	.064"	22601A-1	22301A-1	22901A-1
22	19/34	755	.054"	22403A-1	22103A-1	22504A-1	.064"	22603A-1	22317A-1	22903A-1
20	7/28	1120	.062"	20401A-1	20101A-1	20501A-1	.072"	20601A-1	20301A-1	20901A-1
20	19/32	1200	.062"	20403A-1	20106A-1	20504A-1	.072"	20603A-1	20303A-1	20903A-1
18	19/30	1909	.074"	18401A-1	18101A-1	18501A-1	.084"	18601A-1	18301A-1	18901A-1
16	19/29	2409	.087"	16401A-1	16101A-1	16501A-1	.095"	16601A-1	16301A-1	16901A-1
14	19/27	3830	.101"	14401A-1	— —	14501A-1	.113"	14601A-1	— —	14901A-1
12	19/25	6088	.120"	12401A-1	— —	12501A-1	.132"	12601A-1	— —	12901A-1
10	37/26	10443	.141"	10403A-1	— —	10503A-1	.153"	10603A-1	— —	10903A-1

**NOTE:**

All of the above wire can be shielded to customer specifications. Solid conductors and other strandings are available on request.

**EXTRUDED:**

Available in 14 solid colors and spiral striping. Also available with special surface treatment for moisture proof, high temperature encapsulation and ready adherence of printed identification.

**PARALLEL WRAPPED:**

Available in fourteen solid colors and spiral striping. Especially recommended for applications where a high degree of flexibility is necessary.

**SPIRAL WRAPPED:**

Available in solid colors and 819 striped combinations using nine ink colors on white background. Colors include black, brown, red, orange, yellow, green, blue, violet, and gray. Colored backgrounds available on request.

# TENSOLON AIR FRAME TO MIL-W-7139A

AWG	Stranding	Max. Dia. Stranded Cond.	Nom. Cond. Area (Cir. Mils)	Max. Resistance (Ohms/1000 ft.)	Max. Dia. Finished Wire	Tensolite Code No.
22	19/34	.033"	755	16.45	.090"	22704 L-1
20	19/32	.041"	1,200	10.25	.100"	20706 L-1
18	19/30	.052"	1,909	6.44	.115"	18702 L-1
16	19/29	.061"	2,409	4.76	.130"	16703 L-1
14	19/27	.076"	3,830	2.99	.150"	14702 L-1
12	19/25	.096"	6,088	1.88	.170"	12702 L-1
10	37/26	.132"	10,443	1.10	.200"	10702 L-1
8	133/29	.176"	16,864	0.70	.255"	08702 L-1
6	133/27	.218"	26,813	0.43	.310"	06702 L-1

TENSOLON AIRFRAME WIRE TO MIL-W-7139A is a rugged, abrasion-resistant wire designed for high temperature applications where extreme reliability is required. This wire will function during temporary overload conditions and provide short-time emergency operation in the event of fire. It is especially recommended for all missile and aircraft applications where full approval under MIL-W-7139A is required.

# MINIATURE TENSOLON COAXIAL CABLES

Conductor: #30 AWG; 7/38 Silver Plated Copperweld Shield: ±38 AWG; 90% Minimum Coverage

JACKETS:	NOMINAL IMPEDANCE:		Tensolite Code Number	O. D.	Tensolite Code Number	O. D.	Tensolite Code Number	O. D.	Tensolite Code Number
	50 OHMS	70 OHMS							
TEFLON	.080" O. D. 30850 T-1 (RG-196/U*)	.100" O. D. 30870 T-1		.110" O. D. 30875 T-1 (RG-187/U*)	.149" O. D. 30893 T-1	.155" O. D. 30895 T-1 (RG-195/U*)			
EXTRUDED NYLON	.064" O. D. 30850 N-1	.091" O. D. 30870 N-1		.093" O. D. 30875 N-1	.137" O. D. 30893 N-1	.136" O. D. 30895 N-1			
VINYL	.086" O. D. 30850 V-1	.097" O. D. 30870 V-1		.104" O. D. 30875 V-1	.160" O. D. 30893 V-1	.154" O. D. 30895 V-1			
TEFLON-GLASS BRAID	.071" O. D. 30850 P-1	.092" O. D. 30870 P-1		.101" O. D. 30875 P-1	.145" O. D. 30893 P-1	.144" O. D. 30895 P-1			
SILICONE-GLASS BRAID	.071" O. D. 30850 S-1	.092" O. D. 30870 S-1		.101" O. D. 30875 S-1	.145" O. D. 30893 S-1	.144" O. D. 30895 S-1			
NYLON BRAID	.071" O. D. 30850 M-1	.092" O. D. 30870 M-1		.101" O. D. 30875 M-1	.145" O. D. 30893 M-1	.144" O. D. 30895 M-1			
ELECTRICAL CHARACTERISTICS:			50 ± 2 Ohms 28 mmf 72% 2000 Volts RMS 1000 Volts 29 db/100 ft.	70 Ohms 20.5 mmf 71% 1500 Volts RMS 1000 Volts 21 db/100 ft.	75 ± 3 Ohms 21 mmf 72% 2000 Volts RMS 1200 Volts 21 db/100 ft.	93 Ohms 15.3 mmf 71% 2000 Volts RMS 1000 Volts 17 db/100 ft.	95 ± 3 Ohms 15 mmf 72% 2000 Volts RMS 1500 Volts 17 db/100 ft.		

\*Mil-C-17B  
NOTE: All O. D.'s are maximum

TENSOLON MINIATURE COAXIAL CABLES are ideal for high frequency operation from -90°C to +250°C. Teflon provides extremely low loss, high dielectric strength, and complete resistance to moisture and chemicals. A great variety of outer jackets permits the selection of cable exactly suited to your application requirements.

**Tensolite**

**INSULATED WIRE COMPANY, INC.**

P.O. BOX #66

TARRYTOWN, N. Y.

PACIFIC DIV.: 1520 N. GARDNER ST., LOS ANGELES, CALIF.

See Additional listing of Tensolite products and Representatives on next page —

# TENSOLON WIRE AND CABLE..

A  
**Tensolite**  
PRODUCT

For an extra margin of dependability at maximum operating temperatures, specify TENSOLITE'S rugged Teflon insulated wire and cable products. Resistant to almost all chemicals and solvents, Teflon combines minimum wall thickness with highest dielectric strength.

## TEFLON INSULATED MAGNET WIRE

Teflon insulated round MAGNET WIRE is available in all sizes from #20 to #44 AWG with SINGLE, HEAVY, TRIPLE, and QUAD coatings. Other AWG sizes, rectangular MAGNET WIRE, and non-standard coatings are available upon request.

## TEFLON INSULATED CABLE—SINGLE AND MULTI-CONDUCTOR

Teflon insulated cables, are available with 1 through 50 conductors. The insulated conductors conform to the requirements of MIL-W-16878B, types E and EE. Any of the insulated wires may be individually shielded, but usually an overall silver-plated copper shield is applied with any of the various outer jackets. For high temperature applications, a Teflon outer jacket is recommended. Glass braid lacquered with silicone or Teflon can be provided. For lower temperatures, extruded vinyl or nylon jackets and lacquered nylon braids are supplied.

## RIBBON CABLE

Ribbon cables consisting of up to 20 Teflon insulated conductors, laid parallel in a flat ribbon, are available with metallic or textile braids. Nylon, fiberglass, or all-Teflon braids, with or without impregnants are ideally suited for high temperature operation. These ribbon cables are recommended for "tight space" applications particularly in printed circuits where flexibility is required.

## SURFACE TREATED TEFLON

Teflon insulation, treated to provide a surface to which potting compounds and printing foils will readily adhere. Wire so treated is ideal for high temperature encapsulation.

## TEFLON TUBING

Flexible, high temperature slip-on insulation available in ten solid colors to fit 10 through 30 AWG wire.

## CUSTOM TEFLON CABLE

Tensolite's engineering facilities are ready to assist you in the design and selection of Teflon insulated wire, cable, and thermocouple wire constructions as well as custom cable assemblies and harnesses.

**NOTE:** Detailed catalogue information on all of the above products is available on request.

## Tensolite REPRESENTATIVES

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Washington 5, D.C.

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GA., LA.

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Winston-Salem, N.C.  
P.O. Box #3037

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SHERIDAN ASSOC.  
Roselawn Center Bldg.  
Cincinnati 37, Ohio

NO. ILL., NO. IND., W. MICH.  
JERRY GOLTEN CO.  
2750 W. North Ave.  
Chicago 47, Ill.

IOWA, SO. ILL., MO., KAN.  
ENGINEERING SERV. CO.  
4550 Main St.  
Kansas City, Mo.

WISCONSIN  
E. A. DICKINSON & ASSOC.  
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Milwaukee 3, Wis.

FLORIDA  
JACK GEARTNER CO.  
823 86th Street  
Miami Beach, Fla.

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FRED PETERSON CO.  
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EDWARD F. AYMOND & CO.  
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M. K. WIDDEKIND CO.  
216 First Ave., N.  
Seattle 9, Wash.

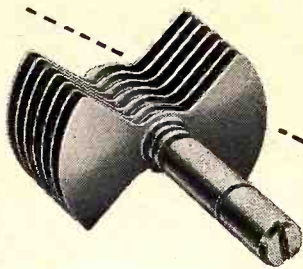
WYO., COLORADO  
FRANKLIN SALES CO.  
1219 California St.  
Denver, Colorado

CALIF., ARIZ., N. MEX.  
G. S. MARSHALL CO.  
2065 Huntington Drive  
San Marino, Calif.

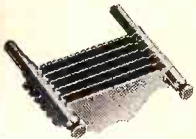
CANADA  
AEROMOTIVE ENG. PRODS.  
5257 Queen Mary Rd.  
Montreal, Quebec  
P.O. Box 760  
Brampton, Ontario

EXPORT  
TENSOLITE EXPORT DIVISION  
Empire State Bldg.  
Room 5710  
New York 1, N.Y.

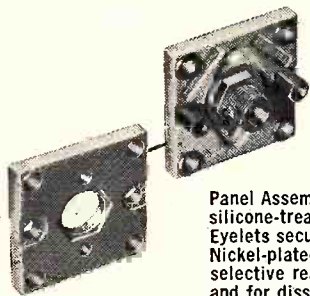




Rotor. Assembled in precision fixture, rigidly soldered. Nickel-plated brass. Precision-grooved rotor to control thrust washer compression.



Stators. Assembled in precision fixtures, rigidly soldered. Nickel-plated brass. Jig located in final assembly to maintain exact plate spacing.



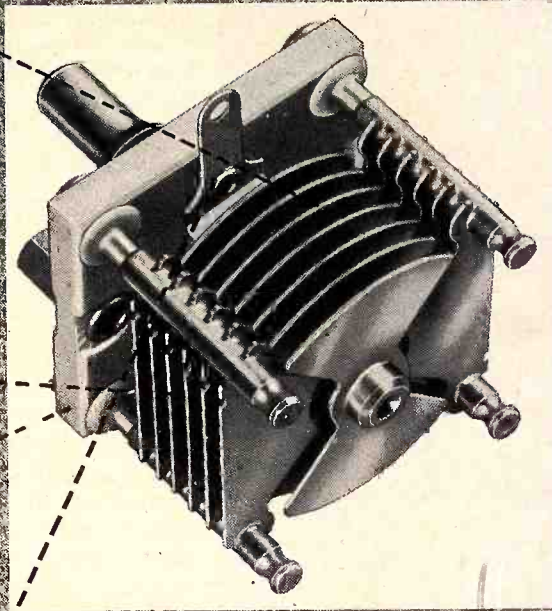
Panel Assembly. Low-loss silicone-treated steatite panel. Eyelets securely spun into panel. Nickel-plated brass bearing, selective reamed for shaft fit and for dissimilar bearing metals for long life.



Contact Spring. Beryllium copper heat-treated for long life. Silver-plated for positive contact.



Precision built from every angle.



# HAMMARLUND

*Means precision in detail*

The finest materials, design and workmanship are inherent in every Hammarlund variable capacitor, assuring quality you can depend upon for the most critical applications.

Hammarlund offers a complete line of standard precision-built capacitor designs to fill most requirements. In addition, Hammarlund maintains a large stock of tools and excellent short-order facilities to meet any "special" needs.

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Established 1910

# IMC MOTORS

*precision with a purpose*



BC 2914F

**2900 Frame Motor**

**INPUT:** 400 cycles, 1 phase capacitor type 225 watts (motor can be wound 3 phase AC or DC)  
**OUTPUT:** 200 cfm @ 2.50" H<sub>2</sub>O sp at standard conditions and 8000 rpm  
**WEIGHT:** 5½ lbs

Bulletin 29F1

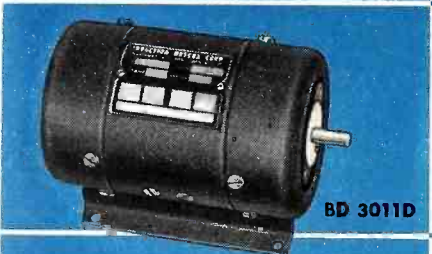


BD 2011P

**2000 Frame DC Motor**

**INPUT:** 6-115 volts DC  
**OUTPUT POWER:** 1/75 to 1/10 hp depending on speed, duty cycle and cooling  
**LIFE:** 1000 hr brush life; 250 hrs at high altitude Available with gear speed reducer and/or speed governor, shunt, series, or compound wound.

Bulletin 20F2



BD 3011D

**3000 Frame Dynamotor**

**INPUT:** 6-115 volts as specified  
**OUTPUT VOLTAGE:** 6-450 volts as specified  
**OUTPUT POWER:** Up to 100 watts, depending on duty cycle and cooling  
**WEIGHT:** 5½ lbs

Bulletin 30F3



BC 910B-1

1½" blower\*

**900 Frame AC Motor**

**FREQUENCY:** 320-1000 cps  
**AIR DELIVERY:** 10 cfm @ 0" sp; 8 cfm @ 0.2" sp  
**RPM:** 7000 @ 400 cps  
**WEIGHT OZ.:** 7  
**WEIGHT OF MOTOR OZ.:** 4½

\*Also available in 1" blower size.

Bulletin 9F4



BD 1509D

**1500 Frame Dynamotor**

**SIZE:** 1½ x 1½ x 3 in.  
**WEIGHT:** 1 lb  
**LIFE:** 100 hrs brush life at 50,000 ft altitude, 500 hrs at sea level

Bulletin 15F5



FBC 3825T

**3800 Frame AC Motor**

**INPUT:** 26-230 volts AC; 1, 2 and 3 phase  
**INPUT FREQUENCY:** 25-400 cycles  
**NUMBER OF POLES:** 2, 4, 6, 8 and 12 poles  
**OUTPUT POWER:** Induction motors—to 1 hp Torque motors—10 to 200 oz. in. stall torque Hysteresis synchronous motors—1/200 to ¼ hp (Can be wound for single, dual or three speed.)  
**BEARINGS:** Ball or sleeve  
**WEIGHT:** 8-11 lbs

Bulletin 38F6

These units, as are others in the complete IMC line of dynamotors, servo, gear, blower and actuator motors, are constructed to meet MIL specifications for environment and performance. For further information, write



**Induction Motors Corp.**

570 Main St., Westbury, L. I., N. Y. Phone: EDgewood 4-7070

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ABP **NUCLEONICS** ABC

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# ACTON LABORATORIES, INC.

## LABORATORY INSTRUMENTS OF EXCEPTIONAL PRECISION

### VOLTAGE MEASUREMENT

**TYPE 810 VACUUM TUBE VOLTMETER**—Has balanced circuits, liberal inverse feedback, and precision components to insure long-time stability and accuracy. 7 full scale DC ranges: 1-1000 volts (+ or -); 6 AC ranges; 1-300 V (rms); 7 resistance ranges 0.2 to 500 with multipliers of X1-X1 meg. DC accuracy  $\pm 2\%$ ; AC accuracy  $\pm 3\%$ . Frequency response  $\pm 1$  db, 10 cps to 700 mc. 100 meg input impedance for DC measurement. High input impedance to 700 mc maintained by 1.2 mmf input capacitance of AC probe. Also available as 810-R (rack mount).

**TYPE 815-A VACUUM TUBE VOLTMETER**—Has wide ranges. 9 full scale DC ranges: 0.1-1,000 volts (+ or -); 8 AC ranges: 0.1-300 volts (rms); 9 DC current ranges: 0.001  $\mu$ a to 100 ma; 9 resistance ranges: 0.2 to 500 with multipliers X0.1 to X10 meg. DC accuracy  $\pm 2\%$ , AC  $\pm 3\%$ , both 1 V range and higher. Frequency response 15 cps to 100 MC. DC input impedance 100 meg; AC 5 mmf and 10 meg. Also available as 815-AR (rack mount—gray panel).

### IMPEDANCE MEASUREMENT

**TYPE 310 Z-ANGLE  $\odot$  METER**—Measures in polar form the impedance, phase angle, dissipation factor, and storage coefficient of any RLC combination. One balancing control permits accurate analyses to be made more quickly and easily than with conventional AC bridges. Measures impedances from 0.5 to 100 K. Frequency range: 30 cps to 40 KC. Accuracy of impedance magnitude is  $\pm 1\%$  to 20 KC and  $\pm 2$  degrees for phase angle. Unit has internal 400 cps and 60 cps signals.

**TYPE 314 LOW-IMPEDANCE Z-ANGLE  $\odot$  METER**—Quickly and accurately measures low values of complex impedances in polar form. Provides direct readings of impedance in ohms, phase angle in degrees, and dissipation factor. Frequency range of 30-1000 cps, impedance-magnitude range of 0.005-1000 ohms accurate to  $\pm 1\%$ , and dissipation-factor range of 0 to infinity. Phase angles measured from  $-90^\circ$  to  $0^\circ$  to  $+90^\circ$ , with accuracy of  $\pm 1^\circ$  from  $30^\circ$ - $90^\circ$  and  $\pm 2^\circ$  from  $5^\circ$ - $30^\circ$ . Unique 4-terminal arrangement for current and voltage to unknown nullifies effect of lead impedance and insures accurate measurements. Also available as 314-AR (rack mount).

### PHASE MEASUREMENT GENERATION

**TYPE 320-AB PHASE METER**—Measures phase difference between 2 signals (10 cps to 100 KC) of any wave shape and indicates phase angle on large meter with separate ranges of  $360^\circ$ ,  $180^\circ$ ,  $90^\circ$ , and  $36^\circ$ . Accuracy is  $\pm 1\%$  of full scale  $+ 3$  degrees. Requires no adjustments, corrections, or balancing operations. Amplitude range is .7 to 120 volts rms. Input impedance of 10 meg and 13 mmf. Modifications allow operation to 1 cps. Also available as 320-ABR (rack mount).

**TYPE 709-A BROADBAND SECONDARY PHASE STANDARD**—Accurately calibrates phase measuring instruments but can also measure phase when used in conjunction with oscilloscope. Develops 2 sinusoidal signals continuously variable from  $0^\circ$  to  $360^\circ$  with respect to each other when fed from oscillator. Range is 20 cps to 20 KC. Accuracy of  $\pm 1^\circ$  from 20 cps to 10 KC;  $\pm 3^\circ$  from 10 KC to 20 KC. High input impedance, low output impedance. Inherent distortion less than 1%. 0.5 to 5-volt output varies less than  $\pm 2\%$  with phase shift. Also available as 709-AR (rack mount).

**TYPE 7000-B AUDIO PRIMARY PHASE STANDARD**—Designed for calibration of phase detectors and phase shifting devices but can also be used to measure phase shift. Consists of Type 703-A Oscilloscope, Type 704-A Secondary Phase Standard, and Type 707-A Lissajous Generator. Supplies 2 sinusoidal signals of same frequency whose phase relationship is continuously variable from  $0^\circ$  to  $360^\circ$  with  $\pm 0.05^\circ$  accuracy. Any single frequency available from 60 cps to 20 KC. Output of 1 to 10 volts rms from impedance of approximately 200 ohms.

**TYPE 500-A WIDE BAND DECADE AMPLIFIER**—Provides highly stable amplification over 5 cps to 2 mc operating range. Phase shift essentially 0 to 100 KC. Gain can be set to 10, 100, or 1000 and remain constant despite line-voltage variation. Input voltage ranges are 0-2 volts, 0-0.2 volt, and 0-0.02 volt. Input impedance is approximately 160 meg shunted by 7 mmf. Output voltage is 20 volts maximum across 20 K. Output impedance is 200 ohms. Ideally suited for use with Type 320-AB Phase Meter. Available as 500-AR (rack mount) or 500-2AR (dual rack unit in cabinet).

**TYPE 511-A POWER AMPLIFIER**—Low distortion, low noise and phase shift compensated amplifier for 50 cps to 50 KC range. Output load characteristics: 5 ohms 12.8 watts, 25 ohms 13 watts, 200 ohms 15 watts, 1200 ohms 12 watts, down 1 db at 50 KC. Phase compensation permits application as drive source for Type 7000-B. Also available as 511-AR (rack mount).

**TYPE 706-A ULTRA-SONIC PRIMARY PHASE STANDARD**—Calibrates high frequency phase meters, phase detectors, and phase-shifting devices. Generates 2 sine-wave signals having variable phase difference  $0^\circ$  to  $360^\circ$  at any specified single frequency 20 to 200 KC. Standard frequency supplied is 82 KC (2000 yards radar range); other frequencies special. Phase angle accuracy of  $\pm 0.1$  degree set by observation of multiple frequency Lissajous pattern on built-in scope. Also available as 706-AR.

### OSCILLOGRAPHIC RECORDING

**TYPE 550-A OSCILLOGRAPHIC RECORDER**—An 8-channel, direct writing, direct reading oscillograph with frequency response  $\pm 10\%$  to 800 cps with 503-A amplifiers. Especially applicable to sequential timing studies, hydrodynamic testing, acceleration testing, strain evaluation and vibration studies. Displays 8 traces on magnified screen while recording. Uses 35-mm perforated film with black carbon coating, easily lacquer-sprayed for permanency. Channel inputs: 75 volts at 10 ma peak. Amplitude linearity:  $\pm 2\%$  of rated peak deflection.

**TYPE 503-A DIRECT-COUPLED DRIVE AMPLIFIER**—Designed especially for use with Type 550-A Oscillographic Recorder. Supplied with plug-in equalizer preset to equalize frequency response of Type 550-A galvanometer. Frequency range is DC to 1 KC. Maximum gain is 75. Input impedance of 1 meg; load impedance of 7500 ohms. Output voltage is 75 volts. Has internal calibrating signal source and provision for balancing out DC component of signal. Also available in groups of 4 mounted in 504-R rack panel.

### POTENTIOMETER TESTING EQUIPMENT

**TYPE 394-A PONOGOMETER  $\odot$  STANDARD**—Measures equivalent noise resistance (ENR) of single or multi-turn precision potentiometers. Provides for establishing threshold level of ENR from 10-2000 ohms. ENR's above threshold level established produce both visual and audio indication. Frequency response flat to 50 KC. Accuracy is  $\pm 3\%$  of threshold value  $+ 3$  ohms. Recovery time is 1.5 seconds maximum. Also available as 394-AR (rack mount).

**TYPE 395-C PONOGOMETER  $\odot$  STANDARD**—Standard equivalent noise resistance generator for calibrating Ponogometer  $\odot$ . Consists basically of precision potentiometer in parallel with rotary switch. Logarithmically calibrated dial provides direct readings of ENR. Generates ENR values from 0 to 2000 ohms. Accuracy 1%. Also available as 395-CR (rack mount—gray panel).

**TYPE 396-B PONOGOMETER  $\odot$  ATTENUATOR**—Extends range of threshold resistance of Ponogometer  $\odot$ . Facilitates rapid change of threshold settings. Permits direct measurement of ENR's from 10 ohms to 100 K. Phase-inverting switch inverts phase of passive noise pulses so that only active pulses are measured by Ponogometer  $\odot$ . Attenuation is 0 to 80 db in 4 ranges. Frequency response is  $\pm 3$  db from 12 cps to 1.5 mc. Hum and noise level are 34 db below 10 mv. Also available as 396-BR (rack mount—gray panel).

### RESEARCH AND DEVELOPMENT

Acton Laboratories, Inc., also has complete facilities and an experienced engineering staff to provide specialized research in and development of electronic components and instruments.

### ENVIRONMENTAL TESTING

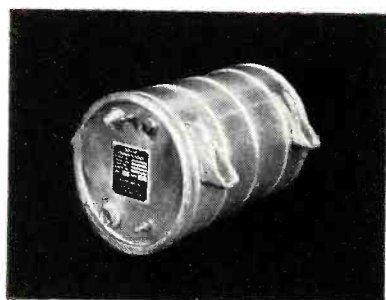
Component testing to military and commercial specifications in a fully equipped Environmental Testing Laboratory is another important service provided by Acton Laboratories, Inc.



WRITE OR CALL **ACTON LABORATORIES, INC.** 533 MAIN ST., ACTON, MASS.

COlonial 3-7756

## Engineering Beyond the Expected...



### **DESIGN** beyond the expected

The DOVAP prototype (above) is one half the size called for in specifications.

### **PACKAGING** beyond the expected

Shielding of critical areas and equalizing of heat enabled DOVAP to operate at higher temperatures than specified... without benefit of cooling by either conduction or convection.

### **PERFORMANCE** beyond the expected

Where momentary loss of signal means the end of usefulness, DOVAP functioned unfailingly... under environmental conditions of shock and vibration more severe than specified.

## ASSIGNMENT MISSILE

Withstanding torture is a specialty of Packard Bell's Doppler Velocity and Position indicator (DOVAP), designed and developed for an inter-continental missile (classified). In prototype environmental tests, this high powered Doppler Transponder was subjected to temperature, shock and vibration beyond the extremes expected in flight... beyond the extremes called for in specifications.

**RESULT:** Reliable signal and continuous transmission for an incredible life span.

*Write for new Packard Bell Electronics facility brochure... just off the press.*



## PACKARD BELL ELECTRONICS

**TECHNICAL PRODUCTS DIVISION**

12333 W. Olympic Boulevard  
Los Angeles 64, Calif.  
BRadshaw 2-2171

# SOLA *Constant Voltage* TRANSFORMERS

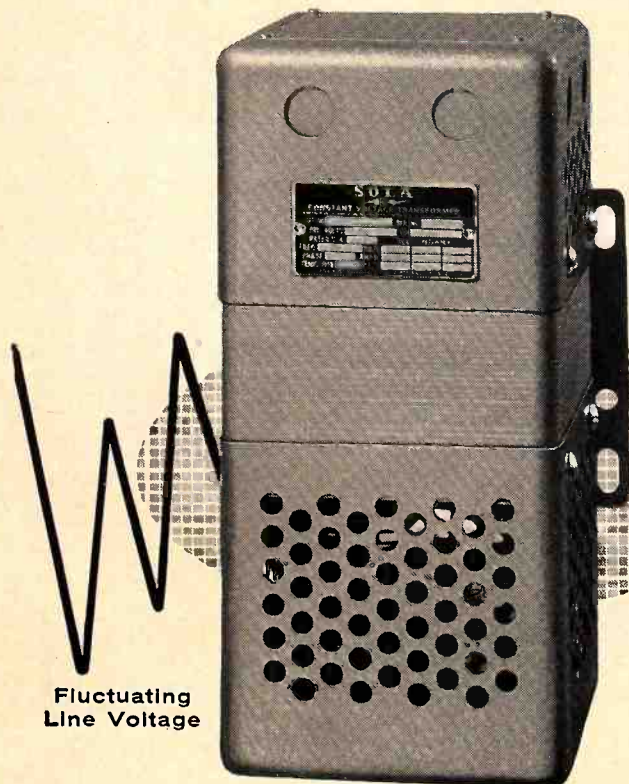
## AUTOMATIC, INSTANTANEOUS VOLTAGE REGULATION

Sola Constant Voltage Transformers are static-magnetic voltage regulators. They are designed to provide a constant output voltage which is unaffected by changes in input voltage. You will find, listed in the following pages, the widest range of ratings and types available from stock offered by any manufacturer.

They have eight distinct advantages over regulators which depend solely upon saturation of core materials for their regulating action, or electronic type regulators:

1. Ultra-fast regulating action. Response time is usually 1.5 cycles or less.
2. No moving or renewable parts or manual adjustments; eliminates need for routine maintenance and spare parts stock.
3. Completely automatic, continuous regulation. No manual adjustments or instruction booklets are required.
4. Self-protecting against short circuits on output or load circuit.
5. Current-limiting characteristic protects load equipment from excessive fault currents.
6. Availability of transformer ratio for step-up, step-down, plate and/or filament supply permits substitution in place of conventional non-regulating transformers.
7. Relatively compact compared to other equipment for comparable ac voltage regulation.
8. Provide isolation between input and output circuits.

In addition, CUSTOM DESIGNED UNITS can be manufactured in capacities from 1 va to 25,000 va, to suit your individual specifications. When ordered in substantial quantities, they cost only slightly more than standard units of the same general size. Often, time and money can be saved by direct use or modification of a regulator from the several hundred special designs on file. Custom designs can include: SPECIAL VOLTAGE RATIOS, SPECIAL FREQUENCIES, COMPENSATION FOR FREQUENCY VARIATION, MULTIPLE OUTPUT VOLTAGES, THREE-PHASE SERVICE, and MILITARY SPECIFICATIONS.



Fluctuating  
Line Voltage





Constant Output Voltage

turn page for electrical and  
mechanical specifications  
of stock types and  
sizes available

Manufactured by Sola Electric Co. • Chicago 50, Illinois



# SOLA CONSTANT VOLTAGE TRANSFORMERS

Standard Constant Voltage Transformers. Regulation $\pm 1\%$	Electrical and Mechanical Specifications • 60 Cycle, Single Phase									
	Catalog Number	Output Capacity in VA	VOLTAGE		Dimensions in Inches*					Approx. Shipping Weight in Lbs.
			Input Range	$\pm 1\%$ Regulated Output	A	B	C	E	F	
 <p>Typical Structure, Hermetic-Sealed Housing, 301002-3</p>	30488	15	95-125	6.0	5 $\frac{11}{16}$	2 $\frac{5}{8}$	3 $\frac{1}{2}$	5 $\frac{1}{16}$	.....	6
	30492	15	95-125	6.3	5 $\frac{11}{16}$	2 $\frac{5}{8}$	3 $\frac{1}{2}$	5 $\frac{1}{16}$	.....	6
	30498	15	95-125	115.0	5 $\frac{11}{16}$	2 $\frac{5}{8}$	3 $\frac{1}{2}$	5 $\frac{1}{16}$	.....	6
	301002	15	95-125	6.3	5 $\frac{1}{4}$	3 $\frac{1}{2}$	2 $\frac{1}{4}$	3	1 $\frac{1}{2}$	2 $\frac{1}{2}$
	301003	15	95-125	115.0	5 $\frac{1}{4}$	3 $\frac{1}{2}$	2 $\frac{1}{4}$	3	1 $\frac{1}{2}$	2 $\frac{1}{2}$
 <p>Typical Structure, Filament Regulators, 5-25 a</p>		amps								
	20-04-030	5	95-130 x 190-260	6.3	4 $\frac{13}{16}$	3 $\frac{1}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	2 $\frac{1}{16}$	6
	20-04-065	10	95-130 x 190-260	6.3	4 $\frac{13}{16}$	3 $\frac{1}{8}$	3 $\frac{3}{4}$	2 $\frac{1}{2}$	2 $\frac{11}{16}$	7
	20-04-095	15	95-130 x 190-260	6.3	4 $\frac{13}{16}$	3 $\frac{1}{8}$	4 $\frac{11}{16}$	2 $\frac{1}{2}$	3 $\frac{5}{8}$	11
	20-04-113	20	95-130 x 190-260	6.3	7	4 $\frac{1}{2}$	5 $\frac{1}{8}$	3 $\frac{5}{8}$	3 $\frac{3}{16}$	20
	20-04-116	25	95-130 x 190-260	6.3	7	4 $\frac{1}{2}$	5 $\frac{11}{16}$	3 $\frac{5}{8}$	4 $\frac{1}{8}$	23
	30804	30	95-125	115.0	8 $\frac{3}{16}$	4 $\frac{3}{16}$	4 $\frac{3}{8}$	7 $\frac{7}{8}$	2 $\frac{3}{8}$	12
	30805	60	95-125	115.0	8 $\frac{13}{16}$	4 $\frac{3}{16}$	4 $\frac{3}{8}$	8 $\frac{1}{8}$	2 $\frac{3}{8}$	13
	30806	120	95-125	115.0	9 $\frac{3}{4}$	4 $\frac{3}{16}$	4 $\frac{3}{8}$	9	2 $\frac{3}{8}$	17
	30888	150	95-125	115.0	10 $\frac{1}{4}$	4 $\frac{3}{16}$	4 $\frac{3}{8}$	9 $\frac{1}{2}$	2 $\frac{3}{8}$	18
	30885	60	95-125	115.0	10 $\frac{3}{8}$	4 $\frac{3}{16}$	4 $\frac{3}{8}$	9 $\frac{5}{8}$	2 $\frac{3}{8}$	13
	30886	120	95-125	115.0	11 $\frac{1}{4}$	4 $\frac{3}{16}$	4 $\frac{3}{8}$	10 $\frac{1}{2}$	2 $\frac{3}{8}$	17
	30M705#	120	190-250	230.0	9 $\frac{3}{8}$	4 $\frac{3}{16}$	4 $\frac{3}{8}$	9	2 $\frac{3}{4}$	14
#Terminals on exposed panel										
 <p>Typical Structure, 250-1000 va ratings</p>	20-13-125	250	95-130	118.0	11 $\frac{1}{8}$	6 $\frac{15}{16}$	6 $\frac{3}{16}$	3 $\frac{1}{4}$	6 $\frac{1}{8}$	24
	20-20-125	250	190-260	118.0	11 $\frac{1}{8}$	6 $\frac{15}{16}$	6 $\frac{3}{16}$	3 $\frac{1}{4}$	6 $\frac{1}{8}$	24
	20-13-150	500	95-130	118.0	12 $\frac{1}{2}$	6 $\frac{15}{16}$	6 $\frac{3}{16}$	4 $\frac{3}{8}$	6 $\frac{1}{8}$	36
	20-20-150	500	190-260	118.0	12 $\frac{1}{2}$	6 $\frac{15}{16}$	6 $\frac{3}{16}$	4 $\frac{3}{8}$	6 $\frac{1}{8}$	36
	20-24-150	500	190-260 x 380-520	236.0	12 $\frac{1}{2}$	6 $\frac{15}{16}$	6 $\frac{3}{16}$	4 $\frac{3}{8}$	6 $\frac{1}{8}$	36
	20-13-210	1000	95-130	118.0	15 $\frac{1}{8}$	6 $\frac{15}{16}$	6 $\frac{3}{16}$	4 $\frac{3}{8}$	6 $\frac{1}{8}$	52
	20-20-210	1000	190-260	118.0	15 $\frac{1}{8}$	6 $\frac{15}{16}$	6 $\frac{3}{16}$	4 $\frac{3}{8}$	6 $\frac{1}{8}$	52
	30811	2000	95-125	115.0	31 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{7}{8}$	12 $\frac{1}{4}$	8 $\frac{1}{2}$	205
	30M811	2000	190-250	115.0	30 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{7}{8}$	12 $\frac{1}{4}$	8 $\frac{1}{2}$	205
	30968	2000	190-250	230.0	30 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{7}{8}$	12 $\frac{1}{4}$	8 $\frac{1}{2}$	205
 <p>Typical Structure, 3-5 kva ratings</p>	301706	3000	95-125 x 190-250	115.0	27 $\frac{11}{16}$	16 $\frac{1}{4}$	12	23 $\frac{3}{8}$	14 $\frac{1}{4}$	345
	301707	3000	190-250 x 380-500	230.0	27 $\frac{11}{16}$	16 $\frac{1}{4}$	12	23 $\frac{3}{8}$	14 $\frac{1}{4}$	345
	301704	4000	95-125 x 190-250	115.0	32 $\frac{11}{16}$	16 $\frac{1}{4}$	12	23 $\frac{3}{8}$	14 $\frac{1}{4}$	415
	301702	5000	95-125 x 190-250	115.0	39 $\frac{1}{16}$	16 $\frac{1}{4}$	12	34 $\frac{1}{2}$	14 $\frac{1}{4}$	485
	301703	5000	190-250 x 380-500	230.0	39 $\frac{1}{16}$	16 $\frac{1}{4}$	12	34 $\frac{1}{2}$	14 $\frac{1}{4}$	485
	301700	10,000	190-250 x 380-500	115.0	48 $\frac{1}{8}$	34 $\frac{1}{4}$	14	41 $\frac{1}{2}$	31 $\frac{1}{4}$	1025
	301701	10,000	190-250 x 380-500	230.0	48 $\frac{1}{8}$	34 $\frac{1}{4}$	14	41 $\frac{1}{2}$	31 $\frac{1}{4}$	1025

\*DIMENSIONS—A: Overall Length; B: Overall Width; C: Overall Height; E & F: Mounting Dimensions.

Specifications subject to change without notice.

# SOLA CONSTANT VOLTAGE TRANSFORMERS

## Harmonic Neutralized Transformer

$\pm 1\%$  Regulated Sine Wave Output with less than 3% Harmonic Distortion.



Catalog Number	Former Catalog Number	Output Capacity in VA	VOLTAGE		Dimensions in Inches					Approx. Shipping Weight in Lbs.
			Input Range	$\pm 1\%$ Regulated Output	A	B	C	E	F	
5003	.....	60	95-125	115	11 $\frac{3}{4}$	4 $\frac{3}{16}$	4 $\frac{1}{2}$	10 $\frac{3}{4}$	2 $\frac{3}{16}$	22
5004	.....	120	95-125	115	11	7 $\frac{1}{8}$	5 $\frac{7}{8}$	8 $\frac{3}{4}$	6 $\frac{1}{2}$	31
23-13-125	5005	250	95-130	118	11 $\frac{1}{4}$	9	6 $\frac{1}{16}$	5 $\frac{5}{8}$	8 $\frac{1}{8}$	32
23-13-150	5006	500	95-130	118	12 $\frac{5}{8}$	9	6 $\frac{1}{16}$	5 $\frac{5}{8}$	8 $\frac{1}{8}$	47
23-13-210	5008	1000	95-130	118	17 $\frac{15}{16}$	9	6 $\frac{1}{16}$	5 $\frac{5}{8}$	8 $\frac{1}{8}$	80
5010	.....	2000	95-125	115	20 $\frac{3}{8}$	26 $\frac{1}{4}$	9 $\frac{5}{8}$	12 $\frac{1}{4}$	24 $\frac{1}{4}$	315

## Adjustable Regulated A. C. Voltage Supply

$\pm 1\%$  Regulated Sine Wave Output with less than 3% Harmonic Distortion. Adjustable from 0-130 v.



One outlet regulated  $\pm 1\%$  and adjustable from 0 to 130 volts. One outlet for fixed value 115 volts regulated  $\pm 1\%$ . Total harmonic distortion less than 3%. Regulating response 1.5 cycles or less. Self-protecting against short circuit. Portable for use in shop or laboratory.

Input 95-125 v; Output No. 1, 115 v; Output No. 2, 0-130 v; 60 cycle, single phase.

Catalog Number	Output Capacity in VA	Dimensions in Inches			Approx. Shipping Weight in Lbs.
		A	B	C	
50106	500	15 $\frac{3}{4}$	7 $\frac{1}{2}$	13 $\frac{3}{8}$	75

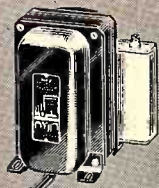
## Regulated Power Supply Transformer

$\pm 3\%$  Regulation for Plate and Filament Supply

A single, compact source of plate and filament supply voltages regulated to within  $\pm 3\%$  or less, with line voltage variations of 100-130 volts. Each unit is furnished complete with capacitor and capacitor mounting bracket. The capacitor is not wired to the transformer, to permit maximum flexibility in mounting on the chassis.

itor mounting bracket. The capacitor is not wired to the transformer, to permit maximum flexibility in mounting on the chassis.

Input 100-130v., 60 cycle, single phase



Catalog Number	Typical Rectifier Tube	D.C. Input Volts To Filter	Filament Windings		Dimensions in Inches			Approx. Shipping Weight in Lbs.
			6.3 volts	5.0 volts	A	B	C	
7104	5Y3	275v D.C. @ 50 M.A.	2.5 amps C.T.	2.0 amps	4 $\frac{13}{16}$	3 $\frac{1}{8}$	3 $\frac{3}{16}$	5
7106	5Y3	385v D.C. @ 110 M.A.	3.0 amps C.T.	2.0 amps	4 $\frac{13}{16}$	3 $\frac{1}{8}$	3 $\frac{15}{16}$	8
7107	5U4	380v D.C. @ 250 M.A.	No. 1: 4.0 amps No. 2: 8.0 amps unregulated	3.0 amps	7	4 $\frac{1}{2}$	5	19

## Constant Voltage Transformer for Television Receivers

$\pm 3\%$  Plug-in Regulator for Television Receivers and Other Appliances

Voltage regulation for home TV Receivers eliminates flicker and distortion due to line voltage variations. Moderate price . . . plug-in type . . . regulation  $\pm 3\%$  or less.



Input 95-130 v, Nominal Output Value in 115-120 volt range; 60 cycle, single phase.

Catalog Number	Output Capacity in VA	Dimensions in Inches			Approx. Shipping Weight in Lbs.
		A	B	C	
7201	180	7 $\frac{1}{4}$	8 $\frac{1}{4}$	4 $\frac{3}{4}$	21
7202	300	7 $\frac{1}{4}$	9 $\frac{1}{8}$	4 $\frac{3}{4}$	28

Typical Characteristics of 300 VA No. 7202 Transformer with 300 VA Load

Primary			Secondary		
Volts	Amps	Watts	Volts	Amps	Reg.
95	3.84	345	113.2	2.57	-2.84%
117	3.28	360	116.5	2.62	
130	3.28	368	117.9	2.66	+1.2%

See next page for regulated DC power supplies

## Sola DC power supplies:

### compact, regulated, for high-amp loads

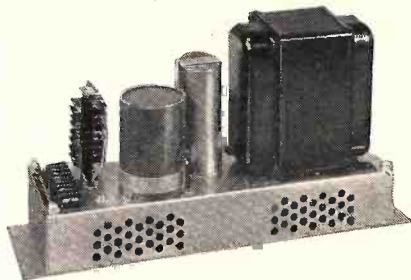
This combination of Sola Constant Voltage Transformer, germanium power rectifier, and high-capacitance filter yields a dc power supply compact in size, low in weight, and with other important advantages.

1. Output regulation of  $\pm 1\%$  or less with  $\pm 10\%$  line voltage variations.
2. Minimum output voltage change with wide, rapid load changes.
3. Low input power, with resultant good efficiency.
4. Ability to withstand high, short-time overloads without damage to components.
5. Ripple voltage of approximately 1% (rms) or less.
6. High overall economy by eliminating overload capacity needed in other types of power supplies for certain applications.

7. Low ratio of size and weight to power output.
8. Freedom from routine adjustment and maintenance.
9. Exceedingly low output impedance.

In addition to its important function of correcting line voltage variations, the Sola CV's inherent current-limiting action permits safe, economical use of the efficient germanium rectifier with its low forward voltage drop and other advantages. This same current-limiting action also permits use of high-capacitance filter sections by controlling excessive charging currents which might damage rectifier junctions. The high-capacitance filter yields very low ripple voltage without need for heavy, bulky choke components, with their substantial and often-varying load voltage drops.

### FIXED DESIGNS



For  
intermittent, variable,  
or pulse loads.

### ELECTRICAL SPECIFICATIONS

All Inputs 100-130 volts, 60 cps

Catalog Number	Output Rating			Efficiency Approx. %	Ripple Voltage (rms)- % of Total	Approx. Shipping Weight Each Pounds
	Watts	Volts	Amps			
28156	144	24	6.0	72	Less Than 1%	45
28120	192	48	4.0	77	Less Than 1%	45
28152	250	125	2.0	82	Less Than 1%	55
28106	300	150	2.0	80	Less Than 1%	50
28193	200	200	1.0	76	Less Than 1/2%	45
28192	250	250	1.0	81	Less Than 1/2%	55

DIMENSIONS—Above six stock units have identical dimensions: overall length, 19"; overall width, 5 1/4"; overall height, 9 3/4". All supplies furnished with drilling for standard relay rack mounting.

### ADJUSTABLE DESIGNS



Give all the advantages of fixed designs plus an output adjustable over a considerable range of voltages.

### ELECTRICAL SPECIFICATIONS

All inputs 100-130 volts, 60 cps

Catalog Number	Adjustable Output Voltage Range	Rated Loadings in Amperes		Ripple* Voltage— % of Total Output	Approx. Shipping Weight Each— Pounds
		At max. Voltage Setting	At min. Voltage Setting		
28510	5-35	7.0		0.10	80
28520	25-60	4.0	6.0	0.05	80
28530	30-90	2.8	4.0	0.04	80
28540	60-180	1.4	2.0	0.03	80
28550	150-250	1.0	1.5	0.02	80
28560	250-400	0.6	0.75	0.02	80

\*Figures in this column ripple voltages measured at full rated load and input of 115 volts.

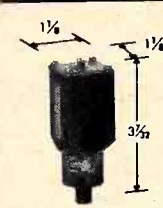




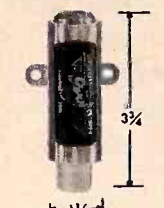

DIMENSIONS—Above six stock units are for relay rack mounting on standard, 19" frame. Front panel is 7" high and chassis is 12 1/4" deep. Removable handles, for portability, are available as an accessory.

**SOLA** *Constant Voltage*  
**DC POWER SUPPLIES**

SOLA ELECTRIC CO.  
Chicago 50, Illinois

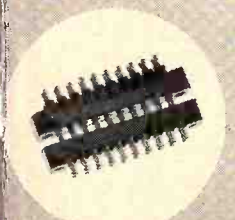
quick reference chart  
for most often specified

# GORN SWITCHES & CONNECTORS

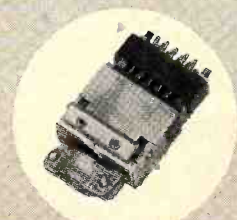
Complete Line of Tested Pressure and Float Switches in Missiles and Aircraft	Vacuum & Absolute Pressure Switch	Altitude Switch	Differential Pressure Switch	Low Pressure Switch	Medium Pressure Switch	High Pressure Switch	Horizontal Float Switch
							
Catalog Series	GAB1000*	GB300*	GP16000*	GP8000*	GP8060*	GPP12000*	GHF5400 †
Weight	2.3 oz.	1.8 oz.	16 oz.	8.5 oz.	7 oz.	4.5 oz.	7.5 oz.
Operating Range of Tested Models	3 to 25 psia	5000 to 60,000 feet	1" W.C. to 10 psig differential	1 to 100 psig	1 to 800 psig	75 to 3000 psig	On Horizontal Center Line
Max. Oper. Press. Proof Pressure Burst Pressure	30 psia 45 psia 60 psia		10 psig 20 psig 30 psig	100 psig 200 psig 600 psig	800 psig 1200 psig 2400 psig	3000 psig 4500 psig 7500 psig	
Electrical Rating	SPDT 18-30 VDC 2.5A. Ind.	SPDT 18-30 VDC 2.5A. Ind.	SPDT 18-30 VDC 2.5A. Ind.	SPDT 18-30 VDC 5A. Ind.	SPDT 18-30 VDC 2.5A. Ind.	SPDT 18-30 VDC 2.5A. Ind.	SPDT 18-30 VDC 2.5A. Ind.
Temperature Ratings Available	-65 to 160F -65 to 275F -65 to 400F**	-65 to 160F -65 to 275F -65 to 400F**	-65 to 160F only at present	-65 to 160F -65 to 275F -65 to 400F**	-65 to 160F -65 to 275F -65 to 400F**	-65 to 160F -65 to 275F -65 to 400F**	-65 to 160F -65 to 275F -65 to 375F
Vibration Ratings up to 10G	5-500 5-2000 CPS	5-500 5-2000 CPS	5-500 5-2000 CPS	5-500 5-2000 CPS	5-500 5-2000 CPS	5-500 5-2000 CPS	5-500 CPS
Explosion Ratings to Specification	MIL-E-5272A	MIL-E-5272A	MIL-F-8615	MIL-F-8615	MIL-F-8615	MIL-E-5272A	MIL-F-8615

\*Switches can be supplied either factory pre-set or with means for external adjustment. \*\*Presently undergoing test. †Also available in vertical, single, double and triple float arrangements.

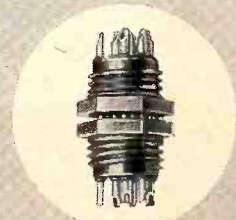
## GORN GOLD SEAL CONNECTORS In Melamine Or Plaskon Alkyd



GRA Series—Miniature Power Connectors for high voltage and current capacity; for No. 16 AWG.



GMRD Series SNAP-LOC—Available in GM series; for quick snap-action, separation and harness locking; contacts 7 to 50.



GH Series—Hex Miniature available with lock ring, spring and nut; hood and cable clamp; from 18 to 20 AWG; contacts 4, 5, 7, 9; also hermetically sealed.



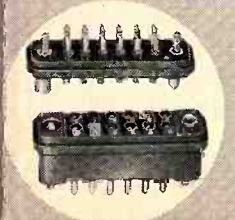
GPC Series—Printed Circuit; will mate with printed circuit boards from .061 to .071 thick; with solder and solderless terminations; contacts 6, 8, 10, 12, 15, 18, 22.



GM Series—Miniature Rack and Panel from No. 18 to 20 AWG; contacts 7, 8, 9, 14, 18, 20, 21, 26, 34, 41, 50; also hermetically sealed.



GHR Series—Approved at 2000° for 5 min. per.; hood and cable clamp protects against vibration; for No. 16 AWG; contacts 1, 2, 3, 5.



GBRD Series—Rapid Disconnect; spring loaded receptacle; polarized guides prevent mis-mating; from 14 to 16 AWG; contacts 2, 18, 34.



GB Series—Heavy duty, high voltage connectors for aircraft power and communication equipment; can be supplied with any AN size 36 shell.

Enlargements of this advertisement available on request, for use as wall chart.  
Write:



GORN ELECTRIC CO., INC.

STAMFORD, CONNECTICUT

FREQUENCY DOUBLER TYPES ALSO

## DC-AC CHOPPERS

For 60 Cycle Use

There are twenty-two different types, both single and double pole, built to rigid commercial specifications with the emphasis on long life, low noise level, and extreme reliability. Please write for Catalog 370.



### DC-AC CHOPPERS

For 0-500 Cycle Use

All the usual military specifications are met with liberal factors of safety. Before any Chopper is shipped, it is tested twice over the range of  $-65^{\circ}\text{C}$   $+85^{\circ}\text{C}$  to give double proof of stamina. Each production lot sample life tested. Please write for Catalog 280.

### ULTRA HIGH SPEED RELAYS

Operating time 200 microseconds. Mount in any position. Will cover the range of  $-65^{\circ}\text{C}$   $+85^{\circ}\text{C}$  and are factory sealed. Please write for Catalog 337.



### RESONANT RELAYS

Permit remote control by radio or carrier current through frequency discrimination. Relays operate only when energized at rating and reject all other frequencies. Eleven types are offered in the range of 153-442 cycles. Please write for Catalog 335.



S/A-9 A

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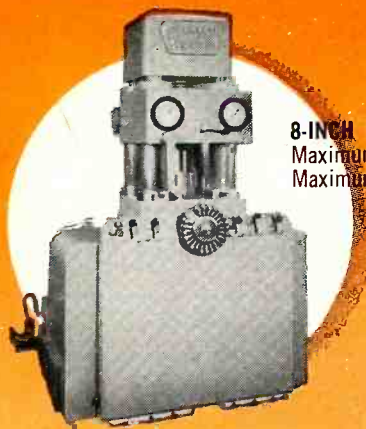
GUIDE



A MCGRAW-HILL PUBLICATION  
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Now... a battery of  
Hydroforms at

# kaupp



**8-INCH HYDROFORM**  
Maximum Blank — 8" Diameter  
Maximum Draw Depth — 5"

**— to reduce your development time and costs on every pre-production run!**

Kaupp hydroformed prototypes and pre-production parts are accurately formed and drawn in less time, at lower cost. Hydroforming produces short run, and in some cases production pieces, quicker and more economically than tool and die methods. New equipment installed by Kaupp assures faster service. For complete information on Kaupp metal forming facilities, call or write today!

- FEWER DRAWING OPERATIONS
- SIMPLER TOOLING
- FASTER SET-UP
- IMPROVED QUALITY

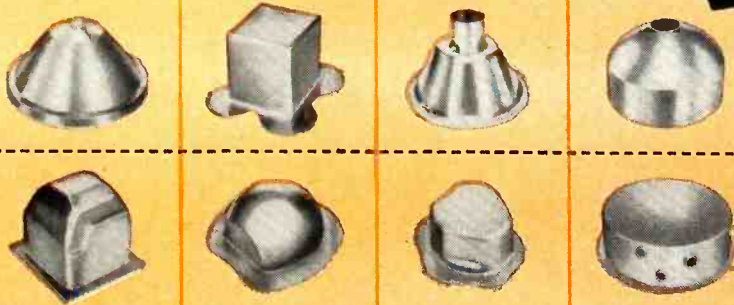
Expanded Kaupp facilities include deep drawing by conventional methods for volume production runs and a completely equipped metal spinning department.



**9-INCH HYDROFORM**  
Maximum Blank  
19" Diameter  
Maximum Draw  
Depth — 8"

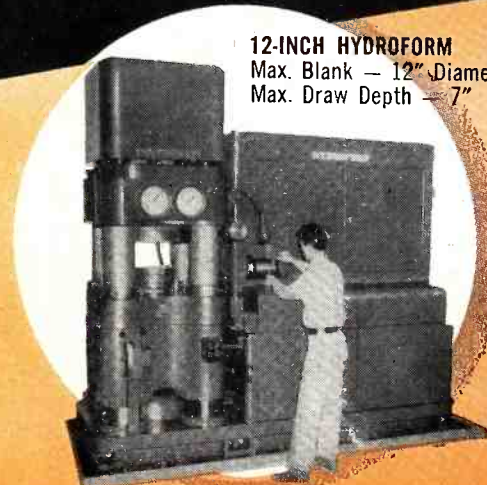
**Specify  
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for Accurate Forming and Drawing of Stainless Steel, Inconel, Cold Rolled Steel, Aluminum, Copper, Brass and Other Alloys



## C. B. KAUPP & SONS

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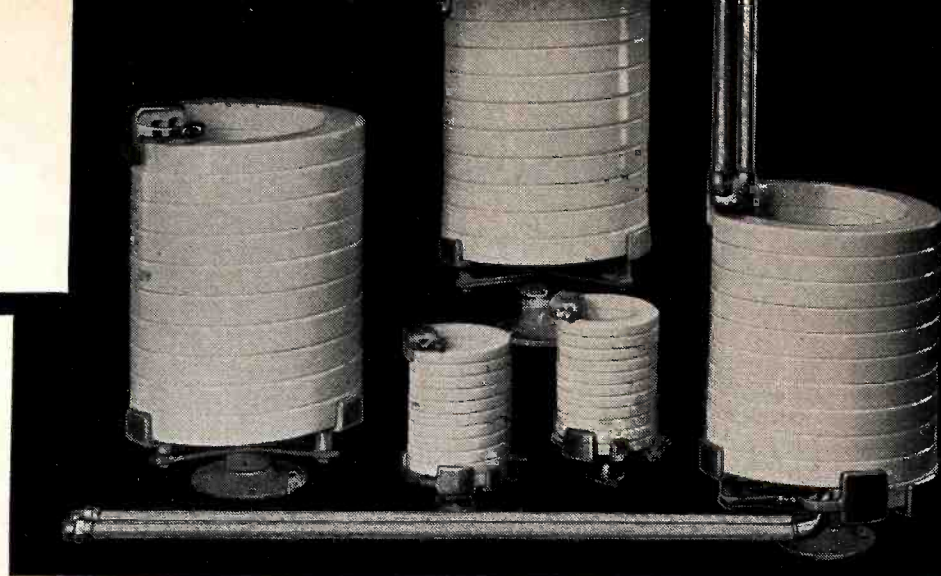
**12-INCH HYDROFORM**  
Max. Blank — 12" Diameter  
Max. Draw Depth — 7"

# Lapp



## TUBE SUPPORTS for air-cooled tubes

No longer is it necessary for equipment manufacturers to design supports for forced-air-cooled tubes. After producing many such special designs, Lapp has engineered and built a complete series of insulating supports for air-cooled tubes. Use of these supports facilitates design of transmitter and other high-power circuits. Simple, compact, efficient and attractive in appearance, in porcelain or steatite, they make for economical production, easy interchangeability, and availability of replacement units. Write for Bulletin 301, with complete description and specification data.



## INSULATION FOR WATER-COOLED SYSTEMS

For carrying cooling water which must undergo a change in potential, use of Lapp porcelain eliminates troubles arising from water contamination and conductivity, sludging and electrolytic attack of fittings. Permanent cleanness and high resistance of cooling water is assured—for positive cooling and long tube life.

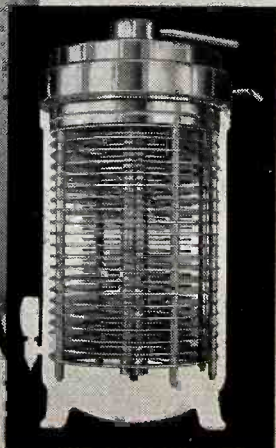
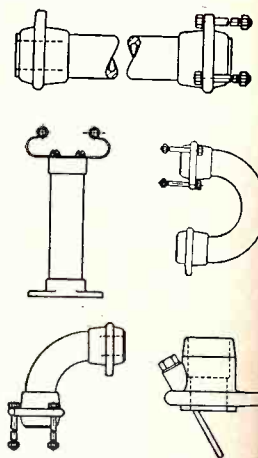
## LAPP PORCELAIN WATER COILS

Twin-hole and single-hole models in sizes to provide flow of cooling water from 2 to 90 gallons per minute. Cast aluminum mounting bases, lead pipe or flexible metal hose for attachment.

## LAPP PORCELAIN PIPE

Inside diameters  $\frac{3}{4}$ " to 3", in straight, 90° and 180° elbows, fittings. Swivel-type connections. Standoff insulators attach directly to fitting bolts.

Write for Bulletin 301 with specifications for Lapp Porcelain Water Coils and Porcelain Pipe.



## LAPP GAS-FILLED CONDENSERS

Capacitance for high-voltage, high-current duty

The record of more than 18 years' service, in thousands of installations, proves the reliability of the Lapp Gas-Filled Condenser. For duty at high voltages and high currents, this unit offers the advantages of extreme compactness . . . low loss . . . high safety factor . . . constant capacitance under temperature variation . . . grounded tuning shaft . . . and rugged sturdiness. Units available in four tank diameters, 7" to 18" . . . in fixed or variable capacitance . . . capacitances to 30,000 mmf; current ratings to 390 amps at 1 mc; voltages to 85 Kv peak. Write for Bulletin 302.

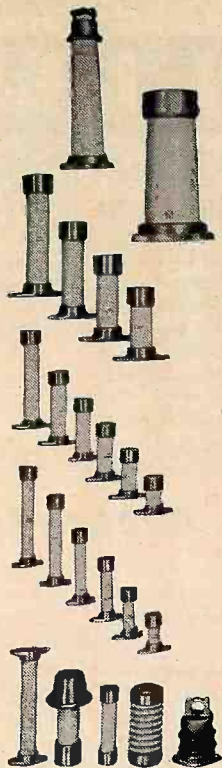
## ENTRANCE INSULATORS

To eliminate losses which occur in ordinary types of bushings at radio frequency, Lapp units use air as major insulation, porcelain path being lengthened by its "bowl" shape. In wide variety of types for most electrical and mechanical requirements.

## STAND-OFF INSULATORS

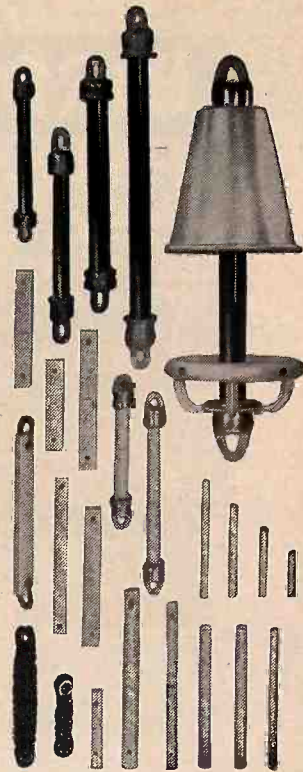
Dependable mechanical and electrical performance—and trim good looks. Hundreds of standard and special types available.

Write for Bulletin 301, listing entrance and stand-off insulators.



## ANTENNA STRAIN INSULATORS

The largest of the porcelain rod insulators shown develops 12,000 lb. strength. Available, as specified, with rain shield and/or corona rings. Smaller units, in porcelain or steatite, for all strain or spreader use. Engineering and production facilities also available for special performance units. See catalog 301.



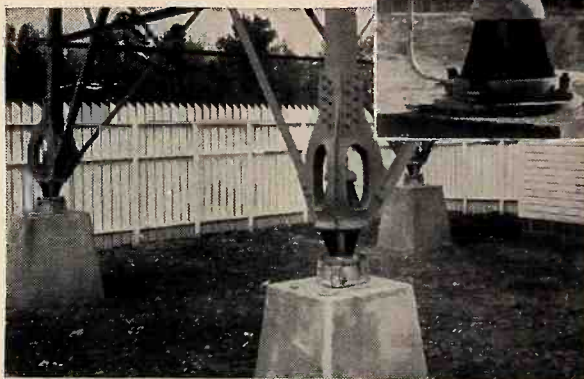
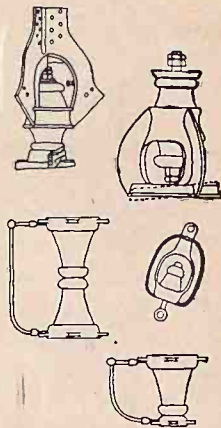
## PLUG-AND-RECEPTACLE UNITS for sectionalizing circuits

For panel-rack or other sectionalized circuits, Lapp offers a variety of plug-and-receptacle units. Any number of contacts can be provided (in multiples of twelve). Male and female contacts are full floating, for easy alignment and positive contact. Contacts

silver plated, terminals tinned for soldering. Insulation is steatite, the low-loss ceramic... non-carbonizing even under leakage flashover resulting from contamination, moisture or humidity. Write for complete electrical and mechanical specifications and recommendations.

## ANTENNA TOWER INSULATORS

Most of the world's radio towers are supported by Lapp insulators, including the tallest guyed mast ever built. Through the Lapp "compression cone," immense loads can be carried by electrical porcelain. Write for data on Lapp footing insulators for self-supporting radiators, mast-base insulators, or guy insulators.



## SPECIAL ASSEMBLIES

Lapp business is electrical porcelain, its application, design, manufacture, and assembly. Our skill is in our knowledge of the capabilities, and limitations, of ceramic insulation... in engineering ingenuity to meet specified requirements... and in efficient production. If you have need for insulating parts and associated sub-assemblies, we may be able to show you how they can be made most economically, to perform most efficiently.

# Lapp

LAPP INSULATOR CO., INC.  
RADIO SPECIALTIES DIVISION  
100 SUMNER ST., LEROY, N.Y.



# BIRD COAXIAL LINE INSTRUMENTS

## "ThruLine" DIRECTIONAL RF WATTMETERS

MODEL 43



### Direct Reading

25-1000 megacycles . . . 10W — 100KW . . . "thru" type . . . for power measurement in complete systems under operating conditions . . . insert between transmitter and antenna or load to provide an accurate and simple means of measuring direct or reflected power . . . plug-in elements determine full scale power range and frequency range. Get Bulletins W-400 for detailed specifications.

Model	Line	Impedance	Frequency Range	Full Scale Power	Connector
43	RG-8/U etc.	50 ohms	25-60; 50-125 100-250; 250-500; 400-1000 mc	10; 25; 50; 100; 250; 500 W	N; C; HN; UHF
4712	1 1/8"	50 ohms	200-500 400-1000 mc	.5; 1.0; 1.5; 2.5; 5.0 KW	Rtma Std.
460	3 1/8"	50 ohms	200-500 mc	1; 2.5; 5; 10	Flange
480	3 1/8"	51.5 ohms	400-1000 mc	25; 50 KW	Sleeve Bullet
490	6 1/8"	51.5 ohms	200-500 mc	25; 50 and 100 KW	

## "Termaline" RF ABSORPTION WATTMETERS

MODEL 611



### Accurate

30-500 megacycles . . . 1/2 watt-5 KW . . . "load" type . . . portable . . . direct reading wattmeter . . . accuracy  $\pm 5\%$  of full scale . . . non-radiating load for power measurement. For complete specification on all available models, write for Bulletins TW-600.

Model	Freq. Range	Max. Power	Power Range Scales	Input Connector
611	30-500 mc	60W	0-15; 0-60	Female N
612	30-500 mc	80W	0-20; 0-80	
67	30-500 mc	500W	0-25; 0-100; 0-500	Coplanar with adapter to UG-21/U; (optional) RG-17 & RG-19 cable assemblies; adapters to rigid lines
67C*	30-500 mc	2500W	0-100; 0-500; 0-2500	
824*	30-220 mc	5000W	0-5000	

\*Water cooled (other available models described in specification sheets)

## "Termaline" RF LOAD RESISTORS

MODEL 888



### Reflection-Free

Designed to terminate 50 ohm coaxial line with minimum reflection . . . low VSWR . . . non-radiating . . . water cooled ratings 2500 W to 50 KW . . . air cooled ratings to 1500 W . . . ratings can be increased by forced air externally applied. For detailed specifications get Bulletins R-800.

Model	Max. Power	Freq. Range	Max.* VSWR	Connector
80	5W	0-1KMC	1.1	"N", "C", "BNC"
80A	20W	0-500MC	1.1	N Female
81	50W	0-1KMC	1.1	
81B	80W	0-1KMC	1.1	Coplanar with adapter to UG-21/U
82A	500W	0-1KMC	1.1	
883	1.2KW	0-1KMC	1.1	LC
888	1.5KW	0-1KMC	1.1	3/8" Flanged

\*Other VSWR requirements can usually be met by special selection.

## COAXIAL SWITCHES

MODEL 74  
(Cutaway View)

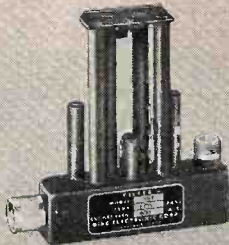


### Dependable

Small compact design permits the "Coaxswitch" Selector to be incorporated into many electronic units where repeated channel switching is required. Finger-tip operation — pull knob, rotate and push in to make contact. Bulletin CS-6 contains full specifications.

Model	74	71B	72R	72-L
Positions	Six	Eight	Reversing Switch	Two
Coaxial Circuits	One	One	Two	Two
Connector	Type N female connectors are standard on all models to receive UG-21/U series plug. Use adapters with other cables and connectors.			

## COAXIAL RF FILTERS



### Rugged

High pass . . . low pass . . . band pass . . . band elimination . . . designs utilize both distributed and lumped constant . . . feature low insertion loss and high stop band attenuation . . . many designs available . . . "know-how" and physical facilities for quantity production . . . Get Bulletin CF-6.

	Low Pass	Low Pass	Low Pass	Low Pass	High Pass	Band Pass
Model*	5310	5311	522	819-1200	530	5131
Cut Off	90 mc	160 mc	400 mc	1200 mc	420 mc	45 mc & 105 mc
Stop Band	100- 180 mc	180- 320 mc	500- 2000 mc	1900- 4000 mc	100- 390 mc	33.7- 39.7 mc 120- 1000 mc
Max. Power	100W	100W	150W	100W	50W	25W
VSWR in p.b.	1.5	1.5	1.35	2 to 1	2.5	1.6
Connectors	Female N		Male-Female N		Female BNC	

\*Other model specs on request.

## NEW BIRD CATALOG

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### Complete

## RF POWER ABSORPTION AND MEASUREMENT

# BIRD ELECTRONIC CORPORATION

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# ALSiMAG<sup>®</sup>

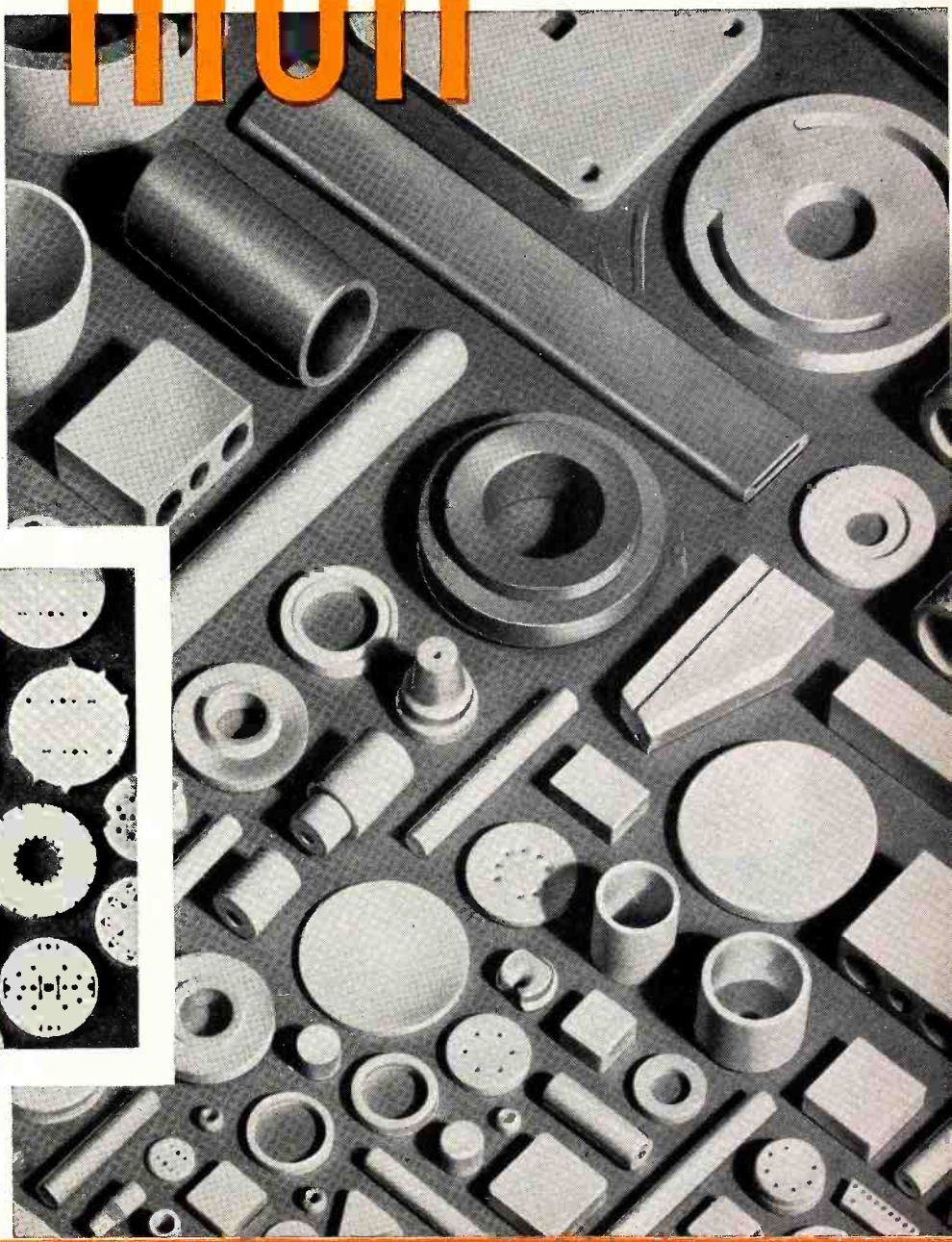
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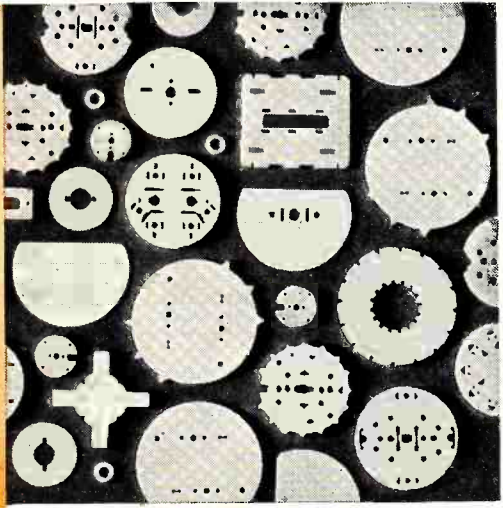
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Select your semiconductors from industry's widest line... a line that is designed to answer your circuitry needs. When you buy TI you are assured the reliability your applications require—with closely controlled parameters, unit interchangeability and the economy that follows when you buy from the leader in semiconductor mass production.

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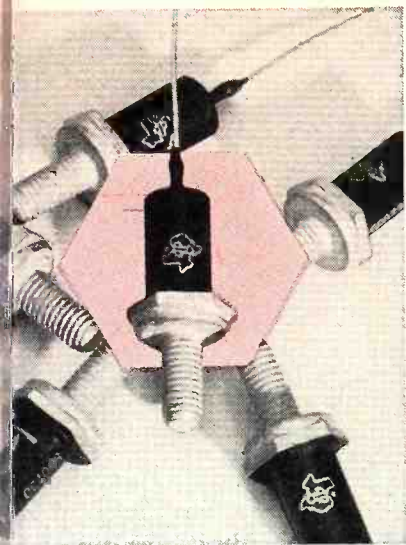
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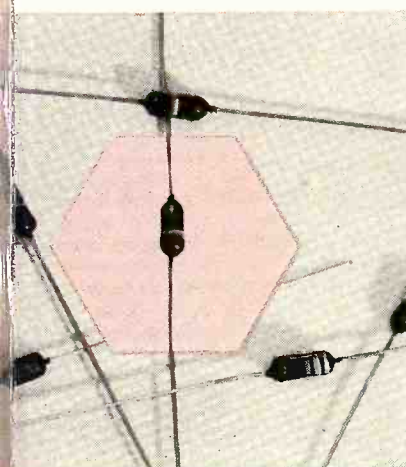
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## SILICON DIODES

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## PRECISION CARBON FILM RESISTORS

Providing you with outstanding reliability and accuracy at economical prices, TI precision carbon film resistors are supplied in six sizes from 1/4 to two watts with resistance values from 25 ohms to 30 megohms; 1, 2 or 5% tolerances. Special values, modifications and tolerances will be supplied at your request.

**MIL-Line**—Far exceed MIL-R-10509B specifications for characteristic X. They show an average resistance value change of only 0.092%—after 18 months of shelf life—and have an exclusive coating which protects them from the effects of moisture.

**Hermetically Sealed**—solder sealed in a pure ceramic shell and fully insulated for maximum protection and reliability... meet specifications for characteristic B of MIL-R-10509B.

**Industrial Line**... economical precision resistors with the close tolerance required in instrument and industrial uses where military approval is not required.

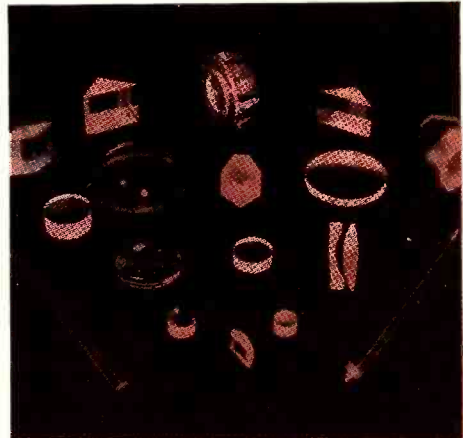


## PRECISION PANEL METERS

You will find the **precision** meter your applications require in TI's line of bakelite, ruggedized and hermetically sealed panel meters... available in a wide range of shapes and styles... in sizes from 1 1/2 to 4 1/2 in. All TI meters exceed MIL-M-6A and MIL-M-10304A. All provide you with long service life and lasting calibration at economical prices.

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## PRECISION OPTICAL COMPONENTS



You receive the finest optics without delay from TI, producer of all types of flat, cylindrical, prismatic, spherical, and aspherical components for fire control, guided missiles, infrared, and many other applications. Modern engineering and manufacturing facilities assure you that the most advanced techniques will be applied to your project. Rely on TI—the largest precision optics producer in the west—when you need precision optical components, in large or small quantities.

OPTICS DIVISION  
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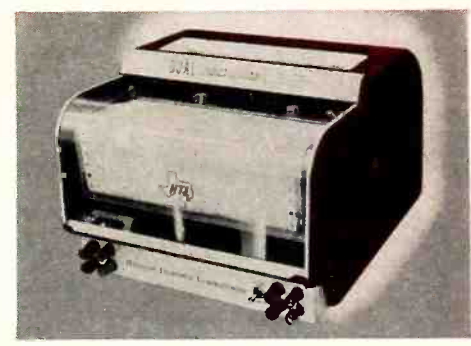
## MILITARY ELECTRONIC AND ELECTRO-MECHANICAL COMPONENTS AND SYSTEMS



TI knowledge and skill in the semiconductor field—combined with rapid systems engineering progress—has solved some of the toughest, most intricate problems in the development of weight, space and power-saving military equipment. TI's top-quality manufacture, on an accelerated basis, is being applied to radar, sonar, magnetics, VHF, and other means for detection, navigation, communications, telemetering, fire control, and missile guidance. Unusual scope and facilities also make TI a leader in the field of infrared... from materials manufacture through components processing to development of complete systems. For more information contact:

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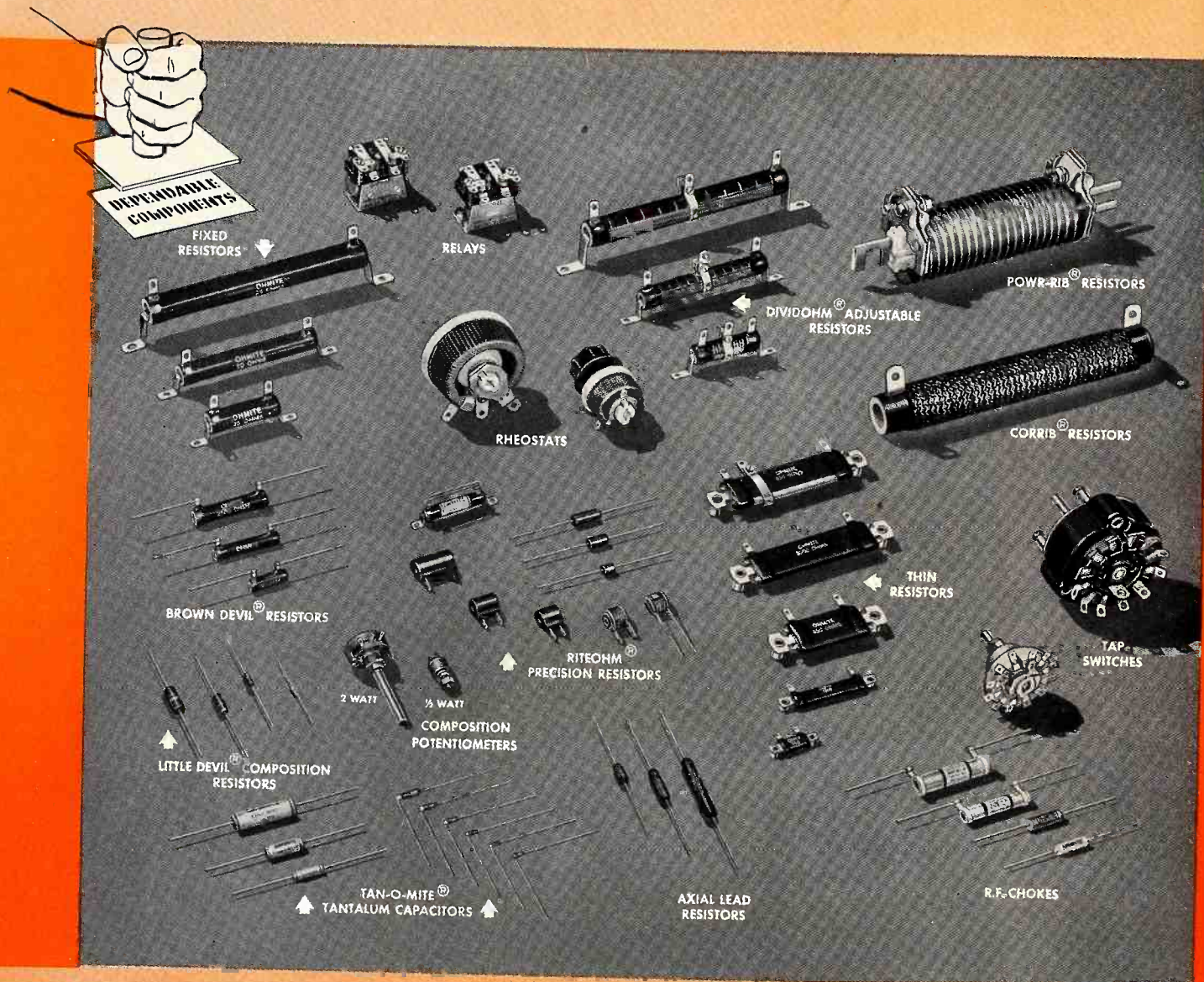
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Long life and dependability are synonymous with the name Ohmite. When you specify Ohmite components . . . you build reliability into your product. This reliability is backed by Ohmite's continuing research programs which explore new product ideas, improve present products, and develop more efficient manufacturing processes. All this plus the fact that Ohmite is the world's leading specialist in the manufacture of power-type resistance components —high quality rheostats and wire-wound resistors in the most complete range of sizes and types available to industry. Reliability is also characteristic of Ohmite tap switches, precision wire-wound resistors, molded composition resistors and potentiometers, general-purpose relays, subminiature tantalum capacitors, and R. F. chokes. Write on company letterhead for the complete Ohmite Catalog and Engineering Manual.



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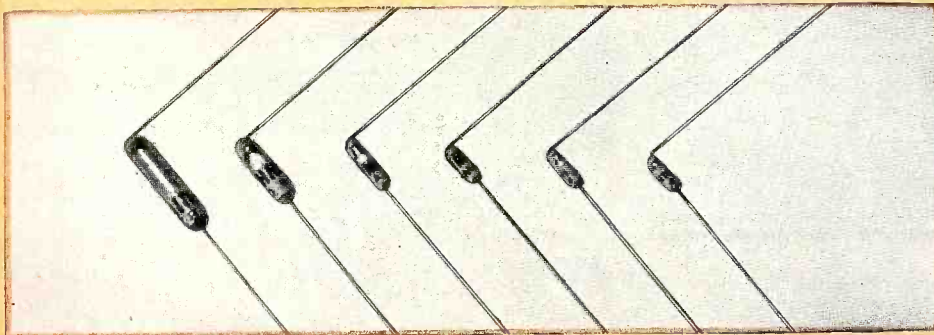
# NEW OHMITE®

## TAN-O-MITE®

# TANTALUM CAPACITORS

The new Tan-O-Mite® line of wire-type subminiature capacitors features six sizes which collectively offer sufficient range and flexibility to satisfy the design needs of any manufacturer of miniaturized equipment. Sizes "S" and "T" constitute the smallest units of this type available. (Note dimensions in table below.) Tan-O-Mite® foil-type and wire-type tantalum capacitors both feature greater capacitance per unit volume, lower leakage current and power factor, and small capacitance drop at extremely low temperatures as compared to other types of electrolytics. Ohmite engineers will work with you on your design requirements.

- HIGH STABILITY
- FOR  $-55^{\circ}\text{C}$  TO  $+85^{\circ}\text{C}$  OPERATION
- HIGH CAPACITANCE
- SUBMINIATURE SIZES
- LONG SHELF LIFE

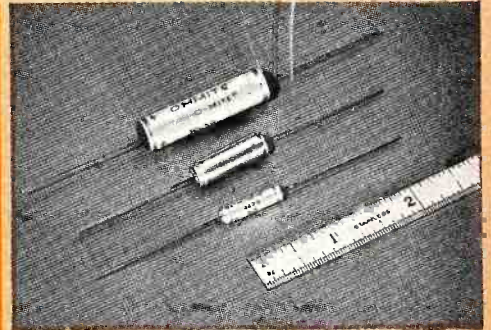
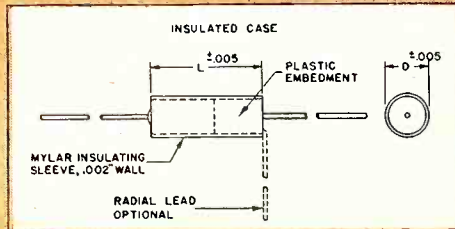
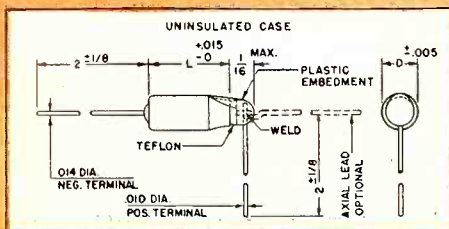


### SERIES TW, SUBMINIATURE, WIRE-TYPE TANTALUM CAPACITORS

Ultrasmall for low-voltage DC transistorized electronic equipment, these new units provide substantial savings in circuit space plus high quality and long, reliable operation. Available in six subminiature sizes; 0.1 to 60 mfd. over-all capacitance range. Smallest size .075 x .156 inches; largest .125 x .500 inches. Five stock sizes in a wide range of capacitances and voltages. Capacitors can be supplied insulated with a tough Mylar plastic sleeve for application in confined locations near metal parts. Leads are normally axial on these units. *Bulletin 148.*

SIZE	UNINSULATED		INSULATED	
	D (inches)	L (inches)	D	L
T	.075 (5/64)	.156 (5/32)	.082	.203
S	.075 (5/64)	.187 (3/16)	.082	.234
M	.095 (3/32)	.172 (11/64)	.100	.218
A	.095 (3/32)	.250 (1/4)	.100	.312
B	.125 (1/8)	.312 (5/16)	.134	.375
C	.125 (1/8)	.500 (1/2)	.134	.562

SERIES TW



### SERIES TF, FOIL-TYPE TANTALUM CAPACITORS

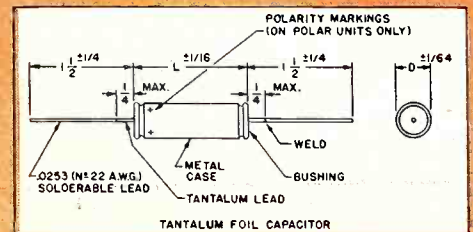
Three sizes now available in limited quantities for engineering evaluation and use.

Capacitors are tantalum foil, electrolytic-type units designed for low voltage AC and DC applications. Available in three sizes; .25 to 140 mfd. over-all capacitance range. Working voltage up to 150 volts. Polar and nonpolar units are available. *Bulletin 152.*

TANTALUM FOIL CAPACITOR		
CASE SIZE	D*	L*
J	3/16"	11/16"
K	9/32"	7/8"
L	3/8"	1-7/16"

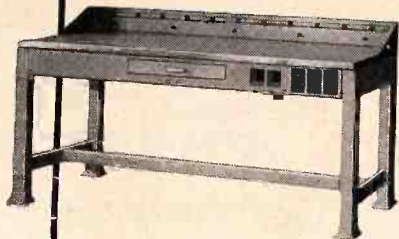
\*Add 1/16" to L and 1/64" to D when insulating sleeve is used.

SERIES TF



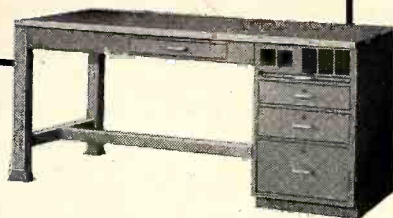
# Electronic TEST UNITS

Formica Company offers the industry the latest development in electronic laboratory furniture and equipment — test benches and units made up of prefabricated sections, factory assembled from stock to suit the special requirements for your individual application.



Designed by engineers for engineers, with serviceability in mind — the individual sections are constructed to afford the greatest number of varied selections and combinations. Made of heavy-gauge furniture steel, Formica's benches are sturdy and can take a beating, yet are modern in style and practicability, to meet today's laboratory needs.

These testing units offer unusual space-saving arrangements. Through their design, available working area has been increased at least 50% over that in other types now in use. For more information write for brochures and specifications.



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**TYPE No. D-279-S**

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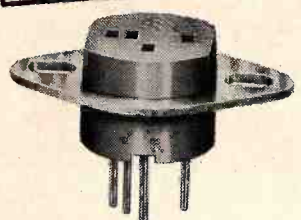
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Tel. LYnn 8-3479

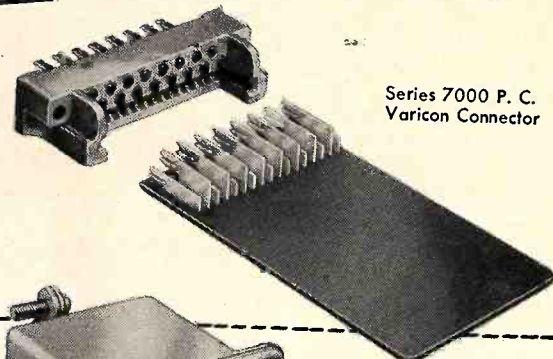
## IF IT'S NEW...IF IT'S NEWS...IT'S FROM **ELCO**

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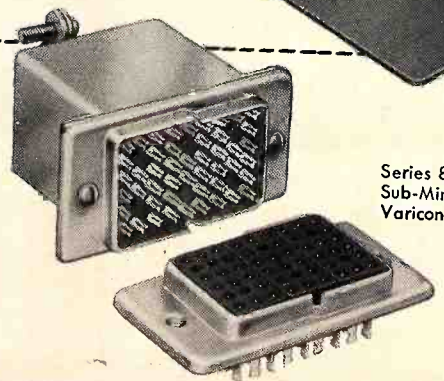
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Series 7000 P. C. Varicon Connector



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## **MICROLAB**

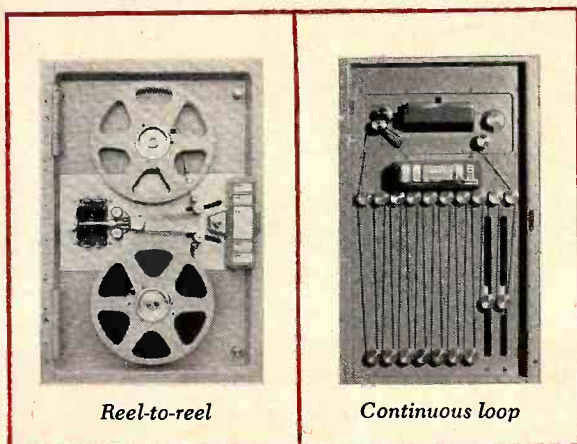
71 Okner Parkway • Livingston, N. J.

# How to choose magnetic tape recorders for data

Types, performance and sources of further information

A magnetic tape recorder for your particular use is chosen from hundreds of possibilities, and yet from Ampex it can almost always be a standard production-line model. There are three reasons:

- (1) Ampex offers the broadest available selection of basic types.
- (2) Ampex modular design permits innumerable combinations of standard components to fit individual needs.
- (3) By designing for the most critical user requirements, Ampex achieves performance standards ample for almost all practical uses.



## TYPES OF TAPE TRANSPORTS

Reel-to-reel recorders are the most familiar. They record over relatively long time intervals, hence are almost always used for acquiring permanent data.

Continuous-loop recorders recycle on a definite time interval, either to provide a cyclic repetition of a length of data or to act as a time-delay device. The Ampex FL-100 is of this type.

Digital recorders, a special variation of reel-to-reel, are characterized by extremely rapid start-stop characteristics for close pulse packing. The Ampex FR-200 is typical.

"Transportable" recorders with varying degrees of portability are available from Ampex. Even Ampex's "fixed" recorders, FR-100 and FR-1100 may be mounted in a truck or trailer. But recorders like the Ampex 800 are built for true mobility, hence are light, compact and resistant to shock and vibration. Ampex also has miniaturized designs.

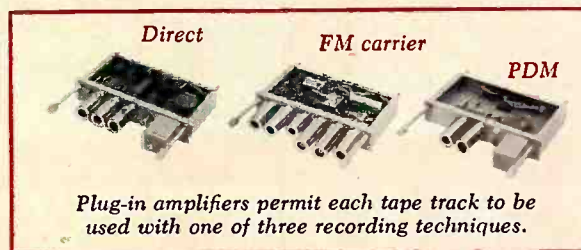
## TYPES OF RECORDING

Most Ampex models use interchangeable plug-in amplifiers that enable each track to be used with any of three recording techniques:

**Direct recording** has frequency response of 100 to 100,000 cycles/sec. at 60 in./sec. tape speed. This high response is its greatest advantage and is utilized either directly or for multiplexed data.

**FM-carrier recording** has high instantaneous amplitude accuracy with frequency response of 0 (DC) to 20,000 cycles at 60 in./sec. It is used for transients, low frequencies and wherever accurate reproduction of amplitude is important.

**PDM recording (pulse-duration modulation)** can time-multiplex as many as 85 channels of data onto each tape track (data from 0 (DC) to a few cycles per second). PDM provides high accuracy and easy convertibility to digital form.



## OTHER CONSIDERATIONS

Tape widths of quarter, half and one-inch width with 2, 3, 4, 7 and 14 parallel tracks are Ampex standards.

Commonly furnished tape speeds are 60, 30, 15, 7½, 3½ and 1½ in./sec. Others are available. Recorders have up to eight speeds.

Time-base accuracy within 2 parts in 100,000 can be provided with standard Ampex accessory equipment.

Compatibility (for tape interchange) between Ampex recorders of same or different models is an important Ampex advantage.

Full performance specifications are available in literature on individual series.

*A general application brochure and literature on individual models are available upon request. Ampex's Field Sales Engineers will be pleased to answer your inquiry with specific information on any requirement. Write Dept. H-57.*



Series FR-200



Series 800 Mobile and Airborne



Model FR-200 Digital



Series FL-100 Loop Recorders



Series FR-1100

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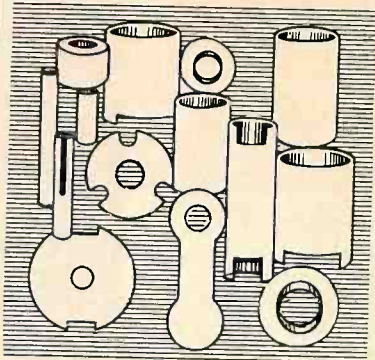
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They're practical—buy them in the quantities you need in the materials you want—high dielectric kraft, fish paper, foils, special protective coated and laminated papers and Mylar\*. Printed or plain, they're made in diameters from .093" to 2" and up.

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in Standard Size

Hermetically sealed unit. Plated crystal. Frequency range 500 kc. to 125 mc. Meets government specifications MIL-C-3098A and CAA-R-916. Also ARINC No. 401. Proven in stationary, mobile and airborne applications. For wire leads specify M-4.

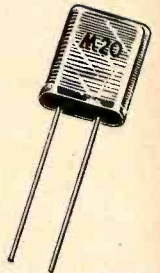


TYPE  
M-1

**RUGGED CRYSTAL UNITS**

and Subminiature

The McCoy "McMite." Hermetically sealed precision unit incorporates standard size stability, dependability and performance into a subminiature size. Meets all military specifications in its range from 5 mc. to 125 mc. For plug-in type specify M-21.



TYPE  
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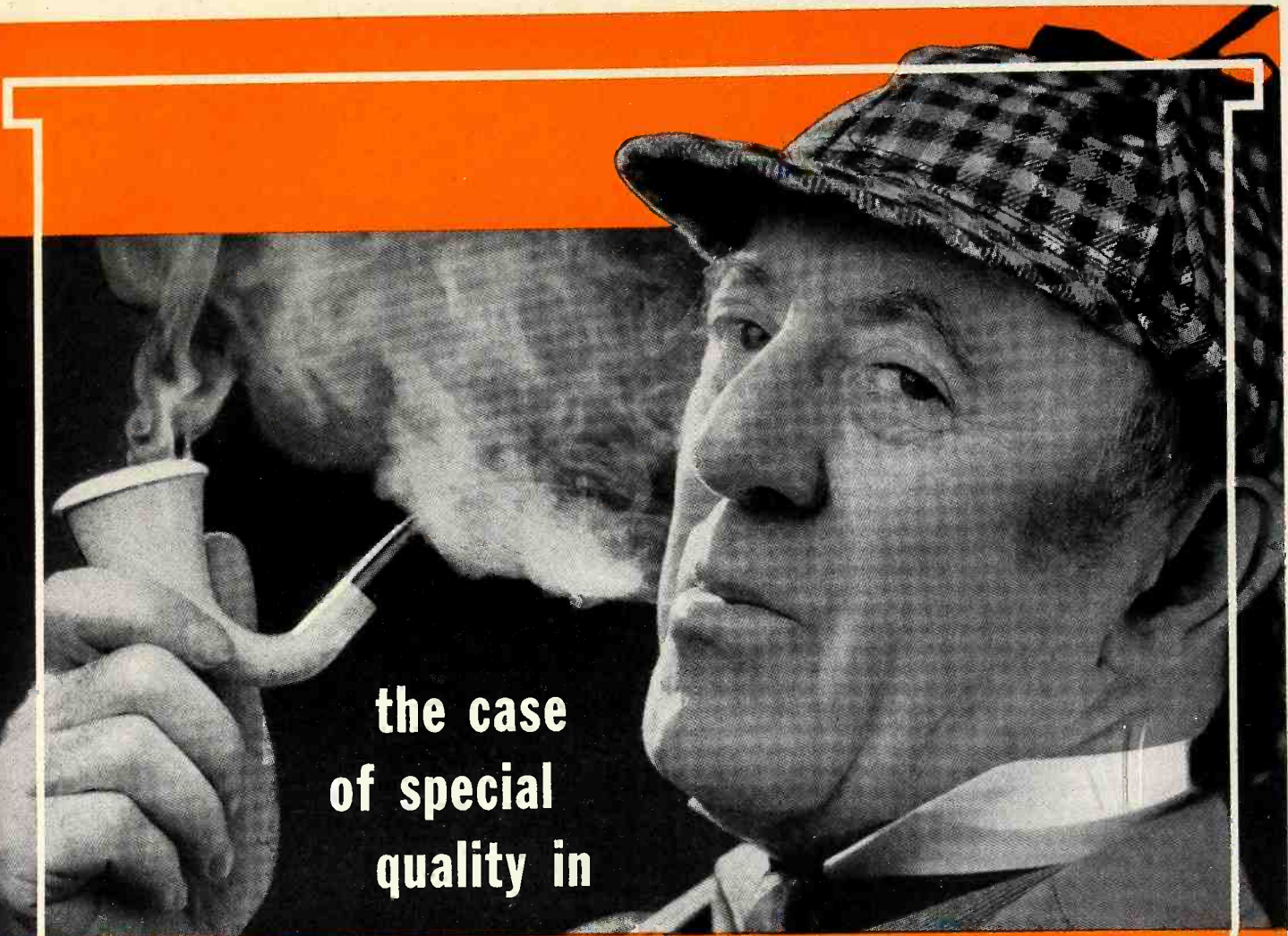
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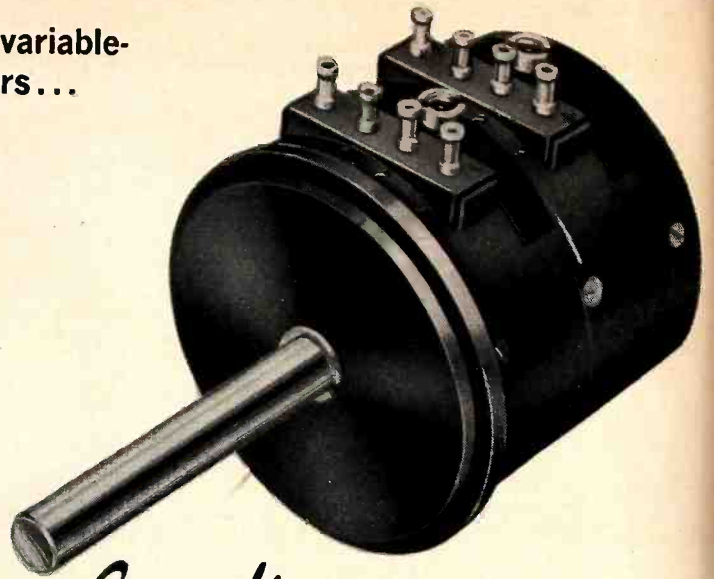
# PRECISION

For the ultimate in variable-phase potentiometers...

## VARI/PHASE<sup>TM</sup>

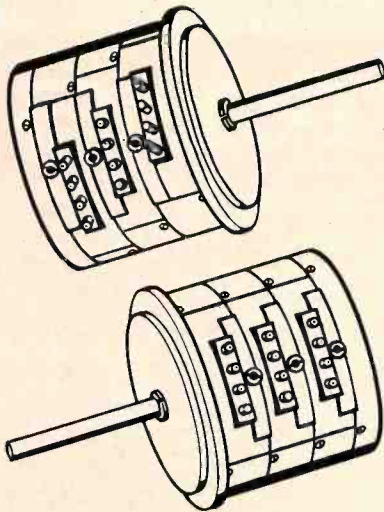
Single-turn, independently-adjustable, ganged precision potentiometers meeting the most critical control requirements. Designed to meet the specifications as set forth by A.I.A. (Aircraft Industries Associated) for precision potentiometers.

Many and marked improvements over previous designs. Phasing accomplished by rotating the winding within the housing. Winding and terminal board combined in single assembly and fitted in housing. Usual clamping bands are eliminated. Saves space, without loss of resolution. Specifications in adjacent table. Drawings of each type, sent on request.



*Consult* **CLAROSTAT...**

Whatever your control or resistor requirements may be, make full use of Clarostat's engineering collaboration for the logical and economical solution. Also note that many other types of potentiometers are available from Clarostat.



### DIFFERENT — and BETTER!

Simplified phasing! External and independent phasing of each cup without affecting relationship with others. To phase, loosen nut, adjust, tighten nut. That's all. Adjustments can be made before or after mounting. Also to compensate for wear and component aging.

SPECIFICATION	SERIES 54-14	SERIES 54-17	SERIES 54-26	SERIES 54-32	SERIES 54-48
Power Rating (watts) @ 40°C.	1.5	2	3	4	5
Diameter	7/8"	1-1/16"	1-5/8"	2"	3"
Depth					
Single section	0.672	0.578	0.968	1.000	1.000
Each additional cup add	0.375	0.375	0.580	0.580	0.580
Weight (lb.) approx.					
Single section	0.035	0.060	0.120	0.140	0.280
Each additional cup add	0.015	0.030	0.060	0.070	0.140
Insulation — Breakdown test between terminals and ground for 1 minute	1000 v. a.c./d.c.	1000 v. a.c./d.c.	1000 v. a.c./d.c.	1000 v. a.c./d.c.	1000 v. a.c./d.c.
Resistance Range (Ohms) — Standard	to 20K Ω	to 30K Ω	to 100K Ω	to 100K Ω	to 200K Ω
Resistance Tolerance — Standard	± 5%	± 5%	± 5%	± 5%	± 5%
Linearity	± 1%	± .1% closer Available	± 1% closer Available	0.5% closer Available	0.5% closer Available
Tapers — Submit Requirements	— — —	Available	Available	Available	Available
Taps	Available	Available	Available	Available	Available
Rotation					
Continuous	360°	360°	360°	360°	360°
Mechanical Limited	as required	as required	as required	as required	as required
Electrical					
Effective	320° min.	320° min.	320° min.	320° min.	320° min.
Torque — Per section Standard (Lower or higher available.)	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.
Mountings	Servo or Bushing	Servo or Bushing	Servo or Bushing	Servo or Bushing	Servo or Bushing
Ganged Construction to practical limits	Available	Available	Available	Available	Available

Products of  
"THE HOUSE OF RESISTORS"

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# POTENTIOMETERS

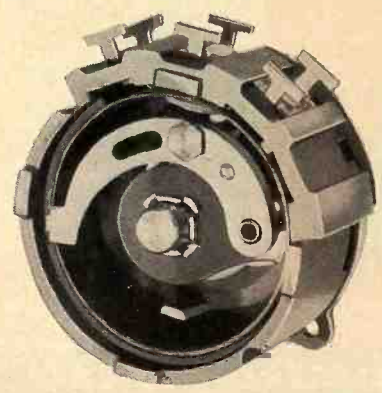
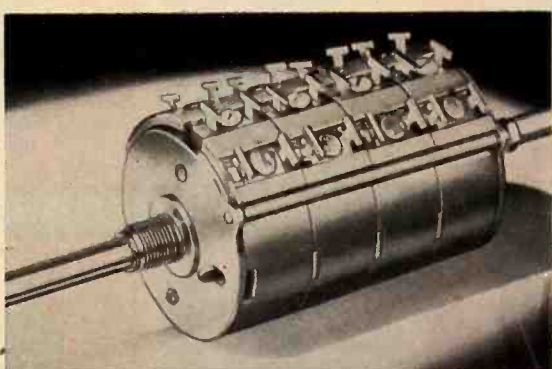
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### CLAROSTAT SERIES 42

A superlative potentiometer of flexible design for many varied applications. Used singly or ganged.

Low-loss phenolic case. Interlocked sections rigidly held together by threaded rods and metal end-plates. Taps mechanically fixed on housings, and electrically positioned, to meet requirements. Series 42 exceeds applicable JAN-R-19 specs.



Resistance Range (Linear) .....	10 to 100,000 ohms.
(Non-linear) .....	Max. 350 ohms per degree of rotation.
Resistance Tolerance .....	Standard overall $\pm 5\%$ Special, $\pm 0.5\%$ .
Linearity (standard) .....	$\pm 1\%$ ; $\pm 0.5\%$ special.
Power Rating .....	3 watts, at 40° C.
Rotation (Effective) .....	280°; Max. 358°.
Rotation (Mechanical) .....	Up to 340° with stops. Continuous if desired.
Torque .....	1 oz./in. max. per section.

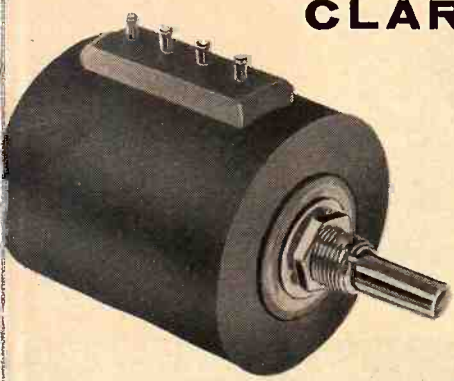
### CLAROSTAT SERIES 55

Multi-turn wire-wound potentiometers in heavy-duty metal housings. Also in encapsulated versions for maximum climatic protection.

The 1/2" dia. Single-Turn Potentiometer is especially intended for high-temperature operation in limited space.

Series 55 Multi-Turn Potentiometers are available in five sizes: 5/8", 7/8", 1", 1 1/2" and 1 3/4" dia.

Many variations available, such as encapsulated, shielded, plug-in terminals, terminal board, printed-circuit terminals, hermetic-sealed terminals, terminals for plug-in adapters, as well as taps on 1" dia. size and up. Available in gang assemblies from 7/8" size and up.



Encapsulated version of multi-turn Series 55.



1/2" dia. single-turn unit.

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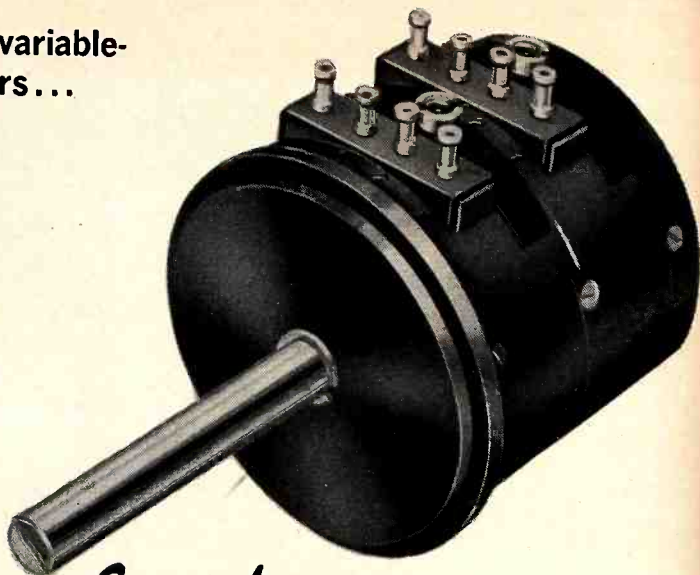
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**DOVER, NEW HAMPSHIRE, U. S. A.**





# PRECISION

For the ultimate in variable-phase potentiometers...



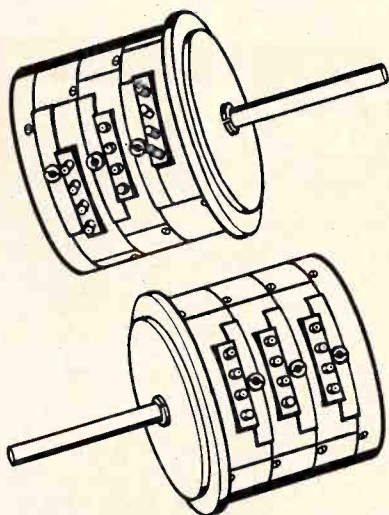
## VARI/PHASE<sup>TM</sup>

Single-turn, independently-adjustable, ganged precision potentiometers meeting the most critical control requirements. Designed to meet the specifications as set forth by A.I.A. (Aircraft Industries Associated) for precision potentiometers.

Many and marked improvements over previous designs. Phasing accomplished by rotating the winding within the housing. Winding and terminal board combined in single assembly and fitted in housing. Usual clamping bands are eliminated. Saves space, without loss of resolution. Specifications in adjacent table. Drawings of each type, sent on request.

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Each additional cup add	0.375	0.375	0.580	0.580	0.580
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Single section	0.035	0.060	0.120	0.140	0.280
Each additional cup add	0.015	0.030	0.060	0.070	0.140
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Resistance Range (Ohms) — Standard	to 20K Ω	to 30K Ω	to 100K Ω	to 100K Ω	to 200K Ω
Resistance Tolerance — Standard	± 5%	± 5%	± 5%	± 5%	± 5%
Linearity	± 1%	± .1% closer Available	± 1% closer Available	0.5% closer Available	0.5% closer Available
Tapers — Submit Requirements	— — —	Available	Available	Available	Available
Taps	Available	Available	Available	Available	Available
Rotation					
Continuous	360°	360°	360°	360°	360°
Mechanical					
Limited	as required	as required	as required	as required	as required
Electrical					
Effective	320° min.	320° min.	320° min.	320° min.	320° min.
Torque — Per section Standard (Lower or higher available.)	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.
Mountings	Servo or Bushing	Servo or Bushing	Servo or Bushing	Servo or Bushing	Servo or Bushing
Ganged Construction to practical limits	Available	Available	Available	Available	Available

Products of  
"THE HOUSE OF RESISTORS"

\*Reg. U.S. Pat. Off.

# POTENTIOMETERS

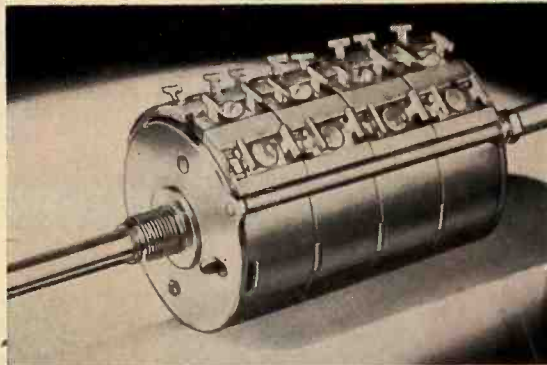
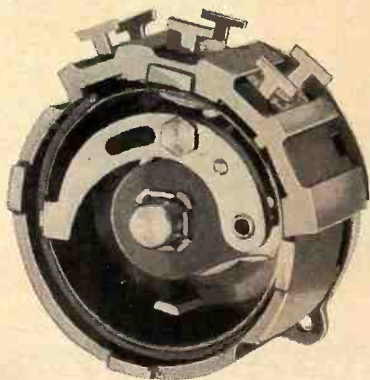
## STANDARD or SPECIAL...

Clarostat's extensive tooling and production facilities provide for the widest choice of standard types. Add Clarostat's well-known ingenuity, and you can have special types. Save development delays, tooling costs, production setup charges. Try Clarostat first!

### CLAROSTAT SERIES 42

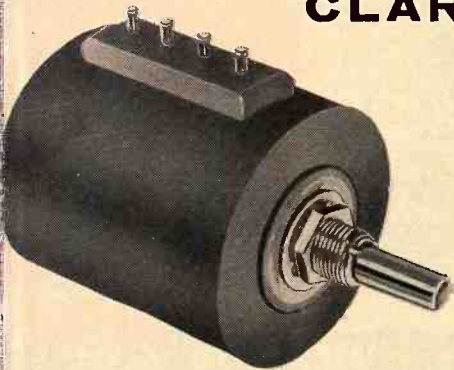
A superlative potentiometer of flexible design for many and varied applications. Used singly or ganged.

Low-loss phenolic case. Interlocked sections rigidly held together by threaded rods and metal end-plates. Taps mechanically fixed on housings, and electrically positioned, to meet requirements. Series 42 exceeds applicable JAN-R-19 specs.



Resistance Range (Linear)	.....10 to 100,000 ohms.
(Non-linear)	.....Max. 350 ohms per degree of rotation.
Resistance Tolerance	.....Standard overall $\pm 5\%$ Special, $\pm 0.5\%$ .
Linearity (standard)	..... $\pm 1\%$ ; $\pm 0.5\%$ special.
Power Rating	.....3 watts, at 40° C.
Rotation (Effective)	.....280°; Max. 358°.
Rotation (Mechanical)	.....Up to 340° with stops. Continuous if desired.
Torque	.....1 oz./in. max. per section.

### CLAROSTAT SERIES 55



Encapsulated version of multi-turn Series 55.

Multi-turn wire-wound potentiometers in heavy-duty metal housings. Also in encapsulated versions for maximum climatic protection.

The 1/2" dia. Single-Turn Potentiometer is especially intended for high-temperature operation in limited space.

Series 55 Multi-Turn Potentiometers are available in five sizes: 5/8", 7/8", 1", 1 1/2" and 1 3/4" dia.



1/2" dia. single-turn unit.

Many variations available, such as encapsulated, shielded, plug-in terminals, terminal board, printed-circuit terminals, hermetic-sealed terminals, terminals for plug-in adapters, as well as taps on 1" dia. size and up. Available in gang assemblies from 7/8" size and up.

*Send for* **ENGINEERING DATA...**

Only three of the Clarostat precision potentiometer series are presented here. Many other designs available—wire-wound, composition-element, molded composition-element, miniaturized, standard radio/TV controls, power rheostats, etc. Also widest choice of resistors. Write for Engineering Data.

**CLAROSTAT MFG. CO.**  
**DOVER, NEW HAMPSHIRE, U. S. A.**





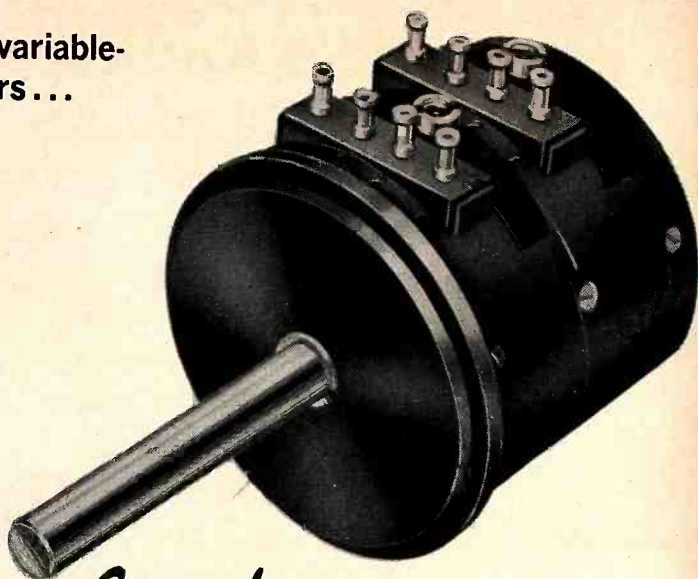
# PRECISION

For the ultimate in variable-phase potentiometers...

## VARI/PHASE<sup>TM</sup>

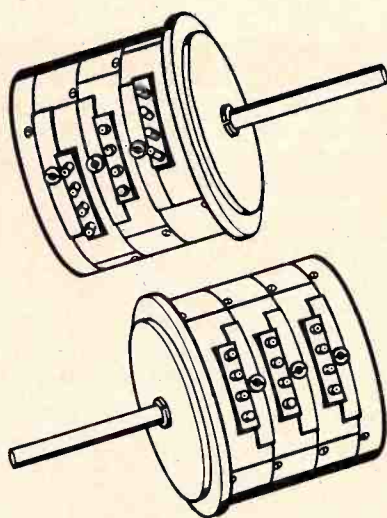
Single-turn, independently-adjustable, ganged precision potentiometers meeting the most critical control requirements. Designed to meet the specifications as set forth by A.I.A. (Aircraft Industries Associated) for precision potentiometers.

Many and marked improvements over previous designs. Phasing accomplished by rotating the winding within the housing. Winding and terminal board combined in single assembly and fitted in housing. Usual clamping bands are eliminated. Saves space, without loss of resolution. Specifications in adjacent table. Drawings of each type, sent on request.



*Consult* **CLAROSTAT...**

Whatever your control or resistor requirements may be, make full use of Clarostat's engineering collaboration for the logical and economical solution. Also note that many other types of potentiometers are available from Clarostat.



### DIFFERENT — and BETTER!

Simplified phasing! External and independent phasing of each cup without affecting relationship with others. To phase, loosen nut, adjust, tighten nut. That's all. Adjustments can be made before or after mounting. Also to compensate for wear and component aging.

SPECIFICATION	SERIES 54-14	SERIES 54-17	SERIES 54-26	SERIES 54-32	SERIES 54-48
Power Rating (watts) @ 40°C.	1.5	2	3	4	5
Diameter	7/8"	1-1/16"	1-5/8"	2"	3"
Depth					
Single section	0.672	0.578	0.968	1.000	1.000
Each additional cup add	0.375	0.375	0.580	0.580	0.580
Weight (lb.) approx.					
Single section	0.035	0.060	0.120	0.140	0.280
Each additional cup add	0.015	0.030	0.060	0.070	0.140
Insulation — Breakdown test between terminals and ground for 1 minute	1000 v. a.c./d.c.	1000 v. a.c./d.c.	1000 v. a.c./d.c.	1000 v. a.c./d.c.	1000 v. a.c./d.c.
Resistance Range (Ohms) — Standard	to 20K $\Omega$	to 30K $\Omega$	to 100K $\Omega$	to 100K $\Omega$	to 200K $\Omega$
Resistance Tolerance — Standard	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$
Linearity	$\pm 1\%$	$\pm .1\%$ closer Available	$\pm 1\%$ closer Available	0.5% closer Available	0.5% closer Available
Tapers — Submit Requirements	---	Available	Available	Available	Available
Taps	Available	Available	Available	Available	Available
Rotation					
Continuous	360°	360°	360°	360°	360°
Mechanical					
Limited	as required	as required	as required	as required	as required
Electrical					
Effective	320° min.	320° min.	320° min.	320° min.	320° min.
Torque — Per section Standard (Lower or higher available.)	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.	Less than 1 oz. in.
Mountings	Servo or Bushing	Servo or Bushing	Servo or Bushing	Servo or Bushing	Servo or Bushing
Ganged Construction to practical limits	Available	Available	Available	Available	Available

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# POTENTIOMETERS

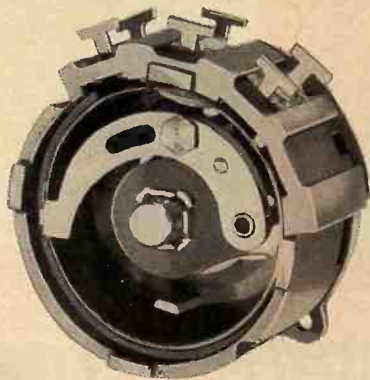
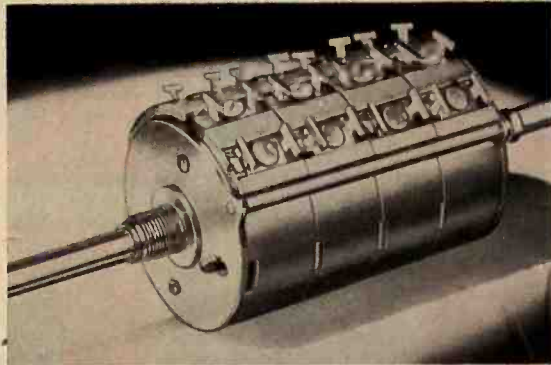
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### CLAROSTAT SERIES 42

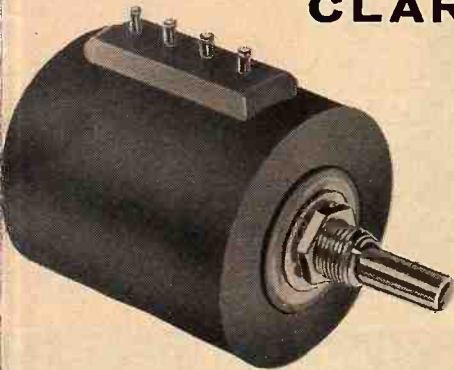
A superlative potentiometer of flexible design for many and varied applications. Used singly or ganged.

Low-loss phenolic case. Interlocked sections rigidly held together by threaded rods and metal end-plates. Taps mechanically fixed on housings, and electrically positioned, to meet requirements. Series 42 exceeds applicable JAN-R-19 specs.



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(Non-linear) .....	Max. 350 ohms per degree of rotation.
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1/2" dia. single-turn unit.

Send for **ENGINEERING DATA...**

Only three of the Clarostat precision potentiometer series are presented here. Many other designs available—wire-wound, composition-element, molded composition-element, miniaturized, standard radio/TV controls, power rheostats, etc. Also widest choice of resistors. Write for Engineering Data.



**CLAROSTAT MFG. CO.**  
**DOVER, NEW HAMPSHIRE, U. S. A.**





# Amperex®



AX5868



DX151



6961



6757



5551-A

## RADIATION DETECTION • SPECIAL PURPOSE



2-2N-282's

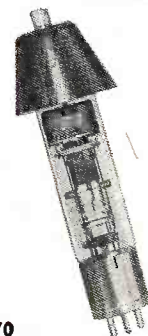
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5894



0G3/85A2

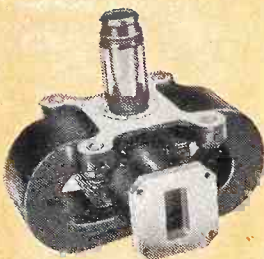


5870

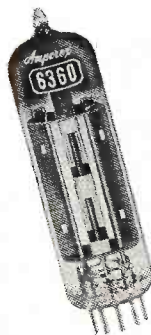


6252

## INDUSTRIAL • ELECTRO-MEDICAL



6507



6360



6800



6939



230N-240N

## COMMUNICATION • RECTIFICATION • AMATEUR



6977



6155



EL-84



6693

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# Amperex ELECTRONIC CORPORATION

230 DUFFY AVENUE, HICKSVILLE, LONG ISLAND, N. Y.

In Canada: Rogers Electronic Tubes & Components, 11-19 Brentcliffe Road, Leaside, Toronto 17.

# ELECTRON TUBES

Detailed Data Sheets  
on any of these tubes,  
and  
application engineering  
service are yours  
for the asking.

Type No.	Price
<b>BEAM POWER TUBES</b>	
813	\$18.00
829B	16.25
6146	5.75
<b>VACUUM CONDENSERS</b>	
VC25/20	20.00
VC25/32	23.25
VC50/20	24.25
VC50/32	27.50
VC100/20	30.00
VC100/32	33.00
VC250/32	70.00
<b>DECADE COUNTER</b>	
E1T/6370	16.50
<b>GEIGER COUNTERS</b>	
75N	10.00
75NB3	10.00
90NB	20.00
100C	35.00
100N	35.00
100NB	37.50
120C	75.00
120N	75.00
120NB	77.50
150N	50.00
150NB	52.50
153C	65.00
200C	45.00
200CB	47.50
200N	45.00
200NB	47.50
230N	30.00
240C	35.00
240N	35.00
912NB	35.00
<b>CLIPPER DIODE</b>	
6339	35.00
<b>TWIN DIODE</b>	
5726	2.00
<b>HEPTODE</b>	
E91H/6687	1.45
<b>IGNITRONS</b>	
5550	41.00
5551-A/652	65.00
5551-A/P	67.00
5552-A/P	101.25
5552-A	99.00
5553-B	216.00
5553/P	218.75
5554/679	163.00
555/653B	316.00
5822	116.00
5822/P	118.25

Type No.	Price
<b>INDICATOR TUBES</b>	
EM34	\$1.55
DM70/1M3	.95
EM80	2.45
EM81	2.45
<b>INDICATOR TRIODE</b>	
6977	3.50
<b>REFLEX KLYSTRON</b>	
2K25	39.50
<b>KLYSTRONS</b>	
DX122	**
DX123	**
DX124	**
<b>MAGNETRONS</b>	
2J42	160.00
2J48	250.00
2J55	165.00
2J56	165.00
4J47	500.00
4J57	270.00
4J58	270.00
4J59	270.00
JP9-15	260.00
5586	417.00
5657	417.00
5780A	**
6507	**
6589	**
6823	**
6824	**
<b>PENTODES</b>	
‡E81L/6686	5.00
‡E83F/6689	4.50
‡E180F/6688	8.00
828	20.95
5654	3.00
6083	14.25
‡6084	3.75
‡6227	3.75
6083	14.25
<b>PENTODES—HI-FI</b>	
6CA7	4.35
EL84	2.40
EF86	2.75
<b>PENTODES Secondary Emission</b>	
EFP60	8.75
<b>PENTODES—Subminiature</b>	
6007/5913	1.50
6008/5911	1.50

Type No.	Price
<b>HI-FI VACUUM RECTIFIERS</b>	
GZ34/5AR4	\$3.50
EZ80	1.50
EZ81/6CA4	1.60
<b>MERCURY RECTIFIERS</b>	
575A	20.00
673	20.00
857B	218.50
866AX	2.65
869B	138.00
872AX	8.20
6508	80.00
6693	30.00
8008	8.20
<b>VACUUM RECTIFIERS</b>	
5R4GY	2.65
8020AX	15.00
<b>XENON RECTIFIERS</b>	
3B28	7.60
4B32	12.00
<b>VOLTAGE REFERENCE TUBES</b>	
OE3/85A1	2.50
OG3/85A2	2.50
5651	2.30
<b>VOLTAGE REGULATORS</b>	
OA2	1.75
OB2	1.90
90C1	2.50
6354/150B2	3.00
<b>TETRODES</b>	
4X150A	38.95
4X250B	42.50
4X500A	121.00
807	2.90
6075/AX9907	225.00
6076/AX9907R	275.00
6079/AX9908	60.00
6155/AX4-125A	27.50
6156/AX4-250A	37.50
6979	42.50
<b>TWIN TETRODES</b>	
832A	14.26
5894/AX9903	22.00
6360	4.00
6907	22.00
6252/AX9910	22.00

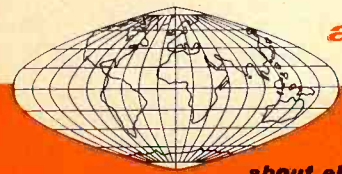
Type No.	Price
<b>THYRATRONS</b>	
3C23	\$11.98
AX260	150.00
632B	28.00
<b>HYDROGEN THYRATRONS</b>	
‡6268/AX9911	32.50
‡6279/AX9912	45.00
<b>INERT GAS THYRATRONS</b>	
2D21	2.00
5727	2.90
<b>MERCURY THYRATRONS</b>	
FG17/1701/	
967/5557	8.50
AX105/FG105	49.50
678	47.00
5559	22.00
5560/FG95	28.00
5869/AGR9950	25.00
5870/AGR9951	100.00
6786	200.00
<b>XENON THYRATRONS</b>	
2050	2.55
5544	27.00
5545	29.40
5685/C6J	26.40
<b>TRIODES</b>	
2C39A	22.50
6Q4	3.25
6R4	2.50
HF200	35.00
HF201A/468	28.50
250TH	33.00
250TL	33.00
HF300	35.00
450TH	77.00
450TL	77.00
501R/5759	225.00
502/5760	210.00
502R/5761	235.00
504R	245.00
508/6246	500.00
750TL	137.50
805	15.90
810	19.50
811A	5.65
812A	5.65
833A	49.00
834	14.50
838	16.00
845	15.95
849	145.00
849A	145.00

Type No.	Price
<b>TRIODES (cont'd)</b>	
880	\$545.00
889A	210.00
889RA	330.00
891	260.00
891R	410.00
892	255.00
892R	405.00
ZB3200	350.00
5604	570.00
5619	410.00
5658	545.00
5666	250.00
5667	330.00
5736	160.00
5771	540.00
5866/AX9900	20.00
5867/AX9901	30.00
5868/AX9902	50.00
5923/AX9904	150.00
5924/AX9904R	210.00
5924A	240.00
6077/AX9906	1675.00
6078	1900.00
6333	245.00
6445	390.00
6446	290.00
6447	430.00
6617	360.00
6618	495.00
6756	388.00
6757	535.00
6758	173.00
6759	206.00
6800	350.00
6960	150.00
6961	210.00
<b>GLOW DISCHARGE TRIODE Miniature</b>	
5823	2.50
<b>HI-FI TWIN TRIODES</b>	
ECC81/12AT7	2.85
ECC82/12AU7	2.30
ECC83/12AX7	2.30
<b>TWIN TRIODES</b>	
ECC85/6AQ8	2.60
‡E88CC/6922	4.75
‡E92CC	1.75
‡5920	2.00
‡6085	3.75
<b>TRIGGER TUBE</b>	
Z804U	4.30

† The Amperex types 6268/AX-9911 and 6279/AX-9912 are improved versions but completely interchangeable in every respect with the standard types 4C35 and 5C22 respectively. They have a minimum guaranteed life of 1000 hours due to the self-contained, self-regulating source of hydrogen.

\*\* Price on request. ‡ 10,000 hour life tubes. Prices subject to change without notice.

RADIATOR CREDIT FOR FORCED AIR-COOLED TUBES	
TUBE TYPE	USERS ALLOWANCE
889RA	\$20.00
891R, 892R	20.00
5604	75.00
5667	20.00
6445	30.00
6447	30.00
6757	75.00



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# MAGNETIC RESEARCH CORP.



## INDUSTRIAL

### HIGH POWER MAGNETIC SERVO AMPLIFIERS FOR AUTOMATION

#### *MB-1000-60 (1000 watt)*

Provides 1000 watt continuous output to reference phase and 1000 watt phase-reversible output to control phase. Designed for  $\frac{3}{4}$  h.p., 2 phase, 60 cycle servo motor. Ultra-fast response of less than 30 ms approaches theoretical limit. Incorporates a Scott connected transformer for change of 3-phase power into 2-phase output. Eliminates slow acting, bulky type rotating equipment or hydraulics. Completely static circuitry insures maintenance-free unattended operation.

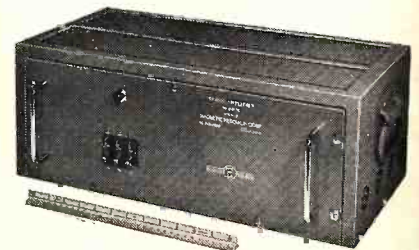
Amplifiers can also be supplied for polarity reversing D.C. output for D.C. servo motors.



MB 1000-60

#### *MB-200-60 (200 watt)*

Provides both reference-phase and control-phase power for a  $\frac{1}{6}$  or  $\frac{1}{8}$  h.p. industrial servo motor. Features and operation are similar to those given for the MB-1000-60 above.



MB 200-60

### STABLVOLT\* DC POWER SUPPLIES with Dual Magnetic Regulation

A complete line of precision power supplies for laboratory, industrial and original equipment applications. Dual Magnetic principle provides for independent regulation of line and load changes. Exclusive flux oscillator achieves superior static and dynamic line transient regulation. No tubes, no moving parts. Short circuit-proof, maintenance-free. Ideal for unattended locations.



MK-532-15



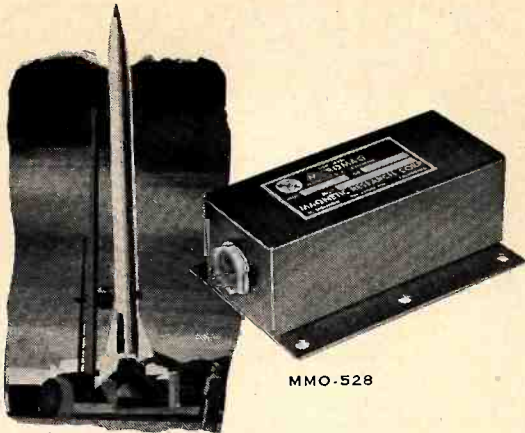
MR-15-1

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MRC offers a complete service in creative engineering, design, development and production. Whatever your field of application — automation, computer, communication, electronic, instrumentation, aviation or guided missile — you'll find that MRC men have the highly specialized magnetronic experience and skill to do a fast, successful job. If you have a special problem involving magnetronic components, write or call MRC. Prompt response, no obligation.

\*REG. TRADE MARK

AN OUTSTANDING LINE OF ALL-MAGNETIC COMPONENTS,  
SYSTEMS AND MAGNETICALLY REGULATED  
POWER SUPPLIES



MMO-528

**NEW MICROMAG® MMO-528 LOW-LEVEL MAGNETIC DC AMPLIFIER**  
*Powered from 28 volt aircraft or missile systems—draws 20 milliamperes*  
For amplification of signals from thermocouples, strain gages, and similar low level transducers used in telemetering systems. DC voltage gain of 500 achieves 5 VDC output from a 10 millivolt DC input signal. Input electrically isolated from output. Designed for use in missile and aircraft telemetering systems, the amplifier has virtually no zero drift, and is temperature compensated to provide excellent gain stability. Operates directly from the aircraft 28 VDC supply. Draws 20 milliamps. No tubes are used, no warm-up time necessary. Potted and hermetically sealed to insure reliable operation. Designed to meet MIL-E-5272-A specs.  
*Write for complete technical data*

AIRCRAFT AND MISSILE

**TUBELESS PRECISION MISSILE AND AIRCRAFT INSTRUMENT POWER SOURCE MRP-5-1S**  
*5 VDC transient-free output*  
A dual magnetic regulating system plate line voltage transients from the output, regulates DC to 0.1% accuracy. Does not distort line voltage wave form. Trimptot having 5 millivolt resolution provides 0.5 volt output adjustment. Mounts easily in any position. Rugged, compact, short circuit-proof. Output current 0-1 amp. Hermetically sealed; all components cast in thermosetting plastic. Meets MIL-E-5272-A specs.



MRP-5-1S

**400 CYCLE A. C. LINE VOLTAGE REGULATOR MXP 3000**  
*For laboratory and ground support equipment*  
Designed for laboratory and ground support equipment requiring constant regulation of 400 CPS voltage. Input 100-130 VAC, 380-420 CPS. Output adjustable from 110-120, regulated to  $\pm \frac{1}{2}$  volt at 400 CPS, under any combined conditions of line voltage change from 100-130 VAC, and load changes from 0-25 amperes. Distortion 5% maximum. Static magnetic circuitry used throughout. Can be connected for three phase circuitry. Other ratings available for ground and airborne applications.



MXP 3000

**INSTRUMENT MAGNETIC SERVO AMPLIFIER SERIES**  
*For aircraft and missile servo systems*  
Precisely engineered Magnestat Magnetic Servo Amplifiers are available from stock, from the smallest model rated at 3 watts, and having a frequency response of 0-30 CPS, to the high-power 40-watt model, frequency response 0-10 CPS. These units have sinusoidal phase reversing output, with transistor or tube control... a.c. or d.c. output. Temperature range of  $-55^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ . Currently being applied in many major aircraft and missile servo systems.



MA-6-400

**COMPLETE MAGNETIC SERVO SYSTEMS**  
*for military and industrial applications*  
Accurate, reliable systems for remote indication, measurement, recording and control in airborne and ground equipment. Developed to meet your specialized needs. Use of MRC magnetic components throughout makes your system really rugged. Fast response, strong output signal, compact packaging.  
*Write for further information, indicating your special needs*



MAGNETIC SERVO SYSTEM

*Write for complete technical data*



**MAGNETIC RESEARCH CORP.**  
3160 West El Segundo Boulevard • Hawthorne, California

# SIE SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.

2831 Post Oak Rd. P. O. Box 13058 Houston 19, Texas Phone: MO 7-6611



**THE MODEL R-1 VOLTMETER** is intended for precise voltage measurements in circuit design work. It offers accuracy, reliability, and convenience. In addition to its wide range AC and DC scales, it includes a precision ohmmeter, a D-C pre-amplifier for driving oscilloscopes and recording devices, a built-in standard cell for instant calibration, and provision for expanding the DC voltage scales.

**SPECIFICATIONS:**

Range: 1 mv. to 1000 volts, full scale AC and DC

Frequency response: 0 to 100 kc

Accuracy: DC, 1½%. AC, 3%

Input impedance: 10 megohms, 20 mmf.

Price: Standard model, \$620.00

Rack-mounted, \$700.00



**THE M-2 OSCILLATOR**, the standard of the geophysical industry, is an extremely versatile instrument. It combines many desirable features—wide range, accurate calibration, low distortion, high output, low drift, excellent dynamic stability, and constant output throughout the range—in a compact, rugged instrument of reasonable price. For geophysical, audio, servo, vibration, medical, and computer work, the M-2 is unexcelled.

**SPECIFICATIONS:**

Frequency range: 1-120,000 cps.

Distortion: less than .2% in audio range

Calibration accuracy: 1½% + .1 cps.

Output: 20 volts at 20 ma.

Amplitude stability: ± .5 db.

Price: \$425.00



**THE MB-1 OSCILLATOR** is powered by self-contained batteries, providing signals completely free of power line transients and 60 cps ripple. It provides low-distortion sine wave signals and covers the geophysical, medical, and audio ranges, with good dynamic and amplitude stability characteristics. The addition of the Geophysical Microvolter (shown installed below) provides signals of accurately calibrated amplitudes at low levels.

**SPECIFICATIONS:**

Frequency range: 2-20,000 cps

Distortion: less than .5% in audio range

Calibration accuracy: 2% + .1 cps

Output: 5 volts at 5 ma.

Price: \$215.00 (Microvolter \$80.00 extra)



**THE MODEL C-6 RESISTANCE METER** features a quick-charge go, no-go capacitor leakage checker. Operating from a 110-volt 60 cps power source, it measures resistances at 1½, 50 or 500 volts, enabling it to meet MIL specs on insulation tests, measure the leakage of 200 WVDC capacitors, and check continuity. It is accurate, stable, and covers the widest range of any direct-reading ohmmeter.

**SPECIFICATIONS:**

Range: 0 to 10,000,000 megohms

Test voltages: 1½, 50, and 500 volts

Accuracy: 3% of scale below 1,000,000 megohms

5% of scale above 1,000,000 megohms

Price: \$200.00



**THE MODEL E-2 COMPARISON BRIDGE** indicates percentage differences between resistors, capacitors, and reactors at 60-cycle frequency. It is useful for rapid acceptance and production-line tests and can be used in conjunction with decade boxes. SIE Comparison Bridges with other test frequencies and voltages are also available.

**SPECIFICATIONS:**

Full scale ranges: 1, 2.5, 5, 10, & 25%

Accuracy: ± .1% on the 1% range

Test limits for

Resistors: 1 ohm to 5 megohms

Capacitors: 500 mmfd. to 2000 mfd.

Inductors: 3 mh. to 10,000 henries

Price: \$185.00



**THE MODEL B DIRECT-COUPLED POWER AMPLIFIER** is capable of producing up to 6 watts output. It may be used to amplify the output of the D-1 amplifier, low frequency oscillators, or various transducers; and will drive recorders, shaking tables, loudspeakers, electric motors, Helmholtz coils, and other transducers. It finds application also as an ultra-low-frequency transformer.

**SPECIFICATIONS:**

Voltage gain: 2.5

Power gain: 30,000

Output: 25 volts RMS, 250 ma.

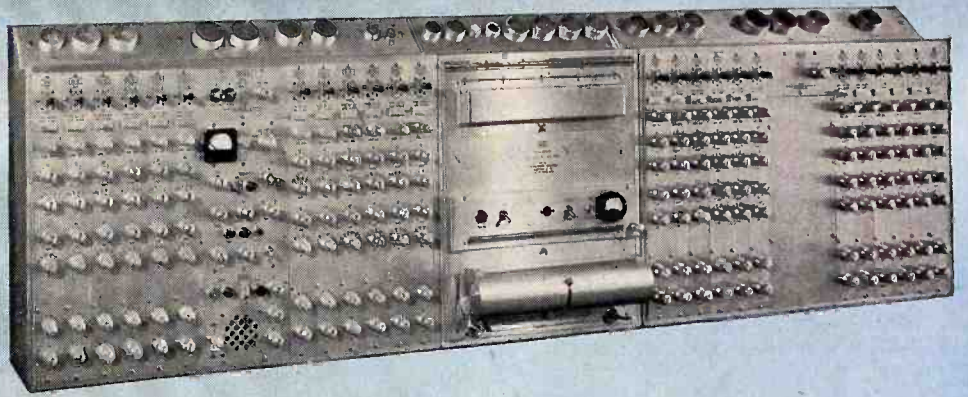
Frequency response: 0-20,000 cps ± 1 db

Input impedance: 500,000 ohms

Price: \$575.00 (less cabinet)

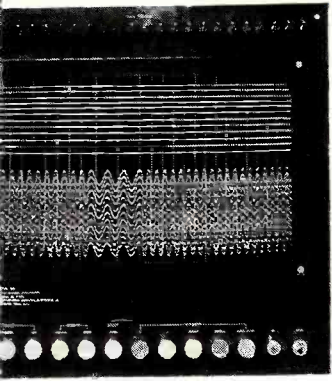


# GEOPHYSICAL INSTRUMENTS



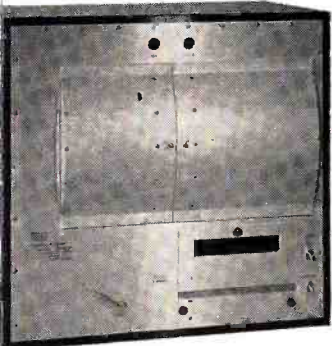
SIE is the world's largest manufacturer of electronic seismograph instruments, having supplied more than 420 complete systems to organizations operating throughout the world. The complete SIE line of geophysical equipment includes geophones, galvanometers, recording oscillographs, magnetic tape recorders, matched sets of amplifiers, control and checking units, blasters, power supplies, and special vehicle bodies.

Shown above is an SIE G-22A high production seismograph system. The RO-22A-10 Oscillograph records fifty channels on ten-inch paper, and all of the components in the GA-22A amplifiers are hermetically sealed for low noise and long life.



**MODEL MO MULTI-CHANNEL OSCILLOGRAPH** permits visual observation of eight channels of dynamic data, continuously displayed on a 21" single-cathode ray tube with a long-life P-7 phosphor. A raster scanning circuit provides useful frequency response to 2000 cps, while a special "sweep" circuit accelerates the sweep for detailed examination of certain signals. Auxiliary Model EP Event Pre-selector provides .1 and .01 second timing lines, and provides calibrated sweep delays.

**OPERATING CONDITIONS:**  
 Speeds: 3-300 ips.  
 Sensitivity: 2 volts/inch  
 Model MO, \$6000.00  
 Model EP, \$1500.00

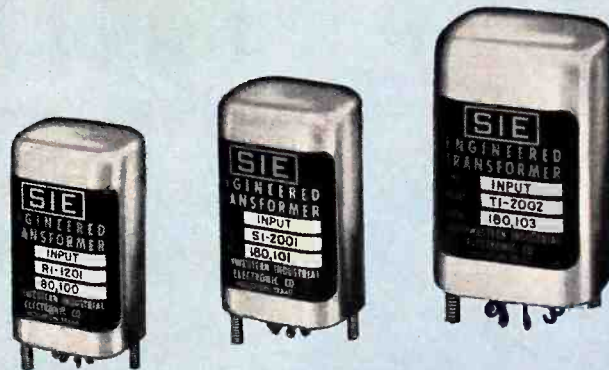


**MAGNETIC RECORDERS** . . . SIE manufactures a complete line of drum-type magnetic tape recorders, with as many as fifty-six channels for portable, mobile, and laboratory applications. Among the special features available are servo-controlled individually adjustable heads, viewing screen and photo-eye attachments, and tape storage compartments for long-time recording.

**TELETYPE SPECIFICATIONS USING WIDE-BAND FM (SIE SLOPE MODULATOR):**  
 Frequency response: 0-500 cps (down 3 db.)  
 Harmonic distortion: less than 1% measured at 35 cps  
 Signal-to-noise ratio: better than 54 db.  
 Timing accuracy: .25 millisecond  
 Sensitivity: 1 volt RMS for 100% modulation

Price and delivery will be quoted on receipt of specific inquiry.

# TRANSFORMERS AND INDUCTORS



SIE Precision Engineered Transformers and Reactors are manufactured by the Hermetic Seal Transformer Division of Southwestern Industrial Electronics Company. Standard designs for low frequency applications are small, hermetically-sealed units and offer uniform response characteristics from 5 to 1000 cps. Special precautions are taken to insure identical phase characteristics . . . a feature that is very important in the manufacture of matched sets of amplifiers.

The Hermetic Seal Transformer Division also produces a wide variety of standard and custom-designed transformers and chokes. Some of these special components are: low-level, low-frequency, high-inductance coils, hum-bucking construction types; wound components with single, double, or triple Mu-metal shielding; and high-temperature insulation and toroidal windings on a wide variety of core materials.

SIE transformers include a complete line of products built to the requirements of specification MIL-T-27A. Other wound components from SIE include recording heads and magnetic amplifiers.



# toroidal coil winding ROBOTIZED by UNIVERSAL

## 7 MACHINES FOR AUTOMATIC WIRE AND TAPE WINDING

- 10 times faster than by hand
- Tighter, neater, more accurate
- Lower unit cost . . . pays for itself
- #40 to #3 wire . . . for all size coils
- Ideal for Inductors, Filters, Rheostats, Transformers, Saturable Reactors, Potentiometers, Magnetic Amplifiers, etc.

## CUSTOM WINDING

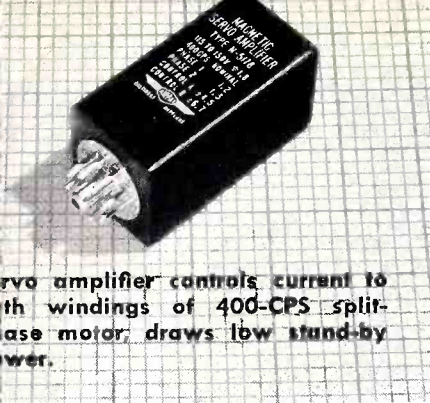
Submit your specifications for custom winding right in our plant. Economical, dependable service! Specialized in winding of heavy teflon wire. Engineering and technical service available.

*Write for Descriptive Literature*

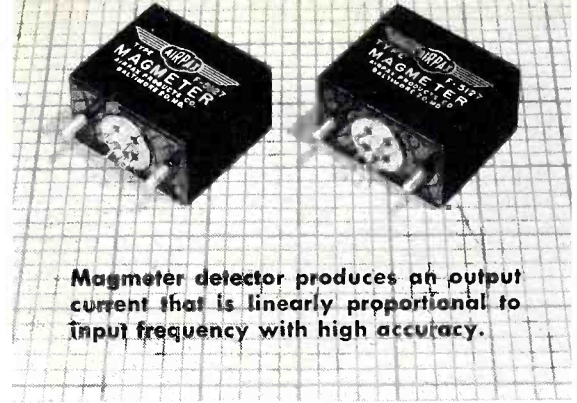


*"Accuracy is a Universal Word"*

**UNIVERSAL MANUFACTURING COMPANY, INC.**  
410 Hillside Avenue, Hillside, N. J.



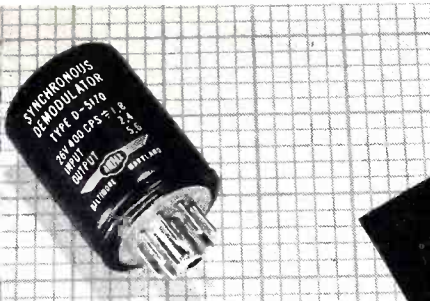
servo amplifier controls current to the windings of 400-CPS split-phase motor; draws low stand-by power.



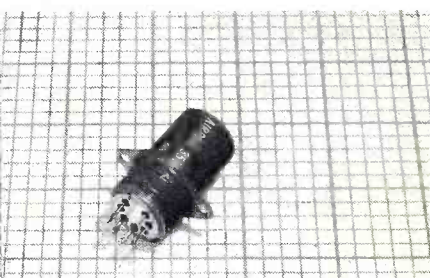
Magnetometer produces an output current that is linearly proportional to input frequency with high accuracy.



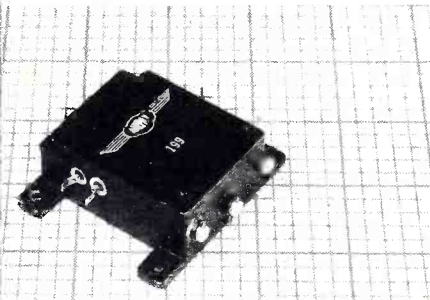
Pulse blocking oscillator transformers are hermetically sealed, provide pulse widths from 0.1 to 10 microseconds.



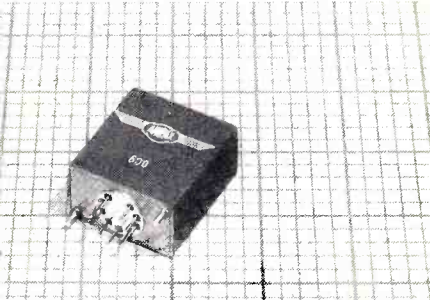
Magnetic demodulator produces polarity-reversible DC output from 400-CPS phase-reversible input.



Inter-pivoted 400-CPS chopper operates during shock and vibration up to 125 degrees Centigrade.



Coaxial chopper presents an SWR below 1.4 up to 400 MC on 50-ohm line, switches at 100 CPS.



Two halves of this double-pole double-throw split-reed chopper lock each other in phase within 5 degrees.

# AIRPAX

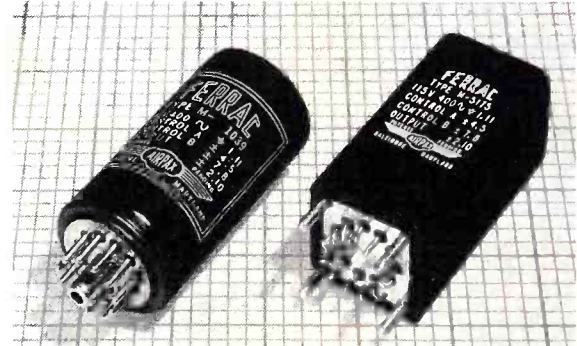
## PRECISION ELECTRICAL COMPONENTS

Here are some of the newer products developed at Airpax. All are manufactured to the traditionally high precision that has gained Airpax its reputation for quality. On the next two pages you will find tabular data about these and other Airpax products.

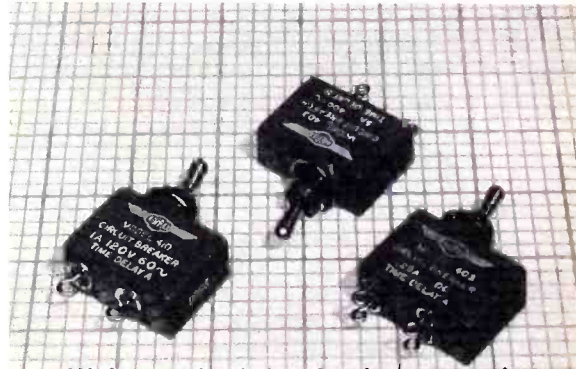
**DESIGNERS**      **ENGINEERS**

**BALTIMORE, MD. • CAMBRIDGE, MD.**

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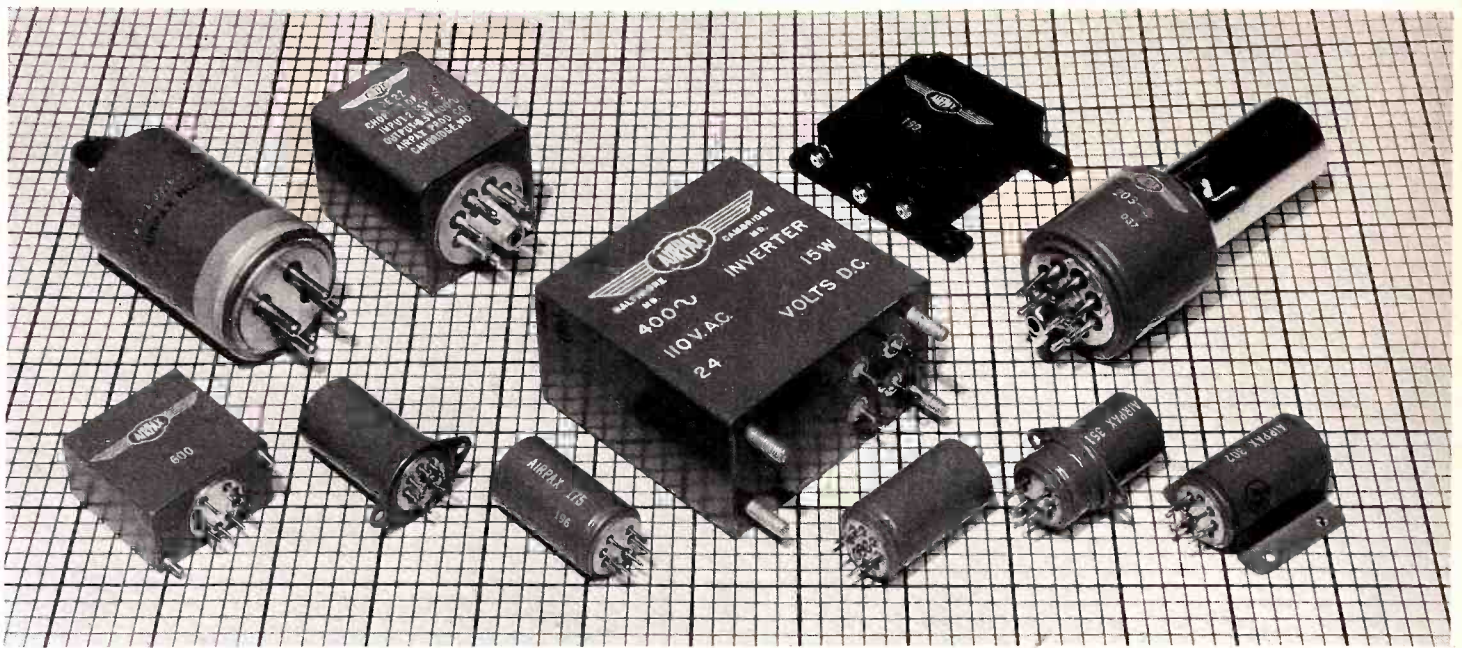


Ferrac instrument-type 400-CPS magnetic amplifier has exceptional stability and linearity.



Miniature circuit breaker has magnetic time delay independent of temperature, rated currents from 50 MA to 10 amp.





*These accurately made components represent products available to you that meet rigid industrial or military requirements.*

**Choppers**—A variety of Airpax choppers enables you to select the appropriate type for each application. They are manufactured on precision machines to assure you of uniformly high quality. These choppers are used in instruments and automatic control. Contacts are rated for 0 to 2 milliamperes at up to 100 volts. Drive is 6.3 RMS volts.

#### Typical Signal Choppers

Frequency (CPS)	7-Pin Base Type	Octal Base Type	Miniature Solder Lug Type
	<b>Standard Environment</b>		
60	175, 176	170, 586	178, 179, 800*
400	300, 400	520, 580	302 thru 304, 600*
<b>High Temperature</b>			
400	150, 310, 320	100	311 thru 314
<b>High Vibration</b>			
400	350		351 thru 354

\*Double-pole double-throw, split reed

**400-CPS Chopper Drivers**—Chopper drivers enable you to use 400-CPS choppers even if 400-CPS drive power is not otherwise available. There are two types: Series 202 is for use in 60-CPS powered equipment with conventional heater and plate voltages. Series 220 is for use in battery powered equipment.

**Vibrators**—Airpax pioneered high-frequency power vibrators because of reduced size and weight of associated transformers and chokes.

Type 500 vibrator is a 400-CPS interrupter unit for use with moderate continuous or heavy intermittent loads. It is hermetically sealed, operates in any position. This vibrator and variations are used in airborne transceivers, guidance equipments, and portable sets.

Type 505 is a center-pivoted vibrator rated for 28 DC volts input and output at 250 CPS. It is designed to withstand vibrations of 10 G from 10 to 1,000 CPS; time efficiency is 46%.

**Inverters**—Using 400-CPS vibrators, Airpax custom designs and manufactures compact low-power inverters. By way of example, Type 512 is hermetically sealed, weighs 14 ounces, occupies 7.5 cubic inches, withstands accelerations of more than 50 G, and has an efficiency of 75%. Its output is essentially a square wave, 15 watts at 110 RMS volts, 400 CPS. Input is 6, 12 or 24 DC volts.

**Pulse Transformers**—For preferred blocking oscillator circuits, use Airpax Pulsite transformers. These compact, hermetically sealed units are available as a kit covering many requirements of pulse circuits.

#### Characteristics of Pulsite Transformers

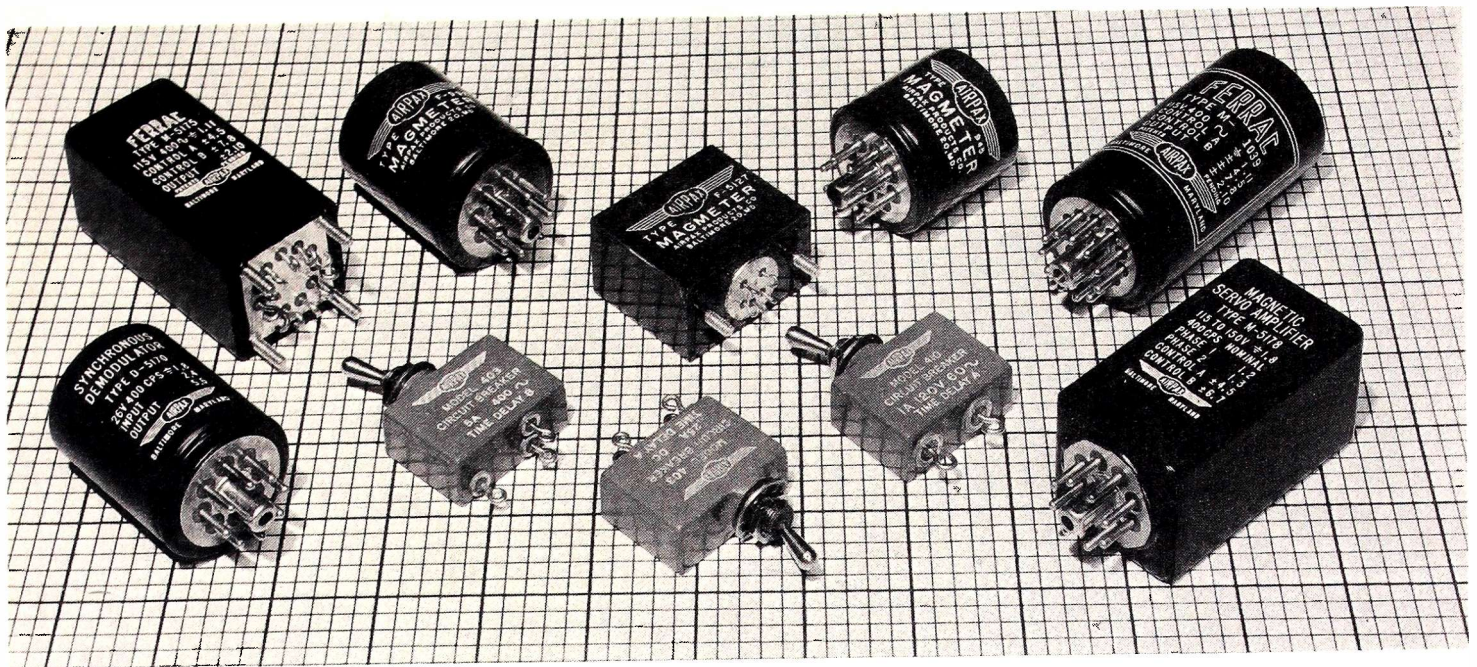
Pulse Width (usec)	Loc (mh)	L1 (uh)	Cd (uuf)	Type
0.1	0.08	6	7	PT-1081
0.2	0.13	14	7	PT-1082
0.3	0.30	25	8	PT-1083
0.5	0.80	30	8	PT-1084
1.0	2.4	35	9	PT-1085
2.0	7.8	125	10	PT-1086
5.0	28	400	10	PT-1087
10.0	153	1,000	12	PT-1088

**Custom Transformers**—Airpax designs and manufactures custom transformers. The largest Fosterite facility in the country is at Airpax; units 3 x 3 x 4 feet can be baked and vacuum impregnated, or large batches of small units can be processed quickly. In addition to vacuum impregnated and molded units for airborne equipment, Airpax manufactures hermetically sealed MIL-T-27A units. Airpax has supplied transformers in quantity for operation in ambients to 175 C.

**Sheet Metal Facilities**—A complete machine and sheet metal shop complements the transformer production. The shop has sufficient capacity to fabricate custom metal parts, such as chassis and cases.

**DESIGNERS**      **AIRPAX**      **PRODUCTS COMPANY**      **ENGINEERS**

**BALTIMORE 20, MD. • CAMBRIDGE, MD.**  
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*Thorough testing and inspection assure you that these Airpax components meet critical requirements for control and guidance.*

**Magnetic Amplifiers**—Ferrac magnetic amplifiers are highly stable and linear DC amplifiers. You can use them in analog computer portions of guidance and control equipment. Several types are available to meet usual applications. Each amplifier has two input windings; output is electrically isolated from input and power supply. At stand-by, amplifier draws about 1.5 watts; with full signal, 2.5 watts at 115 RMS volts, 400 CPS.

#### Instrument Magnetic Amplifiers

Application	Plug-In Type	Bolt-Down Type
General Purpose	M-943	M-5174
Integrator	M-1039	M-5175
Thermocouple	M-1040	M-5176
High Gain	M-1057	M-5177

**Synchronous Demodulators**—So that 400-CPS synchros can be used with DC control circuits, Airpax developed highly accurate ring rectifiers.

Type D-5170 has a highly accurate null for use in zero-seeking equipments. A null accuracy (exclusive of the synchro) of 9 minutes can be obtained with it.

Type D-5171 has a wider linear range for proportional control equipments. It presents about 20,000 ohms to the control transformer.

**Servo Amplifiers**—Airpax magnetic power amplifiers control current to both phases of 400-CPS instrument servo motors. As a result, they draw little stand-by power. This characteristic results in up to 60% saving in stand-by power, compared with some other servo amplifiers. Standard units deliver 3.5, 6, or 10 watts per phase.

#### Typical Ratings, Type M-5178

- Input**—Two identical control windings of about 125 DC ohms each
- Sensitivity**—7.5 DC milliamperes into either control winding produces 6 watts output to each phase
- Power**—115 to 150 RMS volts at 400 CPS, approximately 21 watts at maximum output, only 3 watts during stand-by
- Connections**—Octal plug-in base, hermetically sealed
- Dimensions (Max.)**—1 1/8" square base, 3" seated height
- Weight**—Approximately 14 ounces

**Frequency Detectors**—Magmeter frequency detectors convert AC signals to DC outputs. The output is linearly

proportional to input frequency. These detectors are relatively insensitive to changes in signal amplitude and wave shape. They are used in telemetering, tachometers, and for pulse-rate measurement. Standard Magmeter detectors require about 1 watt of signal input. They can be driven directly from 120-volt power lines, from vacuum tubes or transistors. Plug-in units fit octal sockets; bolt-down units have solder lugs.

#### Magmeter Frequency Detector

Frequency (CPS)	Line or Tube Drive		Transistor Drive Plug-In
	Plug-In	Bolt-Down	
0-50	F-945	F-5121	F-5156
0-100	F-979	F-5122	F-5157
0-200	(F-979)	F-5123	F-5158
375-425	F-992	F-5133	
0-500	F-5146	F-5124	F-5159
0-1000	F-980	F-5125	F-5160
0-2000	F-981	F-5126	F-5161
0-5000	F-947	F-5127	F-5162

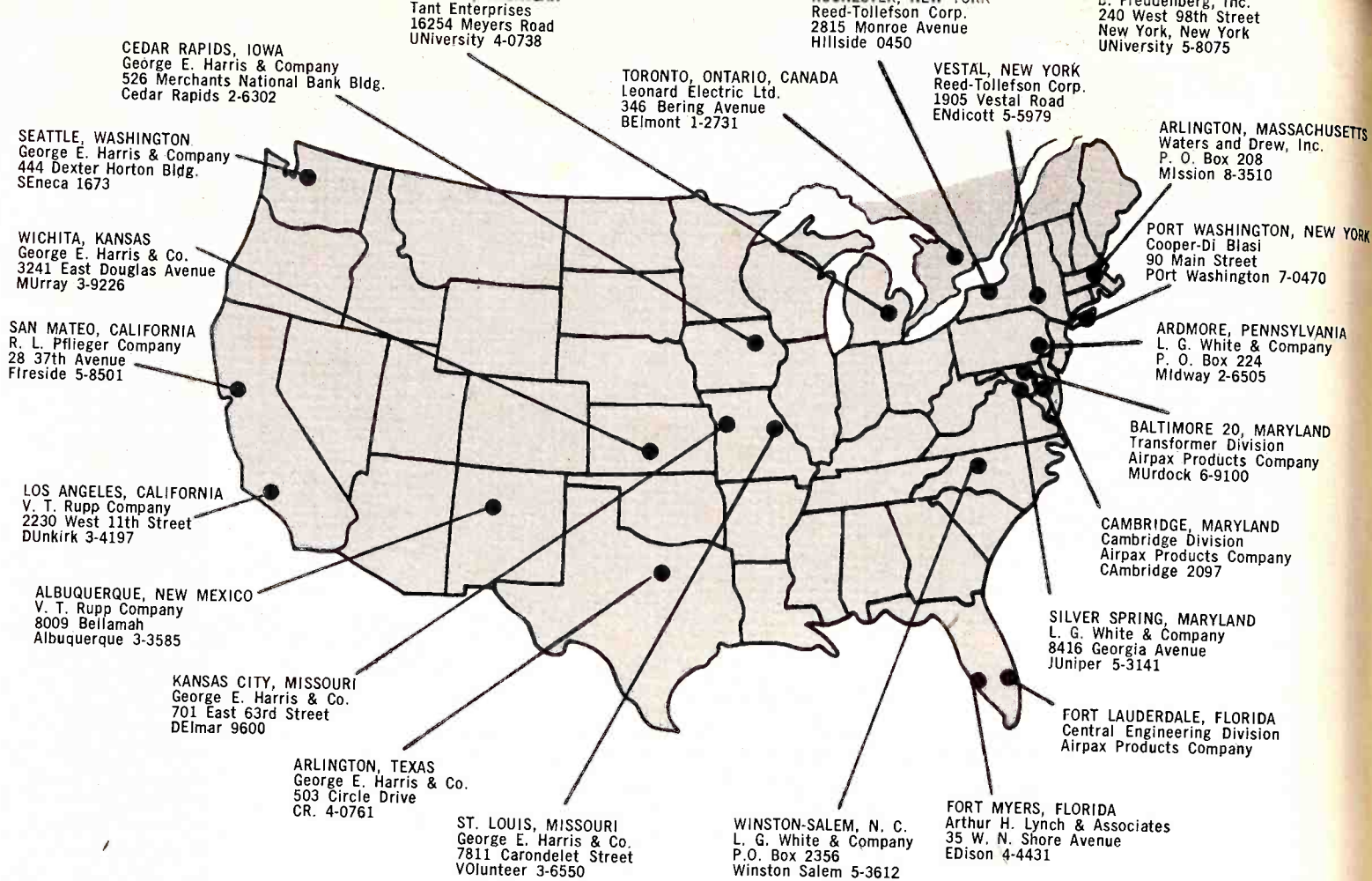
**Circuit Breakers**—Electronic circuits can be protected by Airpax miniature magnetic time delay circuit breakers. Trip level is unaffected by temperature. Units are rated up to 50 DC volts or up to 120 RMS volts; the latter either for 60 or for 400 CPS. Trip sensitivities are as low as 50 milliamperes; current ratings are available up to 10 amperes. There are two standard time delays: Rapid response A for protecting conventional electronic equipments, and slow response B for equipments that draw substantial starting surges.

#### Miniature Circuit Breakers

Rating	Series Type	Shunt Type	Relay Type
50 DC volts	401-	402-	403-
120 RMS volts at 60 CPS	410-	411-	412-
120 RMS volts at 400 CPS	420-	421-	422-

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## TECHNICAL LITERATURE

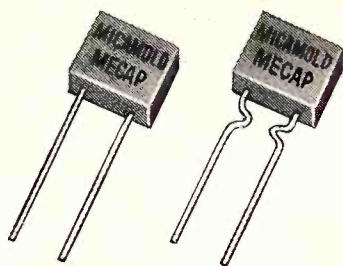
*The following Airpax publications are available to you for the asking  
at the sales offices shown above.*

- Contact Modulator (chopper)—Bulletin 103**  
definition of characteristics—methods of measurement—typical applications—theoretical considerations
- Magmeter Audio Frequency Detector—Bulletin 345**  
principle of operation—performance—applications to measuring pulse rate and rpm
- Ferrac Ferromagnetic Computing Amplifier—Bulletin 221**  
theory of operation—performance characteristics—circuit applications—uses of Magmeter detectors
- A New 400 CPS Vibrator—Data on Type 500**  
ratings—design of vibrator power supplies
- Miniature 400-CPS Chopper—Data on Series 300 Choppers**  
discussion of ratings—contact capacity—life and dwell time—phase angle and noise

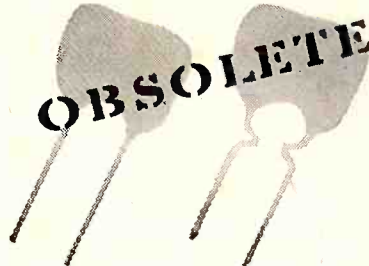
- High Vibration Chopper, Series 350—Data 111**  
effect of vibration—contact action—effect of temperature
- Chopper Driver Plug-In Oscillator—Data 112**  
advantages of 400-CPS chopper—performance—power requirements
- Magmeter Detector with Expanded Frequency Scale—Data 113**  
operating principle—input and output circuits
- Series 310 High Temperature Chopper—Data 114**  
characteristics compared to related types
- Magmeter Detector for Transistor Drive—Data 115**  
design of transistor driver—choice of transistors—over-all performance
- Pulsite Transformers for Blocking Oscillators—Data 116**  
properties of pulse transformers—measurement of transformer parameters—use in blocking oscillator



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ACTUAL SIZE



Modern Design from MICAMOLD...

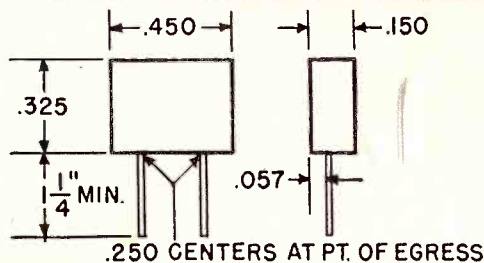
**Mecaps**

the only **MOLDED**  
radial lead mica  
capacitors

Now, only from MICAMOLD... Mecaps—radial lead Molded, not encased or dipped, mica capacitors, for use in automation, computers, delay lines, printed circuitry, etc.

- Precision size, symmetrical... CONSTANT BODY DIMENSIONS.
- Can be stacked... available taped for mechanical insertion.
- Meets and EXCEEDS MIL C-5A Specifications. Available in "B", "C", "D", "E", and "F" characteristics. Operating temperature from  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . Standard temperature range:  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ .
- This consistently high quality molded mica capacitor at no additional cost over the obsolete dipped types.
- Radial leads available straight or crimped.

The Micamold catalog giving complete specifications,  
available upon request from Dept. C



Micamold pioneered the development, design and manufacture of capacitors —

**Micamold Metal Encased Paper Capacitors**

Hermetically sealed.  
All Military standard types.  
Complete line of oil-filled capacitors for industrial applications.  
AMBIRITE® capacitors... for operation at  $150^{\circ}\text{C}$ .

**Micamold Molded Paper Capacitors**

Hermetically sealed in rectangular cases.  
All Military standard types.  
Commercial line for industrial applications.  
TROPICAPS® molded tubular capacitors for high humidity and total immersion applications.

**Micamold Electrolytic Capacitors**

All Military standard types.  
Commercial line for radio, TV and industrial applications.  
MOTORLYTICS® for capacitor motor starting.  
THERMALYTICS® for operation up to  $100^{\circ}\text{C}$ .  
CHROMOLYTICS® that operate at voltages up to 700 VDC.

**Micamold Molded Mica Capacitors**

Military standard types CM 15 through CM 70.  
High temperature types for operation to  $150^{\circ}\text{C}$ ... AO, AW, AV.

Micamold also manufactures RF Interference Filters, Pulse Networks and Delay Lines.



**MICAMOLD ELECTRONICS MANUFACTURING CORP.** A Division of General Instrument Corp.

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# before you freeze your



**OAK "EARLY-BIRD" ENGINEERING HELPS YOU GET BETTER COMPONENTS . . . FASTER!**

By calling on Oak engineers early, you take full advantage of their 25 years of specialization in electro-mechanical devices. This intensive background enables them to save you costly re-engineer-

## ELECTRO-MECHANICAL COMPONENTS ENGINEERED AND

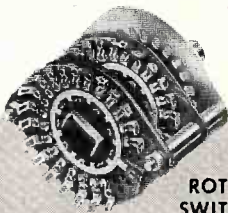
### low-current switches



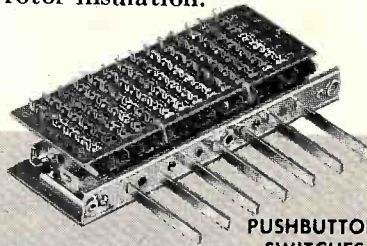
Mounts in a 1" diameter circle

#### NEW . . . Type A Miniature Rotary Switch

Available in three models: 45°, 36°, and 30° throw. Up to 18 contacts. Silicone glass stator insulation; KEL-F® rotor insulation.



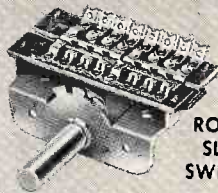
ROTARY SWITCHES



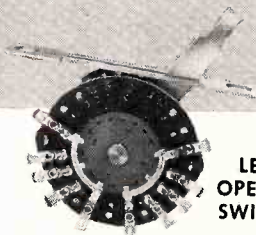
PUSHBUTTON SWITCHES



PRINTED CIRCUIT SWITCHES



ROTARY SLIDER SWITCHES



LEVER OPERATED SWITCHES



MULTIPLE SHAFT SWITCHES

The above switches represent but seven of the hundreds of basic Oak designs—already tooled for fast production. Custom variation of these designs provides a source of special switches in almost *infinite variety*. Excellence of design plus highest quality materials make Oak switches the best you can buy. Standard insulation is phenolic, steatite, and Mycalex; contacts, silver-plated spring brass or spring silver alloy.

### choppers

#### NEW!

**Oak Chopper for Missile Applications**

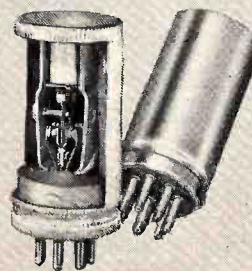
Designed for high shock, high acceleration, high vibration frequencies, and high temperature operation.

#### NEW Type 605 Chopper Eliminates Phase-Shift Circuit

Has 0° (or 180°) phase-lag "designed-in." Available with side or vertical flange mounts, flattened pierced pins, solder loops, or standard socket pins.

#### NC 600 Series of Oak Choppers

Available for frequencies from 15 to 600 cycles. Operates up to 125°C. High contact rating. Exceptional stability. Low voltage starting.



### VIBRATORS

**Custom-Designed and Custom-Built**

Basic Oak designs cover practically any application. The V6000 Series is a versatile, general purpose vibrator. Type 94 is designed primarily for auto radios. Type 95 is a small, medium power shunt drive interrupter. The MV Series is designed for portable radios and similar applications. All can be supplied for military needs.

# design...call on OAK engineers!

ing time. Even on seemingly simple components, Oak engineers have been able to make valuable suggestions that resulted in better performance and lower costs. Combine this thorough engineering with Oak's manufacturing skills and facilities, and you can feel assured of getting the *exact* component you need . . . and in a lot less time.

Write on company letterhead for a copy of the Oak Switch Catalog...

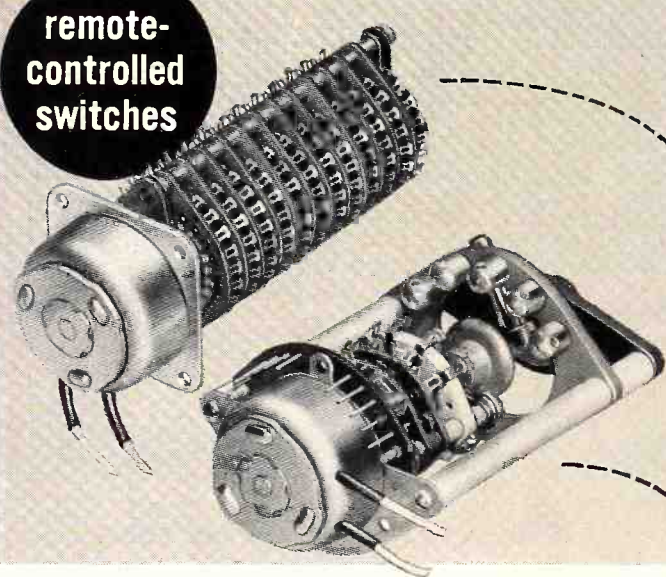


...or the Oak Rotary Solenoid Bulletin.



## MANUFACTURED TO YOUR EXACT REQUIREMENTS!

**remote-controlled switches**



**special sub-assemblies**



SERVO-SELECTOR BUILT FOR RADIO CORPORATION OF AMERICA

MT273E MOUNTING BASE BUILT FOR BENDIX RADIO DIVISION

### Thousands of Combinations

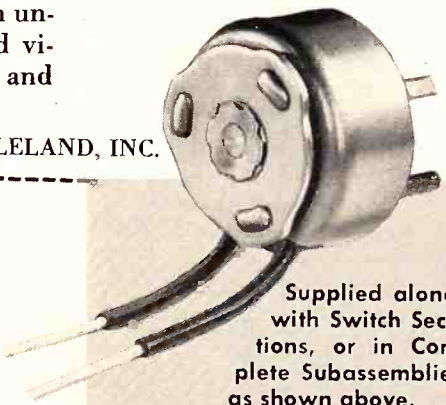
Oak remote-controlled switches are custom combinations of Oak rotary solenoids\* and the many types of Oak rotary switches. They are unusually reliable, giving a positive stepping action even under conditions of shock and vibration. Ideal for mobile and military equipment.

\*Mfd. under license from G. H. LELAND, INC.

### One Responsibility . . . One Source

Turn your prototype over to Oak engineers. They will analyze it, test it, redesign for optimum performance, and convert it into a manufacturable device. Oak's modern production facilities then build your subassembly, and run any life and environment tests which may be required.

**rotary solenoids\***



Supplied alone, with Switch Sections, or in Complete Subassemblies as shown above.

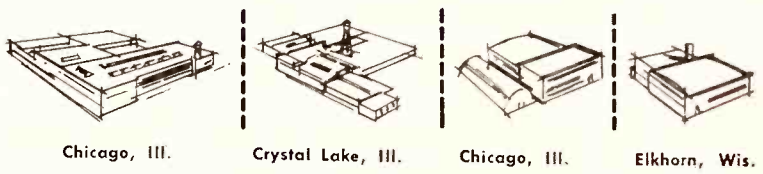
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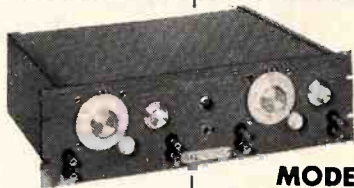
Four plants . . . 3200 employees . . . 400,000 sq. ft. equipped for economical production



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**SKL**

# PRECISION INSTRUMENTS FOR YOUR MEASUREMENT PROBLEMS

**• QUALITY • ACCURACY • RELIABILITY****VARIABLE ELECTRONIC FILTERS: SERIES 300****MODEL 302****MODEL 300**

FUNCTION		High or Low Pass Band Pass or Reject	High or Low Pass
Cut-off Freq. Range		20 cps to 200 kc	20 cps to 200 kc
Attenuation Rate	Per Section	18 db/octave	18 db/octave
	Max.	36 db/octave	18 db/octave
PASS BAND		2 cps to 4 mc	2 cps to 4 mc
DIAL ACCURACY		± 3% to 20 kc ± 5% above 20 kc	± 3% to 20 kc ± 5% above 20 kc
INSERTION LOSS		0 ± 1 db	0 ± 1 db
NOISE LEVEL		60 microvolts	60 microvolts

... For elimination of unwanted signals in your data

... For studies in vibration, dynamics, telemetering, acoustic noise and speech

... Continuously variable pass band permits clean recordings of only the data you want

... As well as selection of discrete frequencies when recording or analyzing data

The Series 300 Variable Electronic Filters were developed to meet the problems of inflexibility and expense inherent in conventional multi-frequency filters. Where the fixed filter made for a specific application becomes useless for any other need, the SKL Variable Electronic Filter serves to fulfill broad and diversified laboratory requirements.

Continuous range of cutoff frequency and ability to produce band-pass and band-rejection characteristics with *independent* control of the upper and lower cutoff frequencies are invaluable.

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for every application

**NEW****MODEL 206**

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Linear, pulse or high level pulse output mode

MODEL	BANDWIDTH	GAIN	OUTPUT	IMPEDANCE	
				INPUT	OUTPUT
214B	200 cps—90 mc	30 db	125 v, pulse	180	5000
211	15 mc—110 mc	33 db	4 v, rms	50	50
202D	1 kc—210 mc	20 db	4 v, rms	200	200
212C-TV	54 mc—216 mc	20 db	3 v, peak	50 or 75	50 or 75
206	600 cps to 320 mc	18 db to 24 db	(1) 6 v, rms (2) 60 v, pulse (3) 125 v, pulse	180	200

For further information write

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**WIDE-BAND TELEVISION DISTRIBUTION SYSTEM:**  
SKL manufactures complete TV distribution systems for community, apartment house and industrial use. Details upon request.

**FAST-RISE PULSE GENERATOR****THE Standard for  
Millimicrosecond Pulses**

Model 503 is ideal for testing the transient response of wide band amplifiers and semiconductors. Higher voltage pulses are available through use of an external power supply.



Rise time:	Less than 1 millimicrosecond
Amplitude:	0 to 150 volts
Repetition Rate:	50 to 120 cps
Pulse Width:	.06 x 10 <sup>-10</sup> Sec., Minimum Determined by Length of Width Cable. Max. Width not Restricted. .05 x 10 <sup>-9</sup> Sec., Factory Supplied
Polarity:	Either Positive or Negative
Load Impedance:	50 ohms

# CRUCIBLE PERMANENT MAGNETS

**CRUCIBLE  
PERMANENT  
MAGNETS  
PROVIDE  
CONSISTENTLY  
HIGHER  
ENERGY  
PRODUCT**

Most Crucible Permanent Magnets are produced to custom specifications. They're sand cast, shell molded or investment cast in any shape, tolerance and finish needed . . . in any size from a fraction of an ounce to several hundred pounds.

However, Crucible does stock, for immediate delivery, permanent magnets in the shapes and sizes most frequently needed for both pilot and full-scale production. These standard items, with their physical and magnetic properties, are listed below.

In each case the sub-grade bearing the letter "B" is the standard for that grade. Thus Alnico VB is standard Alnico V. The other sub-grades are modifications of the standard grade to produce special magnetic characteristics. For additional technical information, call your nearest Crucible representative. Crucible Steel Company of America, Henry W. Oliver Building, Pittsburgh 22, Pa.

## Compositions and Properties of Crucible Permanent Magnet Alloys

ALLOY	NOMINAL CHEMICAL COMPOSITION	MAGNETIC DATA				PHYSICAL DATA			MECHANICAL DATA		
		RESIDUAL FLUX DENSITY $B_r$ (GAUSS)	COERCIVE FORCE $H_c$ (OERSTEDS)	MAXIMUM ENERGY PRODUCT (BH) $_{max}$ (8.77 ERGS/CU. CM. x 10 <sup>-6</sup> )	$B_{0t}$ (GAUSS)	DENSITY (LBS./CUBIC INCH)	MEAN COEFFICIENT OF TEMPERATURE EXPANSION (20° C-300° C) (INCHES/INCH/°C x 10 <sup>6</sup> )	ELECTRICAL RESISTIVITY AT 25°C (OHM-CM./SQ. CM. x 10 <sup>10</sup> )	TENSILE STRENGTH (AS USED) (LBS./SQ. INCH)	TRANSVERSE MODULUS OF RUPTURE (LBS./SQ. INCH)	HARDNESS (AS USED) (RC—ROCKWELL C)
Alnico I A	12 Al, 22.5 Ni, 5 Co, Bal. Fe	6,600	540	1.40	4,100	0.249	12.6	75	4,000	13,900	45 RC
Alnico I B	12 Al, 21 Ni, 5 Co, Bal. Fe	7,100	450	1.40	4,700	0.249	12.6	75	4,000	13,900	45 RC
Alnico I C	12 Al, 19.5 Ni, 5 Co, Bal. Fe	7,600	400	1.40	5,200	0.249	12.6	75	4,000	13,900	45 RC
Alnico II A	10 Al, 18 Ni, 12.5 Co, 6 Cu, Bal. Fe	7,000	650	1.70	4,300	0.256	12.4	65	3,000	7,200	45 RC
Alnico II B	10 Al, 19 Ni, 12.5 Co, 3 Cu, Bal. Fe	7,500	580	1.70	4,700	0.256	12.4	65	3,000	7,200	45 RC
Alnico II C	10 Al, 16 Ni, 12.5 Co, 6 Cu, Bal. Fe	8,000	425	1.60	5,500	0.256	12.4	65	3,000	7,200	45 RC
*Alnico II H	10 Al, 19 Ni, 14.5 Co, 3 Cu, Bal. Fe	8,400	600	2.10	5,400	0.256	12.4	65	3,000	7,200	45 RC
Alnico III A	12 Al, 26 Ni, 3 Cu, Bal. Fe	6,400	560	1.35	3,900	0.249	13.0	63	12,000	22,500	45 RC
Alnico III B	12 Al, 25 Ni, 3 Cu, Bal. Fe	6,800	490	1.35	4,300	0.249	13.0	63	12,000	22,500	45 RC
Alnico III C	12 Al, 24 Ni, 3 Cu, Bal. Fe	7,500	400	1.35	5,000	0.249	13.0	63	12,000	22,500	45 RC
Alnico IV A	12 Al, 28 Ni, 5 Co, Bal. Fe	5,500	730	1.35	3,200	0.253	13.1	75	9,000	24,000	45 RC
Alnico IV B	12 Al, 25 Ni, 5 Co, 2 Cu, Bal. Fe	6,000	660	1.45	3,600	0.253	13.1	75	9,000	24,000	45 RC
*Alnico IV H	12 Al, 26 Ni, 9 Co, 2 Cu, Bal. Fe	6,000	790	1.65	3,500	0.253	13.1	75	9,000	24,000	45 RC
*Alnico V A	8 Al, 15 Ni, 24 Co, 3 Cu, Bal. Fe	12,000	720	5.00	9,100	0.264	11.3	47	5,450	10,500	50 RC
*Alnico V AB	8 Al, 14.5 Ni, 24 Co, 3 Cu, Bal. Fe	12,500	685	5.50	10,000	0.264	11.3	47	5,450	10,500	50 RC
*Alnico V B	8 Al, 14 Ni, 24 Co, 3 Cu, Bal. Fe	12,700	650	5.50	10,400	0.264	11.3	47	5,450	10,500	50 RC
*Alnico V C	8 Al, 13 Ni, 24 Co, 3 Cu, Bal. Fe	13,200	580	5.50	11,200	0.264	11.3	47	5,450	10,500	50 RC
*Alnico V E	8 Al, 15 Ni, 24 Co, 3 Cu, 0.5 Ti, Bal. Fe	11,000	700	4.50	8,400	0.264	11.3	47	5,450	10,500	50 RC
†Alnico V BDG	8 Al, 14 Ni, 24 Co, 3 Cu, Bal. Fe	13,300	725	6.50	10,500	0.264	11.3	47	5,450	10,500	50 RC
*Alnico VI A	8 Al, 17 Ni, 23 Co, 3 Cu, 4 Ti, Bal. Fe	7,500	975	2.75	4,600	0.268	11.4	50	23,000	45,000	56 RC
*Alnico VI AB	8 Al, 16 Ni, 23 Co, 3 Cu, 2 Ti, Bal. Fe	8,400	860	3.00	5,400	0.268	11.4	50	23,000	45,000	56 RC
*Alnico VI B	8 Al, 15 Ni, 23 Co, 3 Cu, 1 Ti, Bal. Fe	10,500	760	3.65	7,000	0.268	11.4	50	23,000	45,000	56 RC
Ferrimag I	BaO • 6Fe <sub>2</sub> O <sub>3</sub>	2,000	1,500	0.80	1,030	0.170		>100 x 10 <sup>11</sup>			

\*Directional Magnetic Properties.

†Tentative magnetic properties.

‡ $B_{0t}$  = flux density at point of maximum energy product.

§Intrinsic coercive force,  $H_{ci}$ .

# CRUCIBLE

first name in special purpose steels

## Crucible Steel Company of America

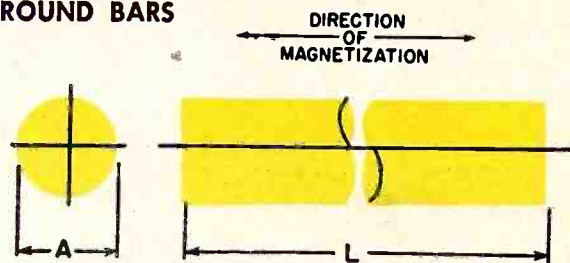


# CRUCIBLE PERMANENT MAGNETS AVAILABLE

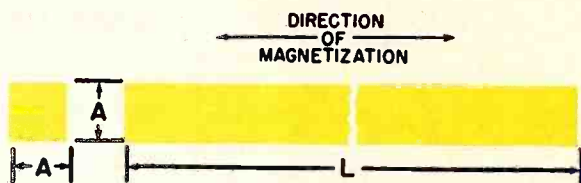
## BAR MAGNETS

Dimensions shown are for Crucible bar magnets as cast — not ground. Order bar magnets in length desired. Cutting Tolerance  $\pm .015$ . Specify with order whether bars are to be supplied magnetized or not. Available only in Alnico VB.

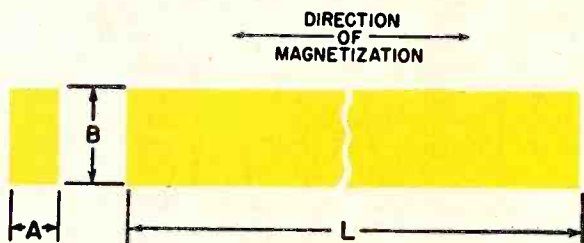
### ROUND BARS



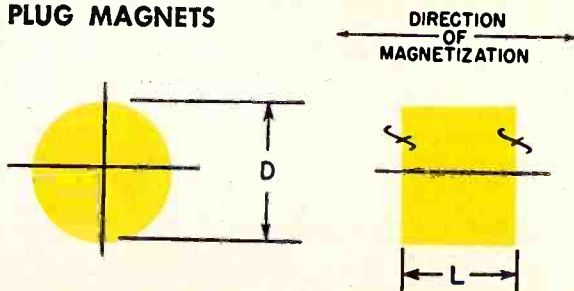
### SQUARE BARS



### RECTANGULAR BARS



### PLUG MAGNETS



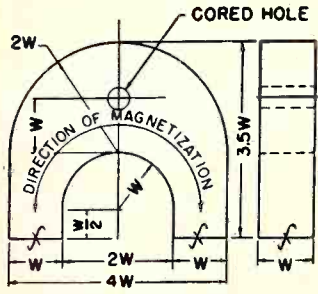
Catalog No.	Dim. A, in.	Max. Dim. L, in.	Est. Wght. Lbs.
MA 1000	3/8	4	.013
MA 1001	3/16	5	.037
MA 1002	1/4	6	.078
MA 1003	3/8	6	.176
MA 1004	1/2	6	.312
MA 1005	5/8	6	.488
MA 1006	3/4	6	.702
MA 1007	1	6	1.25
MA 1008	1 1/4	6	2.81
MA 1009	2	6	5.00

Catalog No.	Dim. A, in.	Max. Dim. L, in.	Est. Wght. Lbs.
MA 1010	3/16	4	.037
MA 1011	1/4	4	.066
MA 1012	3/8	6	.224
MA 1013	1/2	6	.398
MA 1014	5/8	6	.621
MA 1015	3/4	6	.894
MA 1016	7/8	6	1.22
MA 1017	1	6	1.59
MA 1018	1 1/2	6	3.58
MA 1019	2	6	6.36

Catalog No.	Dim. A, in.	Dim. B, in.	Max. Dim. L, in.	Est. Wght. Lbs.
MA 1042	1/4	3/8	6	.149
MA 1043	1/4	1/2	6	.199
MA 1044	1/4	3/4	6	.298
MA 1045	1/4	1	6	.398
MA 1046	1/2	3/4	6	.596
MA 1047	1/2	1	6	.795
MA 1048	1/2	1 1/2	6	1.19
MA 1049	3/4	1	6	1.19
MA 1050	3/4	1 1/2	6	1.80
MA 1051	3/4	2	6	2.39
MA 1052	1	1 1/2	6	2.39
MA 1053	1	2	6	3.18
MA 1054	1	2 1/2	6	3.98
MA 1055	1 1/2	2	6	4.77

Catalog No.	Dia. D, in.	Dim. L, in.	Est. Wght. Lbs.	Nom. Wt. Oz.
LG 1	.689	.430	.042	.68
LG 2	.759	.522	.062	1.00
LG 3	.840	.626	.092	1.47
LG 4	.908	.535	.092	1.47
LG 5	.998	.648	.134	2.15
LG 6	1.114	.765	.198	3.16
LG 7	1.224	.633	.198	3.16
LG 8	1.365	.748	.290	4.64
LG 9	1.523	.880	.425	6.80
LG 9A	1.450	.970	.425	6.80
MA 93	1.672	1.080	.628	10.0

# FOR IMMEDIATE DELIVERY FROM STOCK

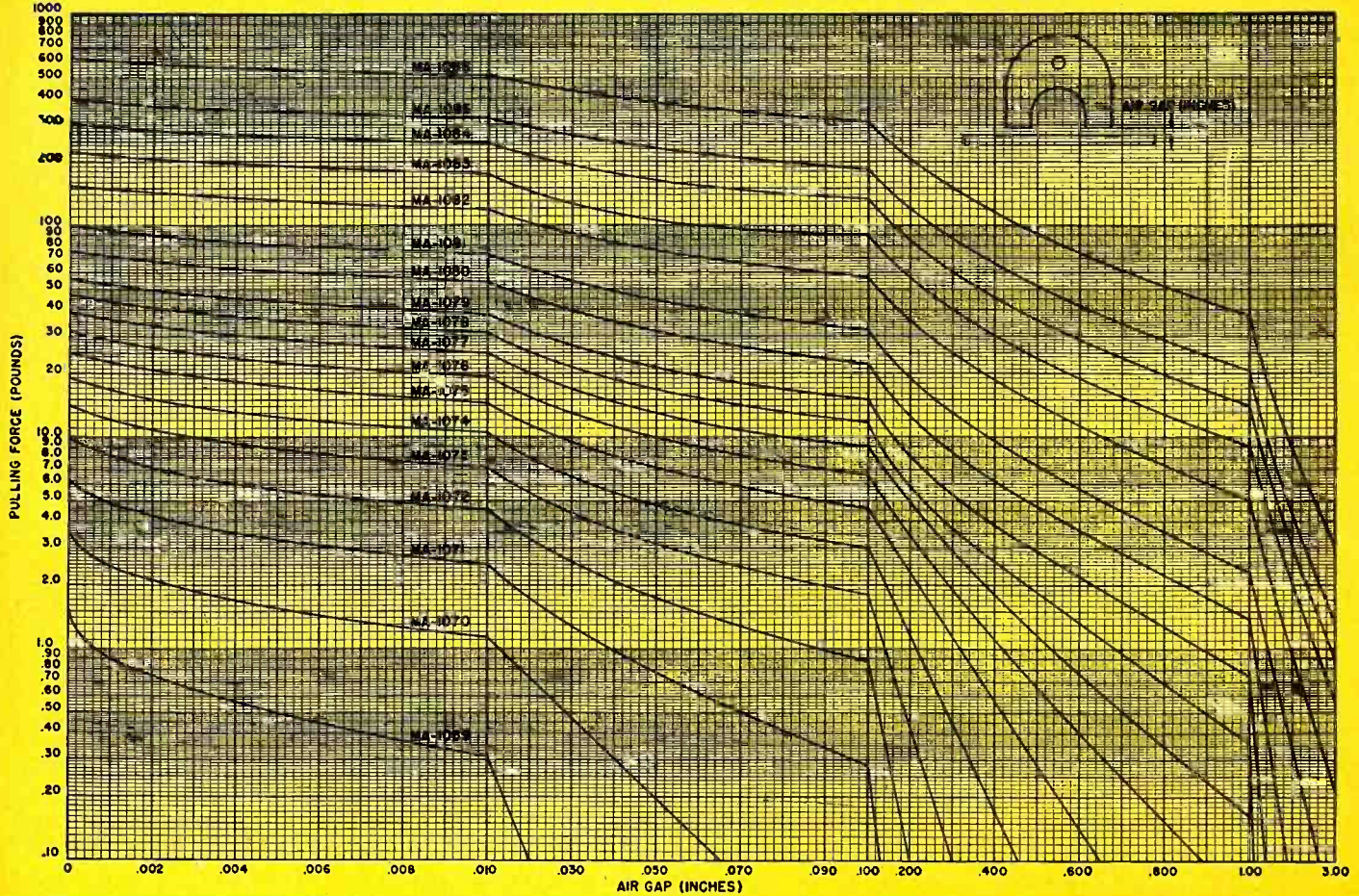


## HORSESHOE MAGNETS

All Crucible horseshoe magnets are ground on pole faces and painted red, and supplied magnetized with keepers. Series MA-1069 through MA-1086 are available from stock only in Alnico VB.

Catalog No.	W, in.	Hole Diameter, in.	Est. Wgt. Lbs.
MA 1069	1/8	0	.005
MA 1070	3/16	0	.017
MA 1071	1/4	0	.040
MA 1072	5/16	1/8	.078
MA 1073	3/8	1/4	.134
MA 1074	7/16	1/4	.213
MA 1075	1/2	3/16	.318
MA 1076	5/8	7/32	.453
MA 1077	5/8	1/4	.621
MA 1078	11/16	1/4	.826
MA 1079	3/4	3/12	1.07
MA 1080	7/8	3/4	1.70
MA 1081	1	3/8	2.55
MA 1082	1 1/4	1/2	4.97
MA 1083	1 1/2	5/16	8.59
MA 1084	1 3/4	3/2	13.6
MA 1085	2	3/4	20.4
MA 1086	2 1/2	1 1/4	39.8

## PULLING FORCE VS. DISTANCE OF CRUCIBLE HORSESHOE MAGNETS



## SPECIAL HORSESHOE MAGNETS OF ALNICO IB AND ALNICO VB

**MA-1031**  
Estimated Wgt., lbs. —  
Alnico IB — 0.243  
Alnico VB — 0.258

**MA-1022**  
Estimated Wgt., lbs. —  
Alnico IB — 0.102  
Alnico VB — 0.109

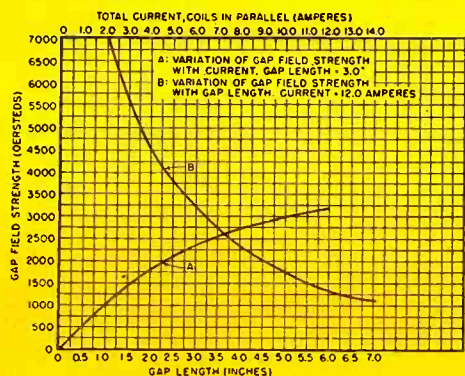
**MA-1041**  
Estimated Wgt., lbs. —  
Alnico IB — .050  
Alnico VB — .053

**MA-1060**  
Estimated Wgt., lbs. —  
Alnico IB — 2.58  
Alnico VB — 2.73

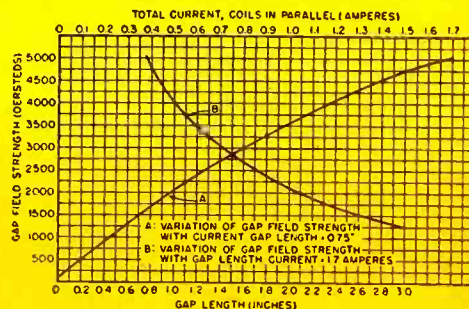
# Crucible Magnet Accessories

## ELECTRO-MAGNETIC MAGNETIZER

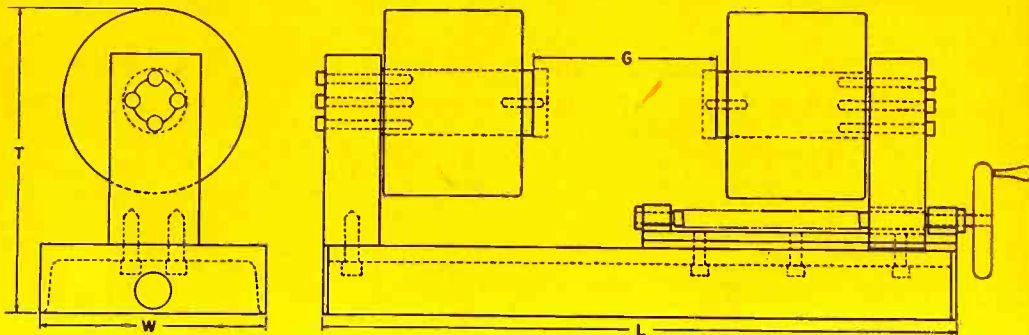
Electromagnetic Magnetizers are general purpose magnetizers for any grade of Alnico ... of any size that will fit given space limitations.



Variation of gap field strength with current and gap length for 50,000 ampere turn magnetizer—Catalog No. MC-124.



Variation of gap field strength with current and gap length for 10,000 ampere turn magnetizer—Catalog No. MC-120.



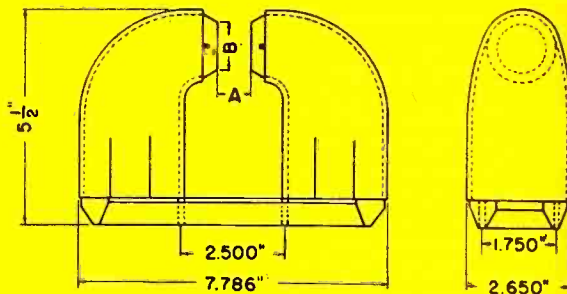
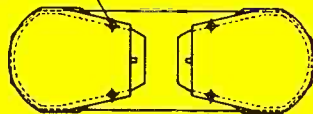
Catalog No.	Total Ampere Turns	Amperes Drawn by Magnetizer at		G (inches)	Pole Face diameter (inches)	L (inches)	W (inches)	T (inches)
		115 Volts DC (Coils in parallel)	230 Volts DC (Coils in series)					
MC-120	10,000	1.8	0.9	0 to 4	2	16 $\frac{5}{8}$	6	9 $\frac{7}{16}$
MC-124	50,000	14.0	7.0	0 to 8 $\frac{1}{2}$	3	28	10	13 $\frac{3}{4}$
MC-129	125,000	46.0	23.0	0 to 14 $\frac{1}{2}$	4	43 $\frac{3}{8}$	15	18 $\frac{1}{8}$

## PERMANENT-MAGNET MAGNETIZER MA-3364

Permanent-Magnet Magnetizers are suitable for magnetizing small Alnico magnets in the sizes indicated by dimensions A and B.

NOTE: DIMENSIONS (A) & (B) TO VARY IN ACCORDANCE WITH CUSTOMER'S REQUIREMENTS. MAX. VALUE OF (A) = 1 $\frac{1}{2}$ " (B) MAY VARY FROM  $\frac{1}{2}$ " TO 1 $\frac{5}{8}$ "

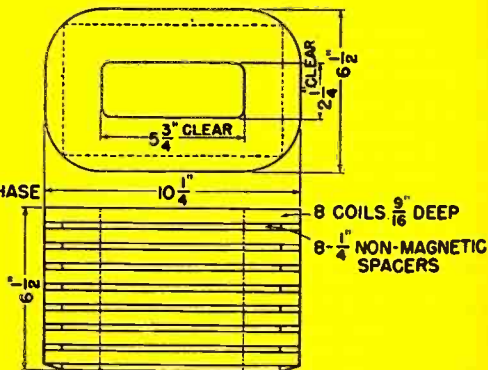
(4) 12-24NC TAP THRU



For further technical information on the selection or application of Crucible Permanent Magnets or Accessories — call your Crucible representative. Crucible Steel Company of America, Henry W. Oliver Bldg., Pittsburgh 22, Pa.

## DEMAGNETIZER, CAT. MC-9

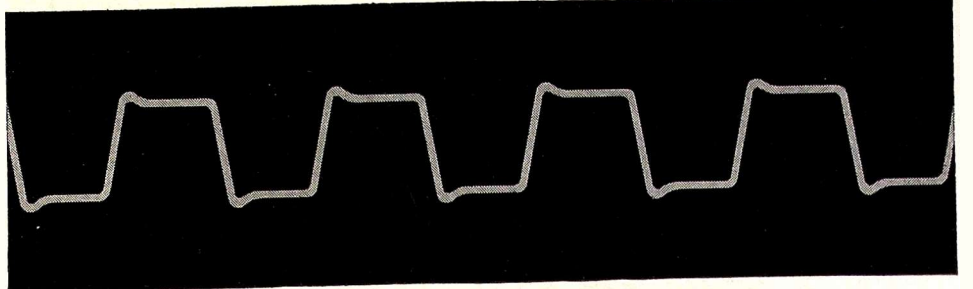
FIELD STRENGTH: 1700 OERSTEDS  
VOLTAGE: 230, 60 CYCLES, SINGLE PHASE  
CURRENT: 75 AMPERES



# CRUCIBLE

# Crucible Steel Company of America

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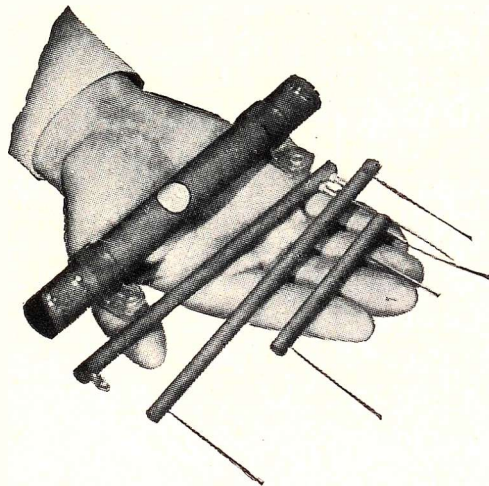
# DELAY LINES

**standard or specially designed**

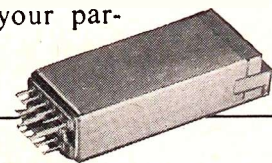
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MIXER - Crystal - Waveguide  
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PROBE  
ROTARY JOINT - Coaxial  
ROTARY JOINT - Waveguide  
SHIFTER (Phase) Waveguide  
SHORT - Movable  
SQUEEZE SECTION - Waveguide  
STAND  
SWITCH - Coaxial

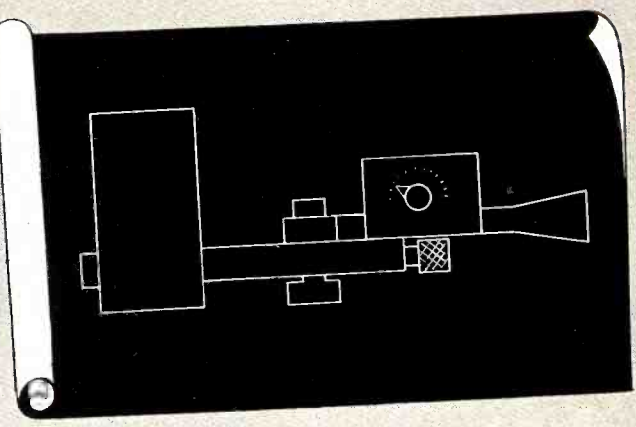
SWITCH - Waveguide  
TEE - Coaxial  
TEE - Waveguide  
TEE - Hybrid  
TRANSITIONS - Coaxial  
TRANSITIONS - Waveguide  
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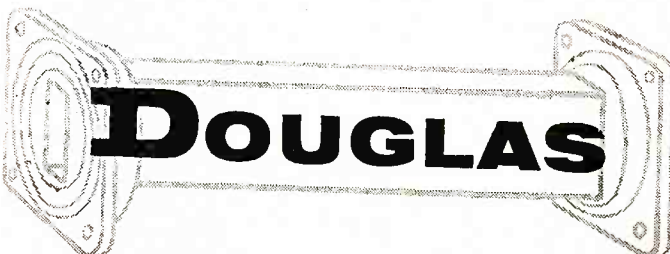


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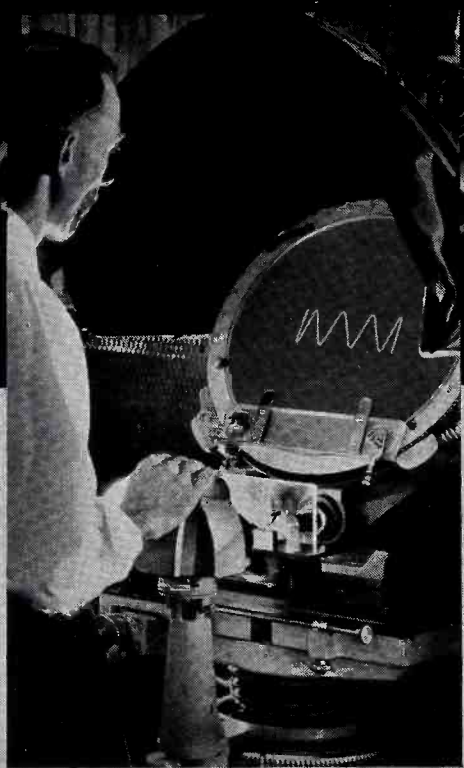


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# small rotating electrical equipment

with

## POWER



### motors

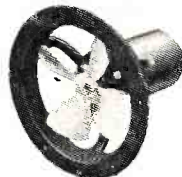
Sub-fractional and fractional motors in the induction and hysteresis—reluctance synchronous types with associated gear reductions. Available in 50, 60 and 400 cycles, single, dual and variable frequency; also dual voltage. For single, two and three phase operation. Horsepower from 1/3500 to 1/2. Diameter from 1" to 6 5/8".

### alternators

From 1" diameter to 6 5/8" diameter. Power up to 1000 VA. Wide frequency range, low harmonic content—delivers sine wave with 2% or less total distortion. Single, dual (sine-cosine) and three phase. For special applications, dual frequency units produce a combination of frequencies.

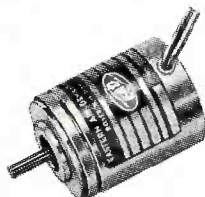
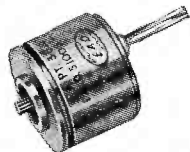
### blowers & fans

A complete line of light weight centrifugal blowers, ring mounted fans and vane axial fans for cooling electronic equipment and for general purpose use. Capacities up to 1000 cfm with special designs available for high static pressures. Single and double ended; 50, 60 and 400 cycle and variable frequencies (360-1600 cycles).



with

## PRECISION

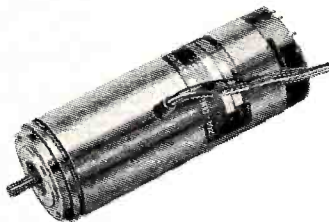
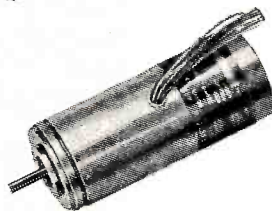


### servo motors

As the basic actuating device in AC automatic control systems, EAD's high performance servo motors are designed to meet exacting requirements for good dynamic response, reliability in extreme environments, electrical efficiency and ready availability. EAD offers a range of frame sizes beginning with the utmost in miniaturization. Variations include special lead locations, voltage and power ratings aimed at transistor operation, precision gear heads and adaptation to unusual environmental conditions to 150° C.

### tachometer generators

Widely used in automatic control systems, EAD's line of precision tachometers have the stability and performance characteristics for application as integrator units in analog computers, as damping tachometers in positioning control systems and for direct speed control. Integrating units include temperature compensations for high accuracy. Special voltages and scale factors and different compensations may be provided to suit individual requirements.

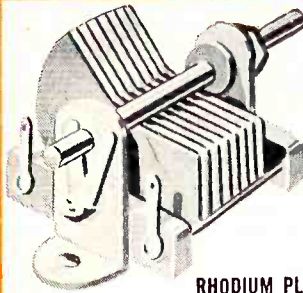


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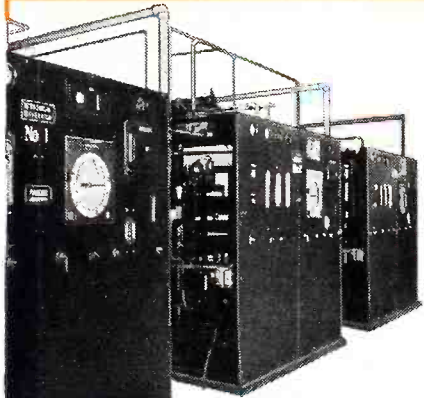
**DEOXO® PURIFIER** provides low-cost purification of hydrogen and other gases to the extent of less than one part oxygen per million.



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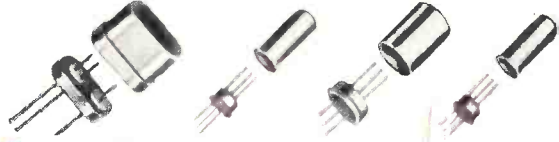
• **SINGLE LEAD TERMINALS**



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*Hermetically Sealed* miniature, sub-miniature or standard E-I terminals are specified for performance *plus* in military and commercial service. These dependable compression seals perform successfully under the most gruelling conditions . . . offer maximum immunity to shock, vibration and wide variations of temperature and pressures. Check your sealed terminal requirements with E-I—recommendations will be made on your specific applications without obligation.



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More Watts per Dollar  
with the NEW High-Power

# type W50 Variacs®

- New Designs • Ratings up 25%
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for First Time in High-Power Models
- Lower Losses • Smaller • Lighter
- 5 KVA to 26 KVA Ratings • Lowered Costs
- UL Approved • Optional Ball Bearings and Motor Drives

The newly designed Types W50 and W50H VARIAC Series replaces the popular Types 50A and 50B with many electrical and mechanical improvements.

Current ratings for the new 115-volt and 230-volt models are 50 and 25 amperes, against 40 and 20 for the older types. A built-in protector prevents damage from *sustained* overloads exceeding 160% of rating. This extra safety feature is available when the normal load fusing or breaker is inoperative.

The basic design of the new Type W50 Variacs is along the lines of the other new "W" models in the smaller sizes. Mounting holes and layouts are the same as the old Type 50 for ready interchangeability.



**Type W50H**  
Variac 230-Volt Input,  
7.5 KVA, 32.5 Amp. Max. Current.

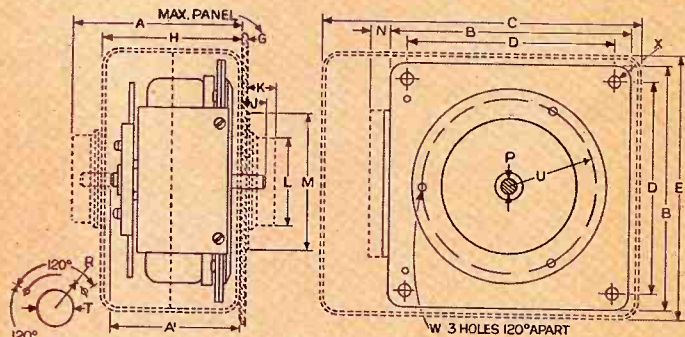
Type W50 similar except for number of terminals and dial. 115-Volt Input, 5.75 KVA, 50 Amp. Max. Current.

Type 50H VARIACS are equipped with 7 combination screw-solder terminals. Can be used on either 230- or 115-volt lines. Type W50's have 5 terminals. Note engraved wiring diagram on terminal board, showing voltage between terminals.

## Essential Dimensions TYPE W50 VARIACS

50 Amperes 115-Volt Models

32.5 Amperes 230-Volt Models



	A	A'	B	C	D	E	G	H	J	K	L	M	N	P	R	S	T	U	W	X
W50	W50H	6 1/2	12 1/2	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4
W50M	W50HM	8 1/2	12 1/2	16 1/2	10 3/4	13 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4	10 3/4

## Specifications

	W50 Uncased	W50M Cased	W50H Uncased	W50HM Cased
Input Voltage	115	115	230*	230*
Load Rating (kva)	5.75	5.2	7.5	7.1
Output Voltage	0-135	0-135	0-270	0-270
Rated Current (amp)	50	40	25	20
Maximum Current (amp)	50	45	32.5	31
No-Load Loss at 60 c. (w)	50	50	50	50
Dial Calibrations <sup>a</sup>	0-115 0-135	0-115 0-135	0-230 0-270	0-230 0-270
Angle of Rotation (deg.)	320	320	320	320
No. Turns on Winding	190	190	298	298
D-C Resistance of Winding (Ω)	.075	.075	.3	.3
Driving Torque (oz.-in.)	200-400	200-400	200-400	200-400
Replacement Brushes	\$5.00 per set	\$5.00 per set	\$5.00 per set	\$5.00 per set
Net Weight (lbs.)	50	57	53	60
Code Word	GATAL	GATER	NITAL	NITER
PRICE	\$120	\$145	\$120	\$145
Ball-Bearing Surcharge	\$15	\$15	\$15	\$15

\*All 230-Volt models can be used on 115-volt lines with rated current limited to one-half of the 230-volt current  
<sup>a</sup>Dial plates are reversible, overvoltage connection calibrations on one side, line voltage on other

# GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Mass., U.S.A. ®

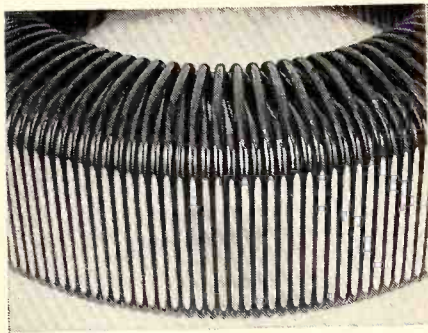
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1000 N. Seward St. **LOS ANGELES 38**      1182 Los Altos Ave., Los Altos, Calif. **SAN FRANCISCO**



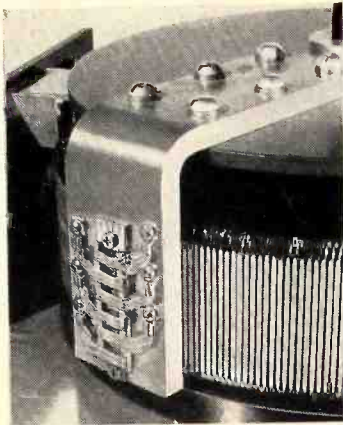
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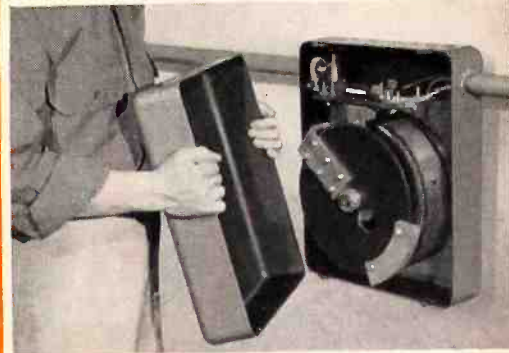
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Prices are net, FOB Cambridge  
or West Concord, Mass.



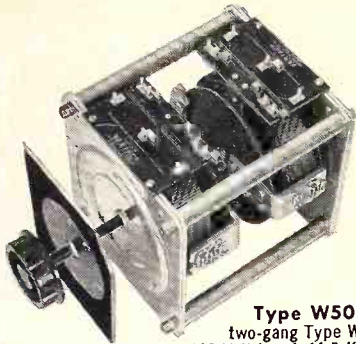
Banked winding is of #7 or #11 AWG wire! Duratrak brush track (for the first time in these high-power VARIACS) is on face of toroidal winding.



Six brushes in multiple, pigtail-equipped brush holders, readily removed for servicing or replacement — copper radiator nose and brush holder conducts current and heat to painted radiator, for maximum heat dissipation.



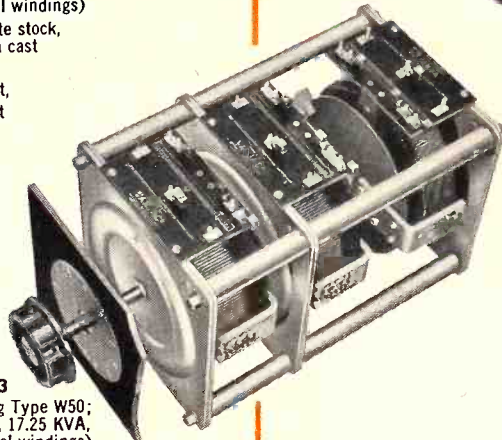
Wall-mounted Type W50M. Four 1/2" conduit knockouts provided for convenience in wiring. Four bolts through corners of base and case attach W50's to wall or panel — 2 screws in top hold cover firmly in place — captive radiator permits shaft to be extended either way for panel or wall mounting without upsetting radiator and brush settings. Note accessibility of terminal board for easy wiring.



**Type W50G2**  
two-gang Type W50;  
115-Volt Input, 11.5 KVA,

100 Amp. Max. Current (with parallel windings)  
Note 2-piece base stamped from plate stock, in all W-type VARIACS stronger than cast or die-cast construction

**W50HG2** similar; 230-Volt Input, 15 KVA, 65 Amp. Maximum Current



**Type W50G3**

3-gang Type W50;  
115-Volt Input, 17.25 KVA,

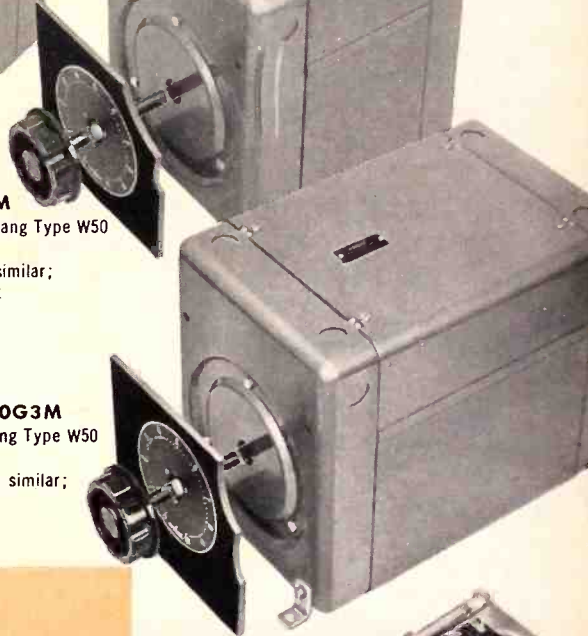
150 Amp. Max. Current (with parallel windings)  
**W50HG3** similar; 230-Volt Input, 22.5 KVA, 97.5 Amp. Max. Current



**Type W50M**  
Completely enclosed  
Type W50  
— 115-Volt Input  
**W50HM** similar;  
for 230-Volt Input

**Type W50G2M**  
Completely enclosed 2-gang Type W50  
for 115-Volt Input.

**W50HG2M** similar;  
for 230-Volt Input



**Type W50G3M**  
Completely enclosed 3-gang Type W50  
for 115-Volt Input

**W50HG3M** similar;  
230-Volt Input

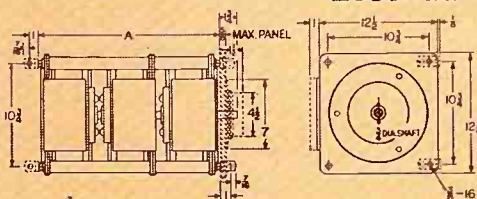
## TYPE W50 Typical Ganged Variac® Assemblies

### Single Phase

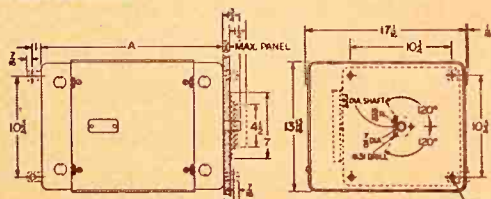
INPUT		OUTPUT		Amperes Max. Rated	Type	Price	Description	Cablegram Code Word	Net Weight Lbs.	
Volts	Kva	Volts								
115	10.4	0-135	90	80	W50G2M	\$310	2-gang — windings in parallel — requires 50-P1 Choke \$14	GATALBONDU	115 1/2	
115	11.5	0-135	100	100	W50G2	260	See above	GATALLGANDU	103	
115	15.5	0-135	135	120	W50G3M	440	3-gang — windings in parallel — requires 50-P1 and 50-P2 Chokes \$14 each	GATALLBONTY	173 1/2	
115	17.25	0-135	150	150	W50G3	385	See above	GATALLGANTY	158	
230	14.3	0-270	62	40	W50HG2M	310	2-gang — windings in parallel — requires 50-P1 Choke \$14	NITALBONDU	121 1/2	
230	15	0-270	65	50	W50HG2	260	See above	NITALGANDU	109	
230	21.4	0-270	93	60	W50HG3M	440	3-gang — windings in parallel — requires 50-P1 and 50-P2 Chokes \$14 each	NITALBONTY	182 1/2	
230	22.5	0-270	97.5	75	W50HG3	385	See above	NITALGANTY	167	
<b>Three Phase</b>										
230	12.8	0-270	31	20	W50HG2M	310	Open delta circuit	NITALBONDU	121 1/2	
230	13	0-270	32.5	25	W50HG2	260	Open delta circuit	NITALGANDU	109	
230	18	0-230	45	40	W50G3M	440	Wye circuit	GATALLBONTY	173 1/2	
230	20	0-230	50	50	W50G3	385	Wye circuit	GATALLGANTY	158	
460	24.6	0-460	31	20	W50HG3M	440	Wye circuit	NITALBONTY	182 1/2	
460	26	0-460	32.5	25	W50HG3	385	Wye circuit	NITALGANTY	167	

Ball Bearing Surcharges: 2-gang units — \$20.00; 3-gang units — \$25.00  
Driving Torques (oz.-in.): 2-gang units — 400-800; 3-gang units — 600-1200  
Dial Calibrations, one side only — 0-10

### Essential Dimensions



Type	Dimension A
W50G2	14 1/2
W50G3	20 1/2



Type	Dimension A
W50G2M	14 1/2
W50G3M	21 1/2

**Motor Drives** are available for all Type W50 Variacs. ALL motor-driven units include motor capacitor, adjustable-position microswitches to limit the arc of traverse to any desired position, and ball bearings.

ADDITIONAL prices for equipping any Type W50 VARIAC with motor drive (including the necessary ball bearings) are:

- All single units — \$140.00
- All two-gang units — \$130.00
- All three-gang units — \$135.00

For motor drives, a set-up charge of \$12.00 is prorated for quantity from 1 to 4. No set-up charge is made for quantities of 5 or more.

Traverse times available, in seconds, are 16, 32, 64 or 128 for single units; 32, 64 or 128 seconds for 2- and 3-gang units.

For type number terminology when ordering see page 5 of the current VARIAC BULLETIN "O". It is not necessary to add "BB" to the type number as all motor-driven VARIACS are equipped with ball bearings.



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Mylar\* From  $\pm 1\%$  to  $\pm 10\%$

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for electronic and avionic devices

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give you more of what you want most

**FEATURES** such as snap or positive-action . . . various terminal arrangements or mounting provisions . . . different temperature ranges—there's a *standard* type Stemco thermostat for your *special* needs. That means you cut down on lead time, research and development costs, tooling and production inventory. Specify Stemco and you get *better thermostats, faster and for less* than you can make them or buy them elsewhere.

**SIZE** and weight are particularly important in avionic and electronic applications. And here Stemco thermostats score, too. Their compactness and lightness give a better product without sacrificing performance.

**ECONOMY** of mass production of many standard Stemco types with literally hundreds of terminal arrangements and mounting provisions means your product costs less to make.

**AVAILABILITY** of most types is good. Design is flexible for your special applications, tooling is in existence for short-term delivery. If heat control is your problem, Stemco thermostats can provide the answer.

AA-4092

\*Refer to Guide 400 EO for U.L. and C.S.A. approved ratings.

**STEVENS** manufacturing company, inc.  
Lexington and Mansfield, Ohio



TYPE A\*  
Semi-enclosed

Electrically independent bimetal disc with fast response and snap-action control. Operation from  $-10^{\circ}$  to  $+300^{\circ}$ F. Various enclosures and mountings, including brackets, available. For appliance, electronic, apparatus applications. Request Bulletin 3000.



TYPE A\*  
Hermetically sealed

Electrically identical to semi-enclosed Type A. Temperatures from  $-10^{\circ}$  to  $300^{\circ}$ F. Various enclosures and mountings, including brackets, available. For appliance, electronic, apparatus applications. Request Bulletin 3000.



TYPE C  
Hermetically sealed

Electrically identical to semi-enclosed Type C but sealed in crystal can. Also supplied as double thermostat "alarm" type. Turret terminals or wire leads. Request Bulletin 5000.



TYPE C  
Semi-enclosed

Small, positive-acting. Electrically independent bimetal strip for operation from  $-10^{\circ}$  to  $300^{\circ}$ F. Rated at approximately 3 amps, depending on application. Terminals and mountings to customer specifications. See Bulletin 5000.



TYPE M\*  
Semi-enclosed

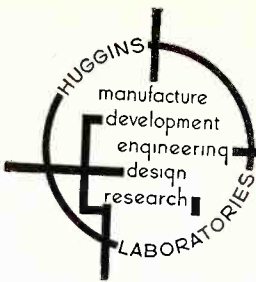
Electrically independent bimetal disc type for appliance and electronic applications from  $-10^{\circ}$  to  $350^{\circ}$ F. Rating: 8 amps at 115 volts AC, 4 amps at 230 volts AC and 28 volts DC. Virtually any type terminal. Bulletin 6000.



TYPE M\*  
Hermetically sealed

Electrically same as semi-enclosed Type M. Can be furnished with pin or solder-type terminals, wire leads and various mounting brackets. Write for Bulletin 6000.

STEMCO® THERMOSTATS



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UHF-BAND  
▼

L-BAND  
▼

## BROADBAND FORWARD WAVE AMPLIFIERS

10 MW STANDARD 30 DB MIN. SMALL SIGNAL GAIN 25 DB NOISE FIGURE		<b>HA-7▲</b> 0.5-1.0 KMC \$750.00 6-8 WEEKS DELIVERY	<b>HA-5▲</b> 1.0-2.0 KMC \$750.00 4-6 WEEKS DELIVERY	<b>HA-22▲</b> 1.6-2.4 KMC \$750.00
1 W STANDARD 30 DB MIN. SMALL SIGNAL GAIN 30 DB NOISE FIGURE		<b>HA-8<sup>D</sup></b> 0.5-1.0 KMC	<b>HA-18<sup>D</sup></b> 1.0-2.0 KMC	
10 MW MEDIUM NOISE 30 DB MIN. SMALL SIGNAL GAIN 15 DB NOISE FIGURE			<b>HA-17▲</b> 1.0-2.0 KMC \$850.00 6-8 WEEKS DELIVERY	<b>HA-19▲</b> 1.6-2.4 KMC \$850.00
LOW NOISE 30 DB MIN. SMALL SIGNAL GAIN 10 DB MAX. NOISE FIGURE			<b>HA-14▲</b> 1.0-2.0 KMC \$1,500.00 6-8 WEEKS DELIVERY	
PULSED	1 W MIN. 30 DB MIN. SAT. GAIN 0.1 MAX. DUTY CYCLE			
	2 W MIN. 30 DB MIN. SAT. GAIN 0.1 MAX. DUTY CYCLE			
	10 W MIN. 30 DB MIN. SAT. GAIN 0.1 MAX. DUTY CYCLE			

## DISPERSIVE FORWARD WAVE AMPLIFIERS

VOLTAGE TUNED 20 PER CENT BANDWIDTH 15 DB GAIN	<b>DA-3</b> 0.5-1.0 KMC \$850.00 6-8 WEEKS DELIVERY	<b>DA-2</b> 1.0-2.0 KMC \$750.00 6-8 WEEKS DELIVERY
------------------------------------------------------	--------------------------------------------------------------	--------------------------------------------------------------

## BACKWARD WAVE AMPLIFIERS

VOLTAGE TUNED 0.1 TO 0.5 PER CENT BANDWIDTH 15 DB GAIN
--------------------------------------------------------------

## PERMANENT MAGNET FOCUSED AMPLIFIERS

10 MW STANDARD 30 DB SMALL SIGNAL GAIN
1 W STANDARD 30 DB MIN. SMALL SIGNAL GAIN

## BACKWARD WAVE OSCILLATORS

10 MW MIN. POWER OUT VOLTAGE TUNED
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## SPECIAL PURPOSE TUBES

SPECIAL PURPOSE TUBES ARE MADE TO CUSTOMERS SPECIFICATIONS.
-------------------------------------------------------------

MANY MODIFICATIONS of these tubes have been made to customers specifications. A technical staff is available for your problems, as well as special research and development. Feel free to address us with your inquiry.

A CATALOG and engineering handbook is available for you. Please submit your request on company letterhead.

PRICE NOTE: above prices apply to small quantities only. Subject to change without notice. A 15 per cent credit will be allowed upon return of the used encapsulated tube when reordering. Shipment made from F.O.B. Menlo Park, California, via air freight. Terms: .5 per cent in 10 days, net 30 days.

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Tubes from Huggins Laboratories are standard-setters: the results being they are used in microwave systems the world over.

# THE INDUSTRY'S BROADEST LINE

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## ● BROADBAND FORWARD WAVE AMPLIFIERS

<b>HA-1▲</b> 2.0-4.0 KMC \$650.00 4-6 WEEKS DELIVERY	<b>HA-26▲(HA-3)</b> 4.0-8.0 KMC \$750.00 4-6 WEEKS DELIVERY	<b>HA-4▲</b> 8.2-12.4 KMC \$750.00 4-6 WEEKS DELIVERY	<b>HA-24▲</b> 12.4-15.0 KMC \$750.00 4-6 WKS. DEL.	<b>HA-25<sup>D</sup></b> 12.0-18.0 KMC
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		<b>PA-1<sup>D</sup></b> 8.2-12.4 KMC \$1,250.00		
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## ● BACKWARD WAVE AMPLIFIERS

<b>BA-1</b> 2.4-3.6 KMC \$1,500.00 2-3 MONTHS DELIVERY		<b>BA-2</b> 8.2-12.4 KMC \$1,500.00 2-3 MONTHS DELIVERY	<b>BA-4<sup>D</sup></b> 12.0-18.0 KMC
-----------------------------------------------------------------	--	------------------------------------------------------------------	------------------------------------------

## ● PERMANENT MAGNET FOCUSED AMPLIFIERS

	<b>HA-28<sup>D</sup></b> 4.0-8.0 KMC	<b>HA-20▲</b> 8.2-11.0 KMC \$1,500.00 2-4 MONTHS DELIVERY	
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## ● SPECIAL PURPOSE TUBES

<b>HA-16</b> 1.8 KMC IN, 9.0 KMC OUT FREQ. MULT. \$850.00 6-8 WEEKS DELIVERY		<b>HA-10</b> 8.2-12.4 KMC 100 MW AMPLIFIER \$850.00 4-6 WEEKS DELIVERY	
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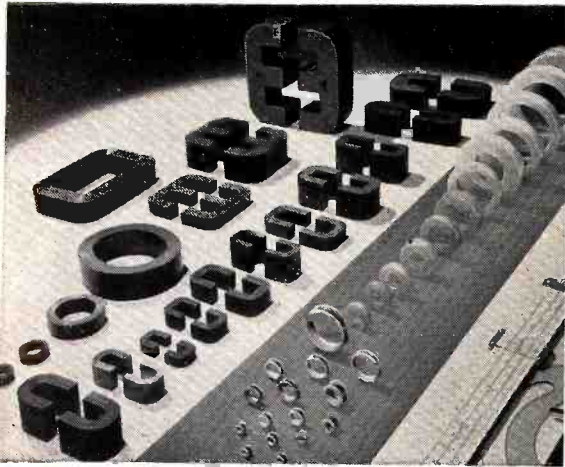


# Arnold Magnetic Materials

**ARNOLD** magnetic materials can answer all your requirements. It is the most complete line in the industry; and in addition, Arnold maintains complete control over every production step

from raw materials to finished products. Such a source can bring you advantages in long experience and undivided responsibility, and in unequalled facilities for quality production and control.

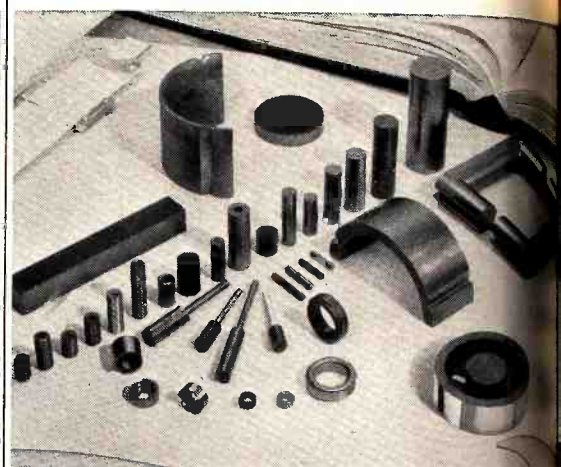
• *Let us supply your needs.*



C and E cut cores, tape wound cores, and bobbin cores.



Mo-Permalloy powder cores.



Iron powder cores.

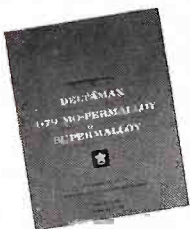


## TYPES "C" AND "E" CUT CORES

Available in more than 500 standard sizes and almost any special size, Arnold "C" and "E" Cores are made from precision-rolled Silectron strip (highly oriented silicon steel) in 1, 2, 4 or 12-mil thicknesses and a wide variety of window sizes and core areas, for high and low-frequency applications. Sizes range from a fraction of an ounce to hundreds of pounds.

Write for Bulletin SC-107

Insulated strip of the proper width is wound on a mandrel, then heat treated, bonded and cut into halves. Careful control results in accurately dimensioned and matched core halves whose effective air gap at the butt joint is very small. Rigid standard tests are employed for both "C" and "E" types of cores, and special tests where required.



## TAPE WOUND CORES

Depending upon the specific properties required, Arnold Tape Wound Cores are available made of Deltamax, 4-79 Mo-Permalloy, Supermalloy, Mumetal, 4750 Electrical Metal, or Silectron . . . in standard tape thicknesses of 1, 2, 4 or 12-mils, and in ultra-thin gauges of 1/2 and 1/4-mil where required.

Write for Bulletin TC-101A

This gapless type of core construction results in maximum effective working permeability with minimum flux leakage. Practically any size core can be supplied, from a fraction of a gram to hundreds of pounds. Toroidal cores are made in 30 standard sizes with protective nylon or aluminum cases. Special sizes of toroidal cores, and all square or rectangular tape wound cores, are produced to individual requirements.



## BOBBIN CORES

These cores, fabricated by winding ultra-thin tape of high-permeability magnetic materials on ceramic bobbin cores, possess ideal qualities for use in electronic computer assemblies. Their desirable properties include quite rectangular hysteresis loops, relatively low coercive values and high saturation densities; plus temperature stability and the ability to shift in a few microseconds from negative remanence to positive saturation, and vice versa, under conditions of pulse excitation.

Write for Bulletin TC-108

Arnold Bobbin Cores are available in a wide range of sizes, tape thicknesses, widths and number of wraps to suit the ultimate use of the core. Magnetic materials usually employed are Deltamax, Square Permalloy and Supermalloy, in standard thicknesses of 1, 1/2, 1/4 and 1/8 mil. Special advantages derive from Arnold's position as a fully-integrated producer of wound cores, able to maintain precise control over every production operation . . . melting, rolling, winding, testing, etc.



## MO-PERMALLOY POWDER CORES

These toroids provide high Q in a small volume, characterized by low eddy current and hysteresis losses.

Write for Bulletin PC-104B

Arnold Mo-Permalloy powder cores are supplied in four standard permeabilities: 125, 60, 26 and 14 Mu. They provide constant permeability over a wide range of flux density. The 125 Mu cores are recommended for use up to 15 kc; the 60 Mu at 10 to 50 kc; the 26 Mu at 30 to 75 kc; and the 14 Mu at 50 to 200 kc. Many of these cores may be furnished stabilized to provide constant permeability ( $\pm 0.1\%$ ) over a specific temperature range.

Arnold Mo-Permalloy powder toroids are available in a wide range of sizes, to obtain nominal inductances as high as 281 mh/1000 turns. They are given various types of enamel and varnish finishes, some of which permit winding with heavy Formex insulated wire without supplementary insulation over the core.



## IRON POWDER CORES

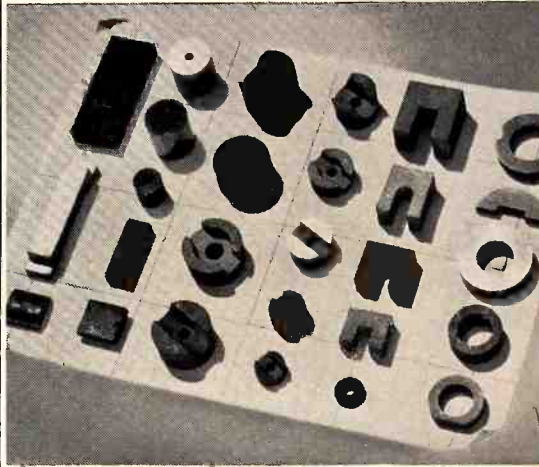
Arnold quality control of iron powder cores includes the maintaining of rigid electrical, physical and dimensional specifications unmatched in the industry. A wide selection of cores is available, from simple cylinders to special cores of complicated design. The line includes all standard types and sizes of threaded cores, cup, sleeve, slug and cylindrical insert cores: for use in antenna and RF coils, oscillator coils, IF coils, perm tuning, FM coils, television RF coils, noise filter coils, induction heating and bombardier coils, and other low frequency applications. A standard series of iron powder toroids is also manufactured, conforming to the standard sizes proposed by the Metal Powder Association.

Write for Bulletin PC-109

# The most complete line in the industry ...made by a fully integrated producer



Sendust powder cores.



Various types and sizes of sintered Alnico magnets.



A wide variety of cast Alnico magnets.

## SENDUST POWDER CORES

Write for Bulletin SDC-110

## SPECIAL MAGNETIC MATERIALS

Write for Bulletin GC-106B

Sendust Powder Cores are available in a wide selection of sizes, ranging from .800" O.D. to 3.346" O.D., and in permeabilities of 10, 13, 25, 50, 50 and 80, although not all sizes are available in all permeabilities.

Sendust cores possess magnetic properties that are generally superior to iron powder cores, but inferior to Mo-Permalloy powder cores in the audio and carrier frequency range. The eddy current loss for Sendust cores is lower than that of Mo-Permalloy powder cores, but the hysteresis loss of Sendust cores is substantially higher, and they also have higher values of electrical resistivity. In other characteristics of powder cores, the two types are somewhat similar, but Sendust cores contain no scarce or strategic materials and can offer a core source in times of alloy shortage.

## ALNICO MAGNETS—Cast and Sintered

Arnold manufactures permanent magnets from all grades of Alnico, although Alnico V is usually the preferred type due to the high value of energy product of that alloy. Alnico magnets are quite hard and somewhat brittle and may be machined only by grinding. Most sizes and shapes are manufactured as sand castings and are made to the customer's drawings and specifications. Some types and shapes of Alnico Magnets are carried as stock items.

Some small sizes of magnets may be furnished in sintered Alnico, and a wide range of shapes are carried in stock for quick delivery. Special shapes made in this way, however, require rather expensive dies.

*Vicalloy* is a permanent magnet alloy containing about 10% vanadium, 50% cobalt and the balance iron. It may be fabricated in the form of castings, hot rolled bars and forgings or cold rolled strip, wire and tubing. After suitable heat treatment, the material is quite readily machinable. The alloy finds its greatest usefulness in the form of forged rotors, stamped parts and special recording tape. The coercive force,  $H_c$ , is about 250 oersteds, the residual induction,  $B_r$ , is about 7500 gauss and the energy product,  $(BH)_{max}$ , is about  $0.8 \times 10^6$ .

*Supermendur* is a new material composed of about 2% vanadium, 49% iron and 49% cobalt. It work hardens slowly and can be rolled from .090" to less than .001" without intermediate softening treatments. Even after severe cold reduction, it remains ductile and can be bent back upon itself without fracture. Experimental cores measured at room temperature showed a coercive force,  $H_c$ , of 0.26 oersted, a residual induction,  $B_r$ , of 21,000 gauss, and a maximum permeability,  $\mu$ , of 66,000 at 20,000 gauss. Presently, it appears to be best suited for such applications as power transformers, pulse transformers, magnetic amplifiers, telephone receiver diaphragms, and switching and memory devices.

*Cunife* is a permanent magnet alloy of copper, nickel and iron which is malleable, ductile and machinable, even after it has been age hardened. The magnetic properties of Cunife are developed by cold working and are directional, with the best magnetic properties found only in the smaller sizes of rods or wires.

# THE ARNOLD ENGINEERING COMPANY

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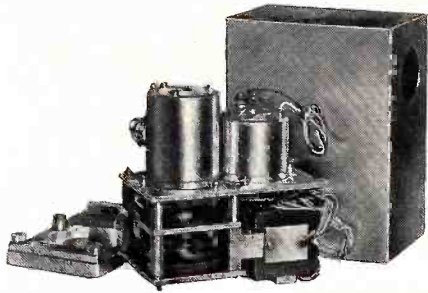
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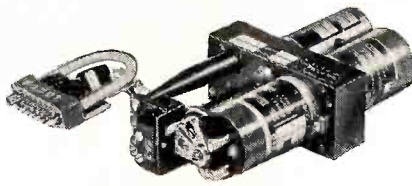
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An incremental synchro positioner before wiring to header and hermetic sealing. The synchro rotor is stepped in one or fifteen degree increments clockwise or counter-clockwise depending upon which of four coils is momentarily energized by a d-c pulse. The synchro can be rotated any number of degrees or revolutions. Cylindrical member next to the synchro resets it to electrical zero if a pulse is applied to "reset" circuit.



Type 9 motor-driven induction generator driving two Type 11CT synchros through gear train having ratio of 1500:1. Slip clutch permits one control transformer to operate when second control transformer has shaft restrained by stops. Cams close two switches during specified degrees of synchro rotation.



SERVO ASSEMBLY—Type 9 motor-driven induction generator driving a Type 11 synchro through a gear train having a ratio of 12,000:1. Rear shaft of synchro carries contact arm which restricts shaft rotation against adjustable stops and closes switch during the specified arc.

**control  
problems  
like  
yours**

**...with but one solution**

Typical of all Transicoil solutions are the three illustrated here. They "do the job right" because each is designed for a single application... by a company whose major function is to provide complete servo assemblies precisely engineered and manufactured to solve individual servo control problems.

Of course, if you want servo *components*, you'll find Transicoil's control motors, motor-gear train combinations, motor-gear train-generator combinations, and servo amplifiers built to the highest order of precision and accuracy. But it is in the "package" engineering of unique assemblies that Transicoil's experience and creative imagination offer the greatest value. And in most cases, these assemblies cost no more than the individual components would purchased separately. *That's why it pays to check your servo control problems out with Transicoil first.* For further information, call your nearest Transicoil representative.

**looking for miniaturization?**

If you have a problem in miniaturization of a control system, chances are Transicoil can solve it for you. For just as Transicoil's introduction of plate-to-plate wiring eliminated the transformers once necessary in servo systems, the company is now marking new milestones in system miniaturization with its new Size 8 motors, motor-

driven induction generators, and transistor amplifiers. This engineering ability can be put to work on your projects—with no obligation. You pay only for results—on a fixed fee basis for equipment delivered and performing properly. Transicoil is a manufacturer, not a research and development organization.

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6. Multi-Terminal Headers—all glass and individual bead design for relays, networks, and transformers.
7. Transistor and Diode Enclosures.
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Write for newest catalog 657-A



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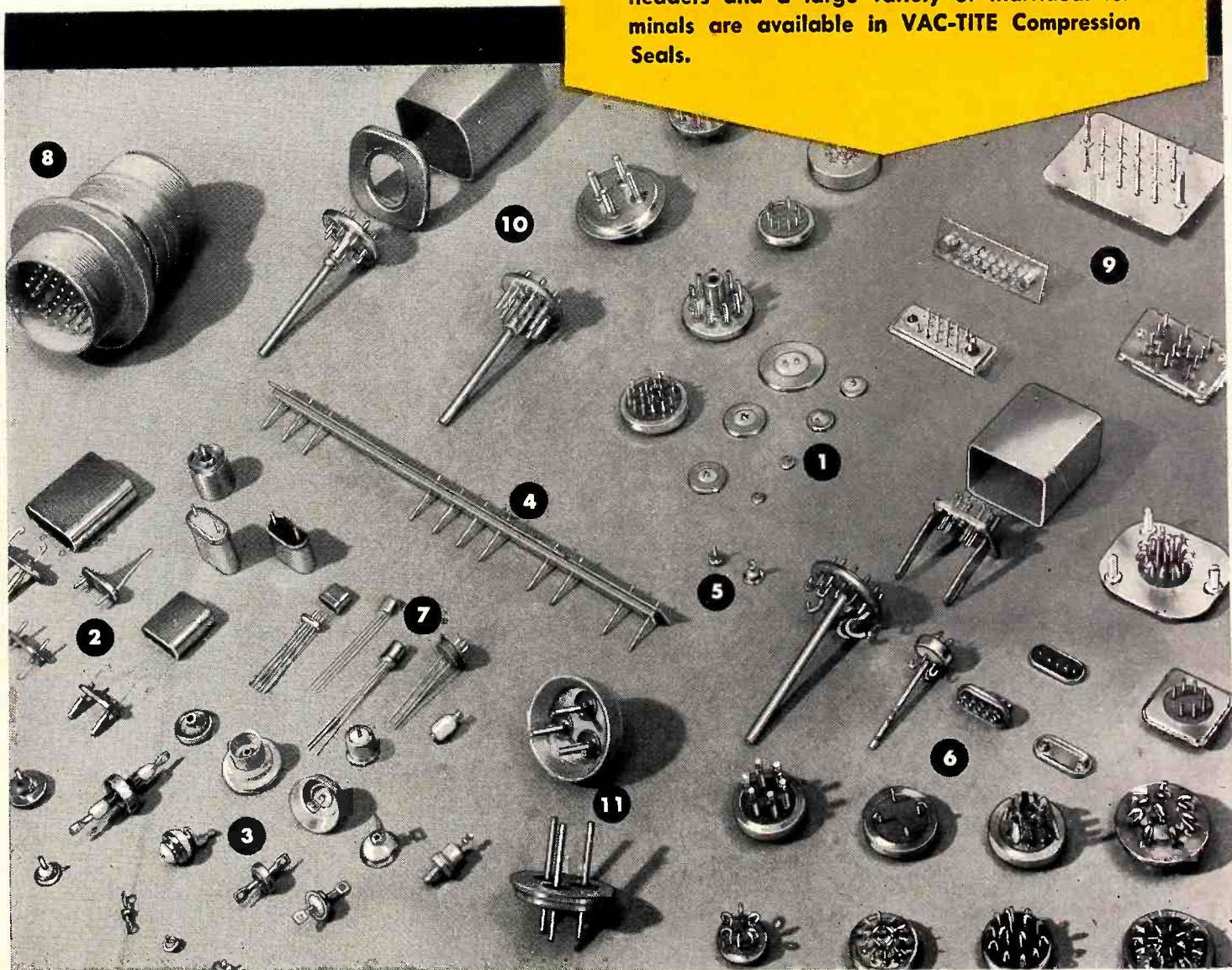
- California: Glass-Solder Engineering, 300 N. Lake Ave., Pasadena.
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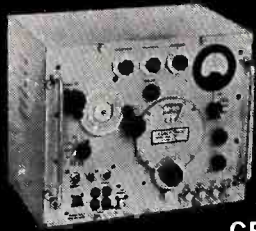
# Hermetic SEAL

## GLASS-METAL HEADERS For Every Electronic Use

The prime source for variety in sizes, terminations and shapes; quality; performance—at thoroughly acceptable cost to you. Special terminals for any purpose. In VAC-TITE\* Compression Seals as well as conventional kovar designs.

\*VAC-TITE is HERMETIC's vacuum-proof, compression-construction, glass to metal seal. In addition to special shapes, many standard sizes such as .800 O.D. and .900 O.D. multi-terminal headers and a large variety of individual terminals are available in VAC-TITE Compression Seals.





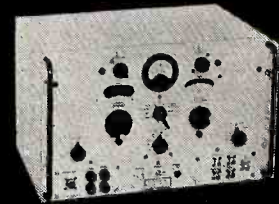
**SIGNAL GENERATOR**  
SG-153 1800-4000 mc

1800-4000 MC  $\pm 1\%$ , continuous. Multipurpose lab. and production precision signal source, pulse mod., internal and external mod. provisions, line Freq. FM, complete sync IN and OUT provisions. Output +4 to -130 dbm, continuously variable.



**HV INSULATION TESTER**  
T-4

0 to 15 KVDC output, continuously variable, meter for voltage and leakage current; SAFE: NON-DESTRUCTIVE TESTS — 150 ua max. test current. No capacitive errors. Tests ignition harnesses, components, transformers etc.



**SIGNAL GENERATOR**  
SG-161 900-2100 mc

900-2100 MC  $\pm 1\%$  continuous. Multipurpose lab. and production precision signal source, pulse mod. internal and external mod. provisions. Complete sync IN and OUT facilities. Output +4 to -130 dbm, continuously variable.



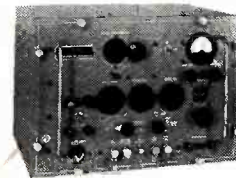
**Q-PROBE**  
3-40 mc Circuit Probe

Low-cost oscilloscope attachment for RF scope displays 3 to above 30 MC, continuously variable, high sensitivity; sync output locks scope sweep. Views RF signals; checks two-tone patterns. SSB carrier nulls, filters, RF squegging, parasitics, overall Xmitter mod. characteristics.



**SWEEP GENERATOR**  
SG-132 15-400 mc

Precision Sweep and CW, 15 to 400 MC, .01% CW accuracy WIDE deviation, 40% OF ANY CENTER FREQUENCY. Integral dc scope, crystal markers. Output flatness 0.25 db; 400 cps internal AM to 50%; extreme sweep linearity, -4 to -130 dbm output, continuously variable.



**SIGNAL GENERATOR**  
SG-109 400-1000 mc

400 to 1000 MC  $\pm 1\%$  Multipurpose lab. and production precision signal source; continuous pulse and amplitude mod., internal and external mod. provisions; complete sync IN and OUT facilities. Output +4 to -130 dbm continuously variable.

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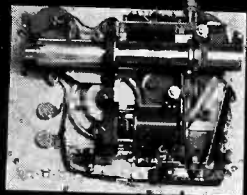
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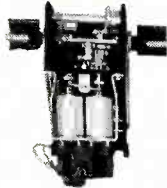
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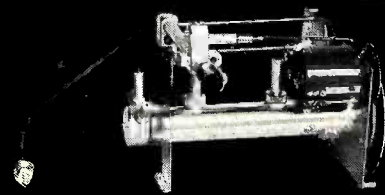
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2-4 KMC

2 to 4 KMC  $\pm 1\%$  continuous tuning Klystron coax. cavity assy; +6 to -130 dbm output, piston attenuator; complete level monitoring facilities. For inclusion in new equipment or test equipment. Modifications available to customers specifications.



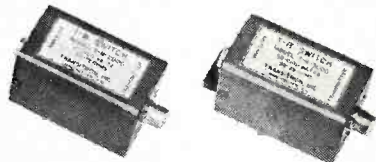
**MULTISPEED AIRCRAFT ACTUATOR T-113**

Rotary actuator assembly including solenoid speedshift for high-torque applications. Typical of Transitron-developed special electromechanical devices incorporating motor and gear drives. Extensive engineering and production facilities for design and manufacture to customers specs. available.



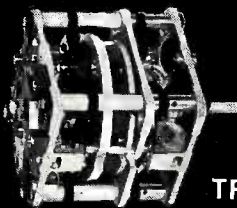
**OSCILLATOR CAVITY ASSY.**  
1-2 KMC

1 to 2 KMC  $\pm 1\%$  continuously tuning Klystron coax. cavity assembly; +3 to -130 dbm output; piston attenuator, level monitoring meter and bolometer facilities. For additions to or inclusion in new or test equipment. May be modified to customer's specifications.



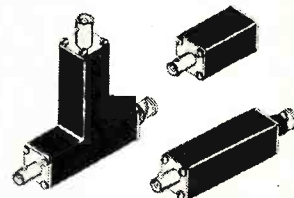
**T/R SWITCHES**  
Models 2000 & 3000

TRANSMIT-RECEIVE Switches, 1 KW max. power, 3 to 30 MC, no tuning adjustments, no RF relays; Low VSWR; insertion loss less than 1 S-unit; no TVI; Model 2000 has integral receiver muting relay. Low cost, high efficiency. Widely used in communications and amateur equipment.



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TD 132

High precision reciprocating mechanism. Driver unit for precision sweep mechanisms, FM cavity oscillators, magnetron sweeping etc., 20 to 30 cycle input; up to 1/2 in. peak-peak deflection, 0.5 lb. loading approximately. COMPLETELY BALANCED dynamically — No vibration. No susceptibility to external shock and vibration.



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Complete line of VHF terminations, detectors, attenuators, probes, impedance matching pads; operating range to 500 MC with low VSWR; BNC connectors. For use with all HF and VHF 50 and 75 ohm signal and sweep generators.

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# SILVER

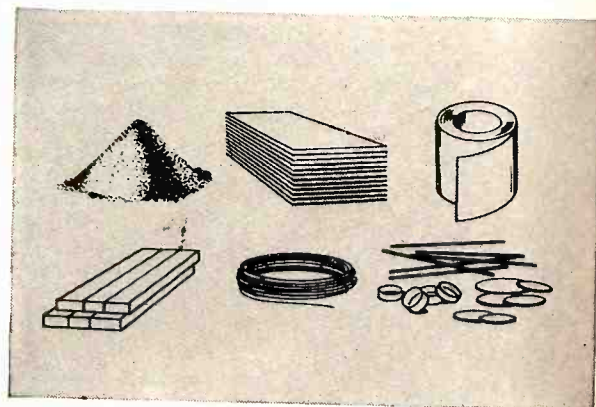
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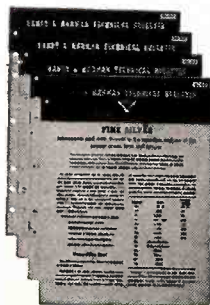
- Fine Silver (wire, strip and foil)
- Silver anodes and grain for plating
- Silver contact alloys
- Silver powders
- Silver flakes and paints
- Silver brazing alloys
- Silver electronic solders
- Silver sintered metals
- Solder-flushed silver alloys
- Silver chloride and oxide
- Coin Silver (wire and strip)
- Silver Bi-metals



*For your information file*

We have four Technical Bulletins giving engineering data on the properties and forms of Handy & Harman Silver Alloys. We would like you to have any or all of those that particularly interest you. Your request, by number, will receive prompt attention.

- |                                      |              |
|--------------------------------------|--------------|
| Fine Silver . . . . .                | Bulletin A-1 |
| Silver-Copper Alloys . . . . .       | Bulletin A-2 |
| Silver-Magnesium-Nickel . . . . .    | Bulletin A-3 |
| Silver Conductive Coatings . . . . . | Bulletin A-4 |



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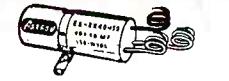


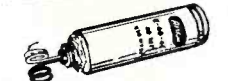



















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<b>PER CAPACITORS</b>		 BATHTUB CASE CAPACITORS — TYPE ED	 METAL SCREW-BASE ELECTROLYTIC — TYPE E	 ELECTROLYTICS FOR TRANSISTORIZED, PRINTED CIRCUIT APPLICATIONS — TYPE EZ TYPE EX	
<b>PER CAPACITORS</b>		 MOLDED PAPER TUBULAR — TYPE AM	 BATHTUB PAPER CAPACITOR — TYPE ADM	 METEOR* BATHTUB CAPACITOR — TYPE ADZ	 METEOR* METAL-CASED POLYESTER PLASTIC CAPACITORS — TYPE XQF
<b>PER CAPACITORS</b>		 CERAMIC CASED PAPER TUBULAR — TYPE AP	 OIL-FILLED METAL TUBULARS — TYPE AR MF	 MOLDED PLASTIC TUBULAR — BLUE • POINT® — TYPE BP	 METEOR* SUBMINIATURE GLASS-TO-METAL SEALED TUBULARS — TYPE AQF TQF
<b>METALLIZED PAPER CAPACITORS</b>		 METALITE® BATHTUB CAPACITORS — TYPE MD	 METALITE® GLASS-TO-METAL SEALED TUBULARS — TYPE MQC	 METALITE® HY-MET* CARDBOARD TUBULARS — TYPE MLL	 METALITE® HY-MET* TERNEPLATE "SQUEEZE SEAM" CASE — TYPE MXLJ
<b>METALLIZED PAPER CAPACITORS</b>		 METALITE® CARDBOARD TUBULARS — TYPE ML	 METALITE® METAL-CASED TUBULARS — TYPE MRF	 METALITE® TERNEPLATE "SQUEEZE SEAM" CASES — TYPE MXJ	 METALITE® HY-MET* BATHTUB CAPACITORS — TYPE MDL
<b>RF NOISE SUPPRESSION FILTERS</b>		 METALITE® HY-MET* SUBMINIATURE BATHTUB — TYPE MTL	 METALITE® HY-MET* GLASS-TO-METAL SEALED TUBULARS — TYPE MQL	<p>ASTRON'S FOUR STEP FILTER SERVICE PLAN HAS SOLVED THOUSANDS OF INDUSTRY'S AND GOVERNMENT RF FILTER PROBLEMS. THIS "PACKAGED" SERVICE INCLUDES:</p> <ol style="list-style-type: none"> <li>1. DEFINITION OF REQUIREMENTS</li> <li>2. ENGINEERING ANALYSIS</li> <li>3. PROTOTYPE TESTING</li> <li>4. EFFICIENT SOLUTION OF PROBLEM</li> </ol> <p>ASTRON WILL CUSTOM-ENGINEER AND MASS PRODUCE A FILTER SPECIFICALLY FOR YOUR EQUIPMENT</p>	

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# SILVER GRAPHALLOY BRUSHES

Silver GRAPHALLOY Brushes have been widely used because of LOW and CONSTANT CONTACT DROP, EXTREMELY LOW ELECTRICAL NOISE and LONG LIFE... especially for *rotating strain gages, thermocouple circuits, synchros, guided missiles, fire control equipment, transducers, radar and sonar equipment, servo-mechanisms, selsyns, dynamotors and other avionic applications.*

The GRAPHALLOY process was patented over 40 years ago and the name GRAPHALLOY has been our registered trademark since that time. While this company has been selling GRAPHALLOY for over 40 years, recent developments have added materially to its properties. Over 200 grades are now used in a wide variety of applications. Silver GRAPHALLOY Brushes on 1/2" diameter coin silver slip rings have been used successfully in highly critical electrical circuits at speeds up to 100,000 R.P.M. *Our Engineering Department will assist in determining the exact grade of GRAPHALLOY for your needs. Ask for our Brush Inquiry Form 109.*

## BRUSH and SPRING ASSEMBLY

Silver GRAPHALLOY Brushes are available for the standard Brush Holders described in the next column. Springs are supplied, as part of the assembly, to give the correct brush pressure for each brush application. Shunts are provided to insure extremely low electrical noise level and for carrying heavy currents.

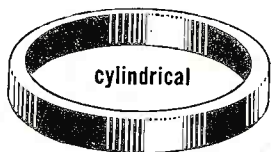


## SLIP RINGS — SOLID COIN SILVER

Standard Coin Silver Slip Rings, both *cylindrical* and *flat* types, are illustrated below. We recommend the cylindrical type ring with three brushes per ring... spaced at 120°. The cylindrical type are designed for press fitting over standard steel shafting. The flat type rings are designed for nesting either on an insulated plate or for molding into insulation. Insulated slip rings of either type or slip-ring assemblies can be furnished with leads attached.



flat



cylindrical

Standard "Flat" rings have 1/4" radial contact surface and 1/8" radial spacing between adjacent rings.

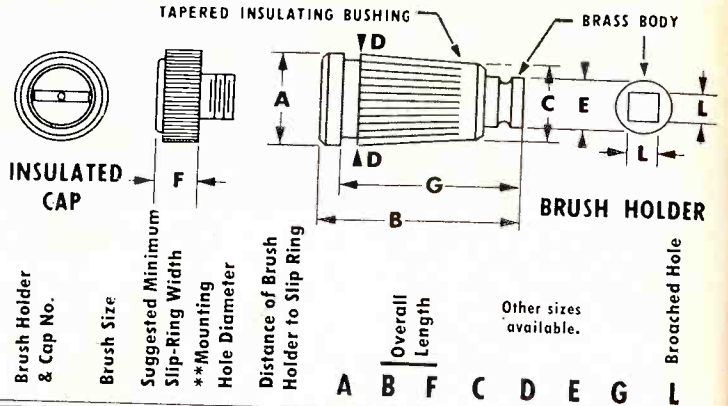
Part No.	OD	ID	Thickness
168-20	1 1/4	3/4	3/16
168-32	2	1 1/2	3/16
168-44	2 3/4	2 1/4	3/16
168-56	3 1/2	3	3/16
168-68	4 1/4	3 3/4	3/16
168-80	5	4 1/2	3/16
168-92	5 3/4	5 1/4	3/16
168-104	6 1/2	6	3/16
168-116	7 1/4	6 3/4	3/16
168-128	8	7 1/2	3/16
168-140	8 3/4	8 1/4	3/16
168-152	9 1/2	9	3/16
168-164	10 1/4	9 3/4	3/16
168-176	11	10 1/2	3/16
168-188	11 3/4	11 1/4	3/16
168-200	12 1/2	12	3/16
168-212	13 1/4	12 3/4	3/16
168-224	14	13 1/2	3/16
168-236	14 3/4	14 1/4	3/16
168-248	15 1/2	15	3/16
168-260	16 1/4	15 3/4	3/16
168-272	17	16 1/2	3/16
168-284	17 3/4	17 1/4	3/16
168-296	18 1/2	18	3/16
168-308	19 1/4	18 3/4	3/16
168-320	20	19 1/2	3/16

Part No.	OD	ID	Width
1165-4**	1/4	.127/.123	3/16
1165-6**	3/8	.252/.248	3/16
1165-8**	1/2	.377/.373	3/16
1165-10**	3/4	.502/.498	3/16
1165-12**	7/8	.627/.623	3/16
1165-14**	1	.752/.748	3/16
1165-16**	1 1/8	.877/.873	3/16
1165-18**	1 1/4	1.000/.996	3/16
1165-19	1 3/8	1.000/.996	3/16
1165-23	1 7/8	1.250/1.246	3/16
1165-27	2 1/8	1.500/1.496	3/16
1165-35	2 3/8	2.000/1.996	3/16
1165-43	2 7/8	2.500/2.496	3/16
1165-52	3 1/4	3.000/2.996	3/16
1165-60	3 3/4	3.500/3.496	3/16
1165-68	4 1/4	4.000/3.996	3/16
1165-76	4 3/4	4.500/4.496	3/16
1165-84	5 1/4	5.000/4.996	3/16
1165-92	5 3/4	5.500/5.496	3/16
1165-102	6 3/8	6.000/5.996	3/16
1165-118	7 3/8	7.000/6.996	3/16
1165-134	8 3/8	8.000/7.996	3/16
1165-150	9 3/8	9.000/8.996	3/16
1165-166	10 3/8	10.000/9.996	3/16

\*\*Available also in coin silver .025" thick inlaid over brass. For inlaid omit "S" from part number.

COPPER SLIP RINGS, flat or cylindrical, are available in the above sizes.

## BRUSH HOLDER and CAP



Brush Holder & Cap No.	Brush Size	Suggested Minimum Slip-Ring Width	**Mounting Hole Diameter	Distance of Brush Holder to Slip Ring	Overall Length							
					A	B	F	C	D	E	G	L
14326	1/8 sq.	3/16	1 3/32	1/16 min.	.437	7/8	3/16	.404	.418	.281	2 5/32	.129
11509*	3/32 sq.	3/16	1 3/32	1/16 min.	.437	7/8	3/16	.404	.418	.281	2 5/32	.160
11570*	3/16 sq.	1/4	7/16	1/16 min.	.484	7/8	3/16	.441	.451	.313	2 5/32	.192
11527*	1/4 sq.	5/16	9/16	1/8 min.	.616	1 1/8	3/16	.561	.573	.438	1 3/16	.256

Request and fill in Brush Inquiry Sheet, Form 109, so that we can supply the proper grade of brush material.

\*Shunts are provided. \*\*Mounting hole diameter for brush holder dimension D.

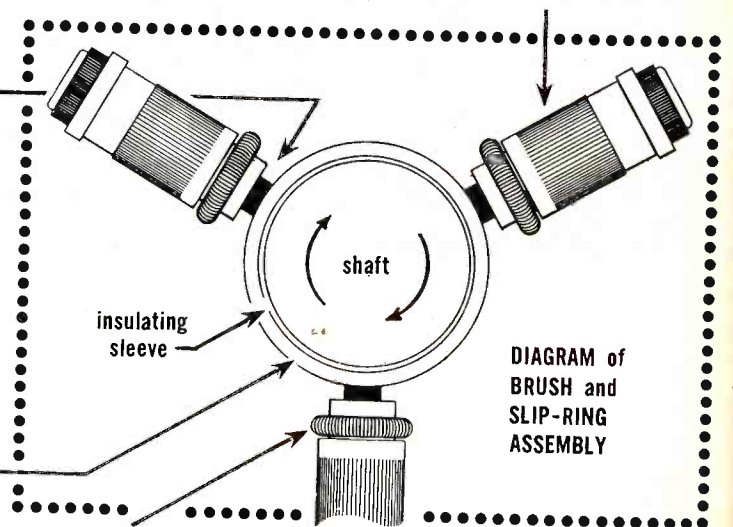


DIAGRAM of BRUSH and SLIP-RING ASSEMBLY

## CONNECTORS

These silver-plated coil spring Connectors make for positive electrical connection to the brass body of the brush holder by snapping into the groove in the holder. The connecting lead can be pre-soldered to the Connector.

Garter Spring Connectors	Brush Size	Brush Holder No.
127-9	1/8 sq.	14326
127-9	5/32 sq.	11509
127-10	3/16 sq.	11570
127-14	1/4 sq.	11527

## GRAPHALLOY BUSHINGS

Replace oil-lubricated bushings in synchros, instruments, timers and missiles. *Advantages:* 1) Lower friction at room temperatures. 2) No oil to solidify at low temperatures. 3) No oil to carbonize at prolonged elevated temperatures.

Ask for Data Sheets 270 and 277 on *Miniature Bronze-GRAPHALLOY Bushings.*

## GRAPHALLOY CONTACTS

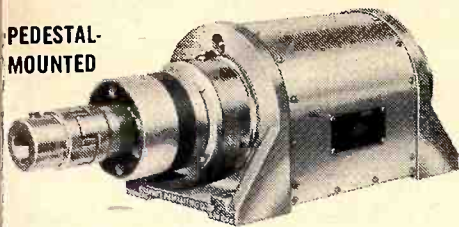
GRAPHALLOY, because of its inherent, non-welding and arcing characteristics, is used widely for contacts... especially where positive breaking of a circuit is required.

**CALL ON OUR OVER 40 YEARS OF DESIGN EXPERIENCE FOR HELP IN SOLVING YOUR BRUSH PROBLEMS!**

# ...and SILVER GRAPHALLOY brush & slip-ring assemblies

## Model 399 GRAPHALLOY BRUSH and SLIP-RING ASSEMBLY

PEDESTAL-  
MOUNTED



Bolt Slot Distances CL to CL.

Model	Rings	Width	Length	Overall Length**
399-4	4	4 1/2	7 3/4	13 1/4
399-6	6	4 1/2	8 1/2	14
399-10	10	4 1/2	10	15 1/2
399-14	14	4 1/2	11 1/2	17

Width 6 1/2" — Height 6 1/2"  
Shaft CL above base 3 3/4" \*\*To outer end of coupling.

Applications: from strain gage or thermo-couple up to 5 amperes, 125 volts, 250°F. Speeds to 5,000 RPM.

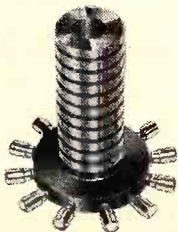
Three Silver-GRAPHALLOY Brushes per solid coin silver slip ring.

Extraneous noise level extremely low. Rugged in design and construction. Readily connected mechanically and electrically.

Complete coupling provided for 1 5/16" shaft. More rings and higher speeds available upon application.

## Model 319 CYLINDRICAL SLIP-RING ASSEMBLY

Solid Coin Silver Rings

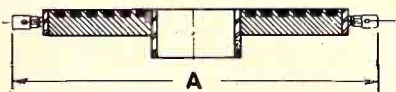


Model	Rings	Length
319-4	4	2 7/16
319-6	6	3 5/16
319-10	10	4 1 3/16
319-14	14	6 7/16

Slip ring O.D. 1 5/8". Terminal O.D. 4".  
Assembly I.D.: .814"/.813"  
Range: Same as for Model 399

## Model 409 FLAT SLIP-RING ASSEMBLY

Solid Coin Silver Rings



Model	Rings	Overall O.D. — "A"
409-2	2	5 1/2
409-4	4	7
409-6	6	8 1/2
409-10	10	11 1/2

Hub O.D. 2"; I.D. 1.573"/1.571"; Length 1 1/8"  
To 5 amperes, 125 volts.  
More rings available upon application.

## Model 399C GRAPHALLOY BRUSH and SLIP-RING ASSEMBLY

FLANGE-  
MOUNTED



Bolt Circle for

Model	Rings	Mounting Flange Coupling		Overall Length*
		Flange	Driving Coupling	
399C-4	4	7 3/8	7	13
399C-6	6	7 3/8	7	13 3/4
399C-10	10	7 3/8	7	15 1/4
399C-14	14	7 3/8	7	16 3/4

Case diameter: 6 1/2"  
\*From hemispherical end of case to center of flange coupling.

Details same as for Model 399 except as follows:

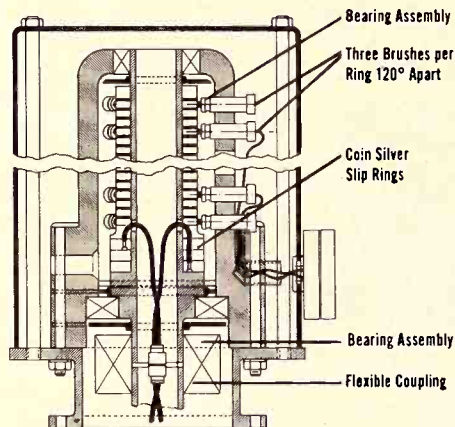
Rotor is attached by flange at end of shaft to customer's half of flange coupling.

Stator is attached, by flange ring thereon, to fixed mounting plate supplied by customer; or, if flange mounting is not feasible, flange ring is omitted and stator is restrained from rotation by shock cords attached to lugs on case.

Convenient multi-contact detachable connector for incoming circuits, and another such connector for outgoing circuits.

• • •

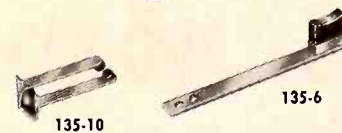
## Special brush and slip-ring assemblies to meet special requirements



## GRAPHALLOY BRUSHES

are used on  
such equipment as ...

- SERVO SYSTEMS
- SYNCHROS
- SELSYNS
- CHOPPERS
- RADAR
- GYROS
- INVERTERS
- PULSE SYSTEMS
- GUIDED MISSILES
- DIGITAL COMPUTERS
- WAVE GUIDES
- SONAR
- TRANSDUCERS
- TORQUE INDICATORS

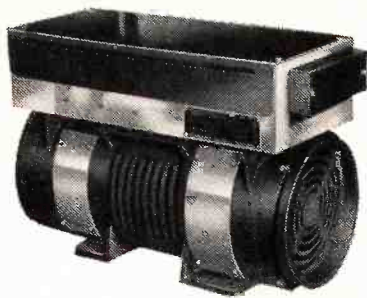


"We Specialize in  
Special Designs"

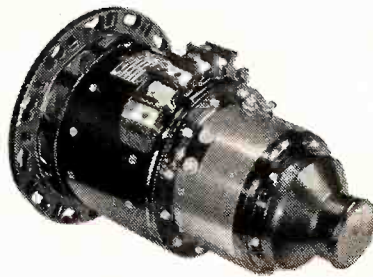
OUR ENGINEERING DEPARTMENT WILL  
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SPECIAL COMPONENTS AND ASSEMBLIES

# GRAPHITE METALLIZING CORPORATION

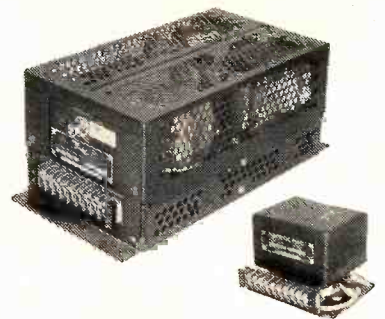
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YONKERS, N. Y.



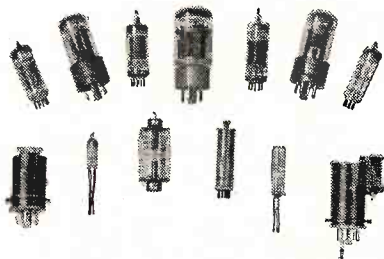
High-altitude and Missile  
INVERTERS



High-temperature  
AC GENERATORS



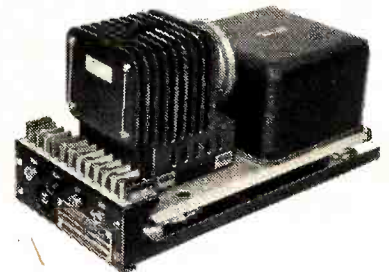
AC Voltage Regulators  
(Magnetic Amplifier Type)  
and  
SYSTEM COMPONENTS



Special-purpose Tubes  
featuring  
HARD GLASS TYPES



High-temperature  
DC GENERATORS



DC VOLTAGE REGULATORS  
and  
CONTROL PANELS

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# Supermarket

for

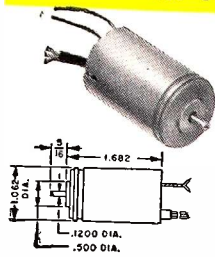
## precision components



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- RADAR ANTENNA DEVICES
- GYROS . . . . .
- COMPONENT PACKAGING

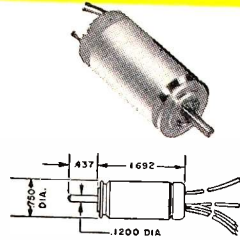
ECLIPSE-PIONEER DIVISION, BENDIX AVIATION CORPORATION  
TETERBORO, N.J.

## AY-190 SERIES, SIZE 11 FRAME — AUTOSYN® SYNCHROS — AY-300 SERIES, SIZE 8 FRAME



Function	Corrosion Resistant
Transmitter	AY-190-A1
Control Transformer	AY-191-A1
Resolver	AY-192-A1
Differential	AY-193-A1
Receiver	AY-194-A1*

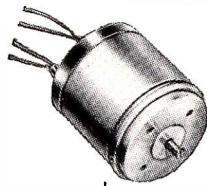
\* Receiver not normally furnished in corrosion resistant construction.



Function	Corrosion Resistant
Receiver	AY-300-2-A1*
Control Transformer	AY-300-25-A1
Transmitter	AY-300-26-A1
Control Transformer (HI-Z)	AY-300-38-A1
Resolver	AY-320-25-A1
Differential	AY-330-25-A1

\* Receiver not normally furnished in corrosion resistant construction.

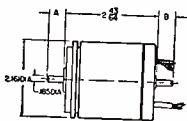
## AY-200 SERIES AUTOSYN SYNCHROS — SIZE 15 FRAME



TYPICAL No.	Dimension	
	A	B
AY-200-1	1/4	0
AY-201-1	1/2	0
AY-202-1	7/16	3/8

FUNCTION	STANDARD CONSTRUCTION	CORROSION RESISTANT	HIGH TEMPERATURE
Multi-Power Transmitter	AY-20 <input type="checkbox"/> S-1-B	AY-20 <input type="checkbox"/> S-44-B	
Receiver	AY-20 <input type="checkbox"/> S-2-B		
Control Transformer	AY-20 <input type="checkbox"/> S-3-B	AY-20 <input type="checkbox"/> S-25-B	
Single-Power Transmitter	AY-20 <input type="checkbox"/> S-4-B	AY-20 <input type="checkbox"/> S-26-B	AY-20 <input type="checkbox"/> S-31-B
Control Transformer (HI-Z)	AY-20 <input type="checkbox"/> S-5-B	AY-20 <input type="checkbox"/> S-38-B	
Linear		AY-21 <input type="checkbox"/> S-42-B	AY-21 <input type="checkbox"/> S-48-B
Resolver (HI-Z)	AY-22 <input type="checkbox"/> S-5-B	AY-22 <input type="checkbox"/> S-38-B	
Resolver	AY-22 <input type="checkbox"/> S-27-B	AY-22 <input type="checkbox"/> S-25-B	
Differential (Servo Application)	AY-23 <input type="checkbox"/> S-3-B	AY-23 <input type="checkbox"/> S-25-B	
Differential (Synchronous Application)	AY-23 <input type="checkbox"/> S-4-B		
Resolver (Omni Application)	AY-24 <input type="checkbox"/> S-5-B		
Resolver (HI-Frequency)	AY-25 <input type="checkbox"/> S-24-B	AY-25 <input type="checkbox"/> S-39-B	
Resolver, Control Transformer	AY-26 <input type="checkbox"/> S-3-B		
Variable Transformer	AY-27 <input type="checkbox"/> S-43-B	AY-27 <input type="checkbox"/> S-46-B	AY-27 <input type="checkbox"/> S-46-B

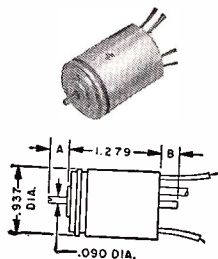
## AY-400 SERIES AUTOSYN SYNCHROS — SIZE 22 FRAME



TYPE No.	Dimension	
	A	B
AY-401-1	1/2	0
AY-402-1	1/2	1/2

FUNCTION	STANDARD CONSTRUCTION	CORROSION RESISTANT
Transmitter	AY-40 <input type="checkbox"/> -1-A	AY-40 <input type="checkbox"/> -2-A
Differential	AY-43 <input type="checkbox"/> -1-A	AY-43 <input type="checkbox"/> -2-A

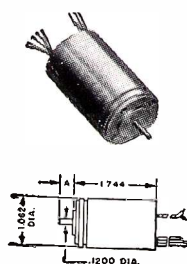
## AY-500 SERIES "PYGMY" AUTOSYNS — SIZE 10 FRAME



TYPICAL No.	Dimension	
	A	B
AY-500-2	1/4	0
AY-502-2	1/4	1/4
AY-503-2	3/8	0

FUNCTION	STANDARD CONSTRUCTION	CORROSION RESISTANT	HIGH TEMPERATURE
Receiver	AY-50 <input type="checkbox"/> -2-A1		
Control Transformer	AY-50 <input type="checkbox"/> -3-A1	AY-50 <input type="checkbox"/> -25-A1	
Transmitter	AY-50 <input type="checkbox"/> -4-A1	AY-50 <input type="checkbox"/> -26-A1	AY-50 <input type="checkbox"/> -8-A1
Control Transformer (HI-Z)	AY-50 <input type="checkbox"/> -5-A1	AY-50 <input type="checkbox"/> -38-A1	
Linear	AY-51 <input type="checkbox"/> -10-A1		
Resolver	AY-52 <input type="checkbox"/> -3-A1	AY-52 <input type="checkbox"/> -25-A1	
Differential	AY-53 <input type="checkbox"/> -3-A1	AY-53 <input type="checkbox"/> -25-A1	
Resolver (HI-Z)	AY-54 <input type="checkbox"/> -5-A1	AY-54 <input type="checkbox"/> -38-A1	
Resolver (HI-Frequency)	AY-55 <input type="checkbox"/> -24-A1	AY-55 <input type="checkbox"/> -39-A1	

## AY-600 SERIES AUTOSYN SYNCHROS — SIZE 11 FRAME



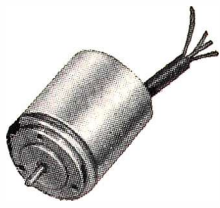
TYPICAL No.	A INCHES
AY-600-1	5/16
AY-601-1	1/2

FUNCTION	STANDARD CONSTRUCTION	CORROSION RESISTANT	HIGH TEMP. AND CORROSION RESISTANT
Multi-Power Transmitter	AY-60 <input type="checkbox"/> -1-A1	AY-60 <input type="checkbox"/> -6-A1	
Control Transformer	AY-60 <input type="checkbox"/> -3-A1	AY-60 <input type="checkbox"/> -5-A1	AY-60 <input type="checkbox"/> -12-A1
Control Transformer (Med. Z)		AY-60 <input type="checkbox"/> -11-A1	AY-60 <input type="checkbox"/> -9-A1
Receiver	AY-60 <input type="checkbox"/> -10-A1		
Single-Power Transmitter	AY-60 <input type="checkbox"/> -8-A1		
Resolver	AY-62 <input type="checkbox"/> -3-A1	AY-62 <input type="checkbox"/> -5-A1	
Differential		AY-63 <input type="checkbox"/> -5-A1	AY-63 <input type="checkbox"/> -12-A1

Units listed have loose leads. Can also be furnished with terminal boards.

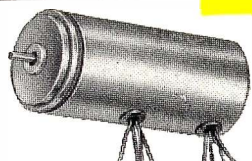
## LOW INERTIA SERVO MOTORS

TYPE No.	RATED VOLTAGE		Max. Power Input Total (Watts)	No Load Speed (RPM)	Stall Torque (Oz. in.)	Torque to Inertia Ratio (Radians-sec. <sup>2</sup> )	Frame Size	REMARKS
	Phase 1	Phase 2						
CK-1018-7-A1	18	18	5.0	10,000	0.13	18,400	10	Tapered Shaft 125°C Ambient Temp. Corrosion Resistant, Tapered Shaft MK 7 Mod. 1
CK-1018-16-A1	26	26	6.0	10,000	0.3	40,000	10	
CK-1025-13-A1	115	115/57.5	12.0	4,800	1.45	31,000	15	Corrosion Resistant Pinion on Tapered Shaft Drag Cup Tapered Shaft 125°C Ambient Temp. Corrosion Resistant, Splined Shaft Splined Shaft Splined Shaft
CK-1027-14-B1	115	115/57.5	7.0	6,200	0.60	41,500	11	
CK-1027-15-B1	115	180/90	7.2	6,200	0.60	41,500	11	
CK-1031-18-A1	26	55	9.0	6,175	0.35	10,000	10	
CK-1038-17-A1	26	50	4.75	5,500	0.39	14,500	15	
CK-1041-19-A1	26	65	6.6	3,600	0.7	3,500	15	
CK-1043-17-A1	26	50	4.75	5,500	0.39	14,500	15	
CK-1045-16-A1	26	26	6.0	10,000	0.3	40,000	10	
CK-1048-24-A1	18	18	3.0	6,300	0.15	21,300	8	
CK-1048-29-A1	26	26	4.5	6,300	0.20	28,300	8	
CK-1049-25-A1	26	26	6.5	5,800	0.35	19,000	8	
CK-2006-5-A1	115	115	30.0	6,600	3.0	5,700	20	Corrosion Resistant Corrosion Resistant
CK-2006-13-A1	115	115	26.0	6,000	2.5	41,500	20	
CK-2011-13-A1	115	115	26.0	6,000	2.5	41,500	20	
CK-3004-4-A1	115	230	70.0	3,700	14.5	5,800	28	



## RATE AND SERVO MOTOR GENERATORS

TYPE No.	RATED VOLTAGE		Max. Power Input Total (Watts)	No Load Speed (RPM)	Stall Torque (Oz. in.)	Torque to Inertia Ratio (Radians-sec. <sup>2</sup> )	Gen. Excit. (Volts)	Generator Output (Volts)	Frame Size	REMARKS
	Phase 1	Phase 2								
FV-10 □-5-A1	26	26	7.0	10,000	0.28	20,000	18	0.3/1000	10	Corrosion Resistant
FV-103-6-A1	115	115/57.5	7.0	6,200	0.60	25,500	115	0.5/1000	11	
FV-104-7-A1	26	26	9.7	6,000	0.50	22,000	26	0.5/1000	11	
FV-109-10-A1	26	26	7.0	10,000	0.28	14,000	18	0.3/1000	10	High Temperature Corrosion Resistant Includes Permanent Magnet Generator for Speed Measurement
FV-110-9-A1	26	52/26	7.0	10,000	0.28	20,000	26	0.5/1000	10	Corrosion Resistant
FV-110-12-A1	33	52	7.0	10,000	0.28	20,000	26	0.5/1000	10	
FV-112-11-A1	18	18	3.0	6,300	0.15	13,000	18	0.25/1000	8	Corrosion Resistant
FV-2001-4-A1	115	115	23.0	7,200	2.5	69,000	18	0.3/1000	20	Corrosion Resistant
FV-2005-5-A1	115	115/57	26.0	6,000	2.5	39,000	115	0.5/1000	20	Corrosion Resistant
FV-2007-6-A1	115	115	25.0	7,000	2.8	5,400	18	0.3/1000	20	Corrosion Resistant
FV-3005-5-A1	115	230/115	70.0	3,700	14.5	4,200	115	0.5/1000	28	



## RATE AND SERVO MOTORS — CENTER TAPPED CONTROL WINDINGS

TYPE NUMBER	FRAME SIZE	CONT. PHASE VOLT.	CENTER TAPPED CONTROL PHASE TOTAL			POWER CONT. PHASE	FIXED PHASE VOLT.	FIXED PHASE			POWER FIXED PHASE	EFFECTIVE RESISTANT CONTROL PHASE	TORQUE
			Z	R	X			Z	R	X			
1265271	8	55	750	597	450	3.19	26	170	142	93	3.25	960	.3
1265272	10	52	584	419	405	3.3	26	146	105	101	3.3	830	.3
1265273	11	40	263	151	215	3.5	115	2175	1250	1780	3.5	460	.63
1269605	8	26	290	240	158	2.2	26	290	240	158	2.2	310	.2
1269606	10	26	290	240	158	2.2	26	290	240	158	2.2	310	.2
FV100-12-A1	10	33	241	175	167	3.3	26	146	105	101	3.3	335	.3
1269702	8	52	680	568	372	3.25	26	170	142	93	3.25	830	.3



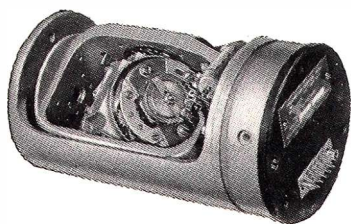
## ORDNANCE AND NAVY TYPE AUTOSYN SYNCHROS

TYPE No.		FUNCTION	TYPE No.		FUNCTION
ECLIPSE-PIONEER	MILITARY		ECLIPSE-PIONEER	MILITARY	
AY-1601-5	15TR4A	Torque Receiver	2328-1	3F	Receiver
AY-2400-9	23CX6	Control Transmitter	2330-1	1F	Receiver
AY-2400-10	23CT6	Control Transformer	2340-1	5HG	Transmitter
AY-2400-12	23TX6	Control Transmitter	2341-1	5F	Receiver
AY-2400-13	23TR6	Torque Receiver	2343-1	1D	Differential Receiver
AY-2401-10	23CT6A	Control Transformer	2344-1	6HG	Transmitter
AY-3200-9	31TX4A	Torque Transmitter	2345-1	3D	Differential Receiver
2323-1	1HCT	Control Transformer	2346-1	5SCT	Control Transformer
2324-1	1HG	Transmitter	2352-1	5HDG	Differential Transmitter
2325-1	1HDG	Differential Transmitter	2353-1	5HCT	Control Transformer
2326-1	3HCT	Control Transformer	2369-1	6HDG	Differential Transmitter
2327-1	3HG	Torque Transmitter			



## PRECISION GYROS FOR ALL APPLICATIONS

Eclipse-Pioneer . . . the nation's foremost supplier of panel indicator gyros . . . offers a complete line of gyros to meet all applications. This group includes all the basic vertical, rate, free, and directional gyro types used as reference components in complete navigation, radar, compass, autopilot, and guidance systems.



**Type Number 14110-1-A**



**Type Number 14104-1-B**



**Type Number 14126-1-A**

**Size:** 4 3/4" diameter, 8 1/2" in length  
**Weight:** Approx. 6 lbs. without shockmount  
**Power requirements:** Gyro Motor and Erection System — 115 volts, 400 cycles, 3 phase  
 Autosyn — 26 volts, 400 cycles, 1 phase

### VERTICAL GYRO TRANSMITTERS

**FEATURES:** includes quick erecting mechanism which makes the remote unit ready for operation within 3 minutes. • Two ball erection system • Non-tumbling stops • Inclined axis (1 degree) to minimize turn error.

Power requirement .....	115 volts, single phase, 400 cps	Autosyn excitation .....	26 volts, 400 cps
Starting .....	19 watts, 0.9 P.F.	Erection rate (normal) .....	3°/minute
Running .....	13 watts, 0.85 P.F.	Weight .....	2 3/4 lbs.
Gyro speed .....	22,000 rpm	Size .....	3 1/8" diameter x 5 13/16" long
Gyro moment .....	600 gram cm <sup>2</sup>		

**Diameter — 6 1/8" Weight — 6 1/4 lbs. Height — 6 3/4"**

Designed for use as a remote vertical reference where vertical stabilization is required. The instrument is essentially an electrically driven, vertical-seeking gyro with separate Autosyn transmitter pick-offs on the pitch and bank axes. Provisions are incorporated to reduce bank error encountered in turns.

- **Operating temperature range:** -55°C to +70°C.
- **Operational limits:** 360° in roll and pitch with controlled tumbling of the pitch axis at near 90°.
- **Accuracy:** The erection system maintains the gyro in a vertical position to within 1/4° of vertical position with respect to the earth.
- **Caging:** From any position at full rotor speed in less than 45 seconds.

This Vertical Gyro Transmitter provides roll and pitch displacement signals which will operate remote indicating devices or which can be used wherever attitude information could be applied. It consists of an electrically driven, torquer erected, vertical-seeking gyro enclosed in a hermetically sealed case with separate Autosyn transmitter pick-offs on the roll and pitch axes.

Provisions have been made so that the pitch and roll erection systems can be cut out by external switches.

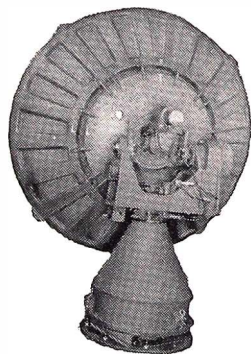
An outstanding feature of this instrument is the use of the newly developed Eclipse-Pioneer Electrolytic Switch which provides precise erection and has long serviceability. Besides being rugged, of simple design, and easily serviceable, the transmitter also features a quick erection to true vertical instead of vertical in relation to the instrument case; a sensitive measuring vertical detection system with an accuracy of better than 1/4°; and an improved gimbal construction resulting in greater operational stability. This gyro is completely self-contained and requires no erection amplifier.

#### VERTICAL GYRO—Non pendulous

**Momentum:** 4,000,000 gm cm<sup>2</sup>/sec

**Freedom:** 360° in roll. Controlled tumbling near ± 82° in pitch with stops set to provide minimum loop error at 10°/sec rate of loop

## RADAR ANTENNA DEVICES



**GROUND ANTENNA  
PEDESTAL  
TYPE NUMBER 40101-1-A**

#### SPECIFICATIONS

Weight .....	700 lbs.
Data accuracy .....	0.5 Mil.
Slewing rates (in azimuth and elevation).....	12 rpm.
Operating temperature range .....	-54°C to +66°C
Elevation and Azimuth .....	Two-speed 60 cps synchro data systems are used, having ratios of 1:1 and 16:1
Servo drives .....	3/4 HP motors (DC) for use with an Amplidyne servo system
Wind loading .....	50 mph (full operating performance) 100 mph (no structural damage)

#### SPECIFICATIONS

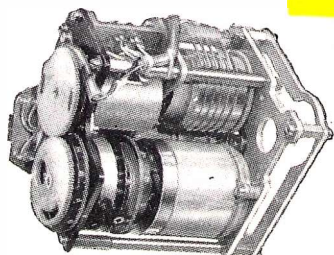
Standard frequency range .....	9345 to 9405 mc/s. This permits beacon operation at 9310 mc/s
Optional frequency range .....	9215 to 9275 mc/s
Operation .....	Up to 60KW peak with a 0.001 duty cycle
Beam width .....	4° maximum in E and H planes
Side lobes .....	At least 18 db below main lobe peak
Polarization .....	Horizontal
Weight .....	24 lbs. (approximate)
Operating temperature range* .....	-40°C to +55°C
Storage temperature range* .....	-65°C to +55°C
Humidity .....	10% to 95%

\*These temperature ranges can be extended for specific applications.

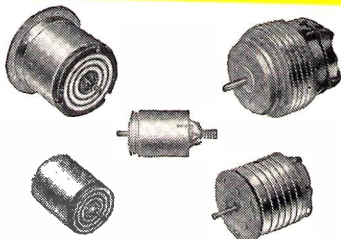
**AIRBORNE WEATHER  
RADAR ANTENNA  
TYPE NUMBER 40023-□-A**



## COMPONENT PACKAGING



**Servo Follow-Up Package External Slip Ring Autosyn**



In addition to supplying catalog component items such as — synchros, motors, gyros, etc. — Eclipse-Pioneer is in an excellent position to offer a premium in the way of customer service and accommodation on component packaging.

We may have already solved a problem similar to yours, thus enabling our system specialists to adapt from our extensive line, existing production packages to meet your systems requirements.

Should your problem turn out to be entirely new, we can — and will — design, develop, and produce a component or complete system to solve your specific problem.

No package is too small or too large for Eclipse-Pioneer, and may be as simple as an Autosyn mounting clamp or be more complex such as a complete servo follow-up sub-assembly from a production computer.

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Intended for use with jacketed cable and not requiring ground return through mating surfaces, this connector incorporates sealing gaskets at all mating joints.

W-Type Bendix\* Connectors also incorporate standard Scinflex resilient inserts in established AN contact arrangements. Shell components are thick sectioned high-grade aluminum for maximum strength. All aluminum surfaces are grey anodized for protection against corrosion.

It will pay you to remember that for the really tough jobs where ordinary electrical connectors just won't do, be sure to specify the W-Type Connector.

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\*TRADEMARK



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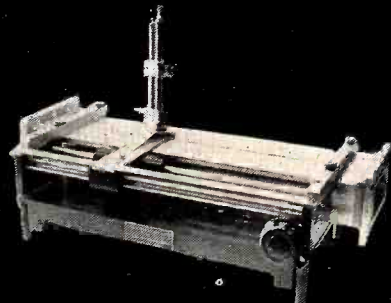
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# ELECTRA DEPOSITED CARBON RESISTORS

If increased reliability is your ultimate goal, begin with Electra deposited carbon resistors. Get precision, stability, small physical size, plus a full range of resistance values. Get the benefit, too, of an unsurpassed degree of manufacturing skill . . . skill resulting from years of pioneer work and production leadership in this field of electronics. Check the wide selection of available sizes, then write today for full details.

## STANDARD

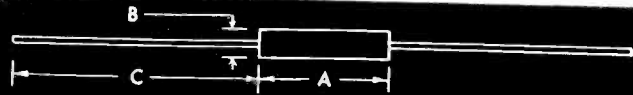
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## NEW ELECTRA SEALED SWITCH

Write for details on new Snap Action W-Blade Sealed Switch. Completely new water-proof, dust-proof switch at a cost comparable to open type switches. Write today for specifications and prices.

*Electra*



Electra Part No.	Mil. Style	Wattage	Max. Rated Voltage	Resistance Range	Length A	Dia. B	Leads Dia.
DC1/8	none	.125	250	4 ohms 250K	9/32"	5/64"	.016"
DC1/4	RN-10	.25	300	5 ohms 1 meg	17/32"	3/32"	.026"
DC1/4A	none	.25	300	5 ohms 800K	13/32"	3/32"	.026"
DC1/2	none	.5	500	6 ohms 5 megs	13/16"	11/64"	.032"
DC1/2A	RN-20	.5	350	3 ohms 2.2 megs	19/32"	11/64"	.032"
DC1/2B	none	.5	500	3 ohms 5 megs	11/16"	15/64"	.032"
DC1/2C	RN-15	.5	350	2 ohms 2 megs	15/32"	11/64"	.032"
DC1	RN-25	1.0	500	3 ohms 10 megs	15/16"	9/32"	.032"
DC2	RN-30	2.0	1000	10 ohms 50 megs	2 1/16"	9/32"	.032"

Special coatings, sleeves, lead lengths, etc., available. Standard lead length (C) 1 1/2".

Electra Part No.	Mil. Style	Wattage	Maximum Rated Voltage	Resistance Range	Length A	Dia. B	Leads Dia.
DCM 1/8	RN-60	1/8	250 Volts	10 ohms 1 meg	13/32"	.136"	.026"
DCM 1/4	RN-65	1/4	300 Volts	10 ohms 2.5 megs	19/32"	.219"	.026"
DCM 1/2	RN-70	1/2	350 Volts	10 ohms 2.5 megs	3/4"	.25"	.032"
DCM 1	RN-75	1	500 Volts	10 ohms 10 megs	1 1/8"	.395"	.032"
DCM 2	RN-80	2	750 Volts	30 ohms 40 megs	2 1/4"	.395"	.032"

Electra Part No.	Mil. Style	Wattage	Maximum Rated Voltage	Resistance Range	Length A	Dia. B	Leads Dia.
HC-1		1/4	250	10 ohms—250K	15/32"	5/32"	.016"
HC-2		1/3	300	10 ohms—1 meg.	3/4"	3/16"	.026"
HC-3	RN-70	1/2	350	10 ohms—2 megs	11/16"	1/4"	.032"
HC-4		1	500	10 ohms—5 megs	7/8"	5/16"	.032"
HC-5		1	500	10 ohms—5 megs	1"	9/32"	.032"
HC-6	RN-75	1	500	10 ohms—10 megs	1-3/32"	3/8"	.032"
HC-7	RN-80	2	1000	30 ohms—50 megs	2-1/4"	3/8"	.032"
HC-8	RN-65	1/4	300	10 ohms—2 megs	5/8"	1/4"	.032"
HC-9	RN-70	1/2	350	10 ohms—3 megs	3/4"	1/4"	.032"
HC-10	RN-60	1/8	250	10 ohms—1 meg	7/16"	5/32"	.026"
HC-40		1/8	150	10 ohms—350K	9/32"	5/32"	.016"

All Electra resistors made to meet or exceed Mil-R-10509B. Lead length C Standard and Molded resistor is 1 1/2". For Hermetically Sealed resistor it is 1 3/8".

## ELECTRA Ceramic Disc Capacitors

Temperature Compensating • A. C. Line Filters  
General Purpose • Extended T. C. • General By-Pass



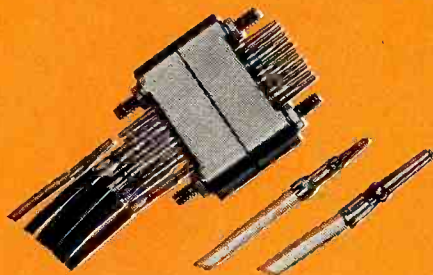
AVAILABLE IN NINE PHYSICAL SIZES—from 1/4" to 15/16" diameter

. . . Electra now offers you a complete line of Ceramic Disc Capacitors. These capacitors offer you the utmost in high stability, low power factor, High Q, low drift, high insulation and low inductance. You get, too, precision, product uniformity, small physical size, plus a wide range of capacitance values and low cost. For full details write today for our new Catalog Bulletin No. 101. In addition to the types listed above, high voltage disc capacitors and other special types also are available on request.

ELECTRA MANUFACTURING COMPANY 4051 Broadway Westport 1-6864 Kansas City, Mo.

## IT'S ROUND-UP TIME AT AMP

... products for your **ELECTRONICS**  
and **AVIONICS** applications



### TAPER PINS

The A-MP Miniature Taper Pin Receptacle eliminates tedious and costly operations of soldering leads to miniature connectors. This solderless, quick-disconnect terminal is applied to the lead by means of A-MP Automachine and A-MP Certi-Crimp Tooling . . . then capped over other type connectors, modified to receive the A-MP 37 Series Miniature Taper Pin Receptacle.

Other A-MP Taper Pins are available (Series 53 and 88) for wire sizes 24 - 12 AWG and a wide range of insulation sizes. Insulation piercing Taper Pins are available for small stranded wires and popular size tinsel cords.



### TAPER TAB RECEPTACLES

A-MP Taper Tab Receptacles are a recent development for flat tabs employing the taper key principle. They are available for wire sizes 24 - 18 AWG, in gold, silver and tin plated finishes.

The tapered section of these receptacles is standardized to fit the same size tapered tab. Insulation piercing Taper Tab Receptacles are available for small wire sizes and tinsel cords.



### CONNECTORS FOR PRINTED CIRCUITS

The AMP-Edge Connector is design-engineered with positive wiping contact and frictional grippage. This connector gives you: greater flexibility . . . its size does not limit the size of your completed unit; design versatility . . . easily applied, in any arrangement, to any section of the perimeter; costs reductions . . . in applying connector to the wire and to the printed circuit.

The AMPin Connector . . . gets leads to the printed circuit in one assembly operation . . . eliminates your investment in expensive automation equipment . . . no loose leads during the solder-dip process . . . construction promotes good capillary flow of solder during dipping process . . . can be applied to solid or stranded wires . . . is self-retaining and self-aligning.



### THE SHIELDED WIRE TEAM

The A-MP Shielded Wire Splice joins sections of shielded wire so that the inner conductor and outer shield are firmly spliced and remain effectively insulated from each other. Features include: rectangular inspection window, in center, permits easy inspection to determine proper placement of ends of inner conductor; inspection ports, at each end, to check proper depth of braid enclosed after crimping; and overhang of outer sleeve projects beyond inner elements and grips braid for anti-vibration support.

The A-MP Termashield Shielded Wire Ferrule are of one-piece construction, is slightly thicker than the wires joined, and is the ideal one-step splice for ground tap accommodation.

This A-MP Shielded Wire Team is color-coded for easy identification of leads and connectors and provides a simple one-step operation that reduces assembly time and costs.

Further information on these products is available on request.

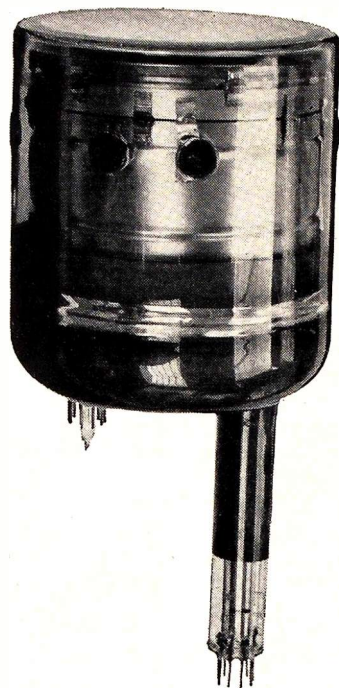
# AMP INCORPORATED

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## DIRECT-DISPLAY CATHODE RAY STORAGE TUBES BY HUGHES



### Hughes **TONOTRON**\*

*direct-display storage tube*

**FEATURES:** Half-tone presentation . . . excellent grey scale . . . controllable decay rate . . . compact design.

**APPLICATIONS:** Closed circuit TV . . . instrumentation . . . PPI . . . narrow band, slow scan TV.

**SPECIFICATIONS:** 1,000 foot-lamberts brightness at 10 kv . . . electrostatic focusing . . . magnetic deflection . . . 60 lines per inch resolution . . . writing speed of 150,000 inches per second.



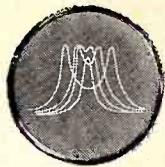
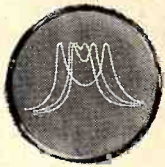
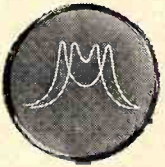
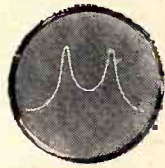
### Hughes **TYPOTRON**<sup>®</sup>

*character-display storage tube*

**FEATURES:** High brightness . . . permanent display until intentionally erased . . . rapid display of printed data . . . 63-character matrix.

**APPLICATIONS:** Digital computers . . . Teletype reception . . . wherever printed data must be displayed rapidly for use by human operator.

**SPECIFICATIONS:** Writes up to 25,000 characters per second . . . permanent storage until erased . . . almost instantaneous erasure . . . electrostatic focusing and deflection.



## Hughes **MEMOTRON**<sup>®</sup>

direct-display storage tube

**FEATURES:** Bright display . . . constant and uniform intensity of presentation . . . no perceptible transient decay . . . simplifies photography.

**APPLICATIONS:** Transient analysis . . . spectrum analysis . . . direct comparison of wave forms.

**SPECIFICATIONS:** 100,000 inches per second writing speed . . . stores traces until intentionally erased . . . erasure triggered by push-button or programmed voltage . . . electrostatic focusing and deflection.

New Hughes 104 MEMO-SCOPE\* oscilloscope

**FEATURES:** Captures and retains any number of traces indefinitely . . . eliminates waste of time and film for unnecessary photography.

**APPLICATIONS:** Presentation of tube or transistor characteristics without need of repetition . . . displaying frequency response with a single scan through the desired spectrum . . . investigation of transient behavior for power supply regulation . . . transients encountered in ballistics or missile firing . . . to monitor phase relationships.

**SPECIFICATIONS:** 5-inch diameter MEMOTRON<sup>®</sup> direct-display storage tube . . . optional plug-in preamplifiers for increased flexibility . . . almost instantaneous erasure by push-button or programmed voltage.

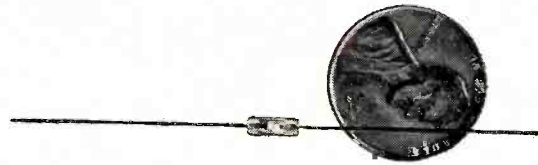
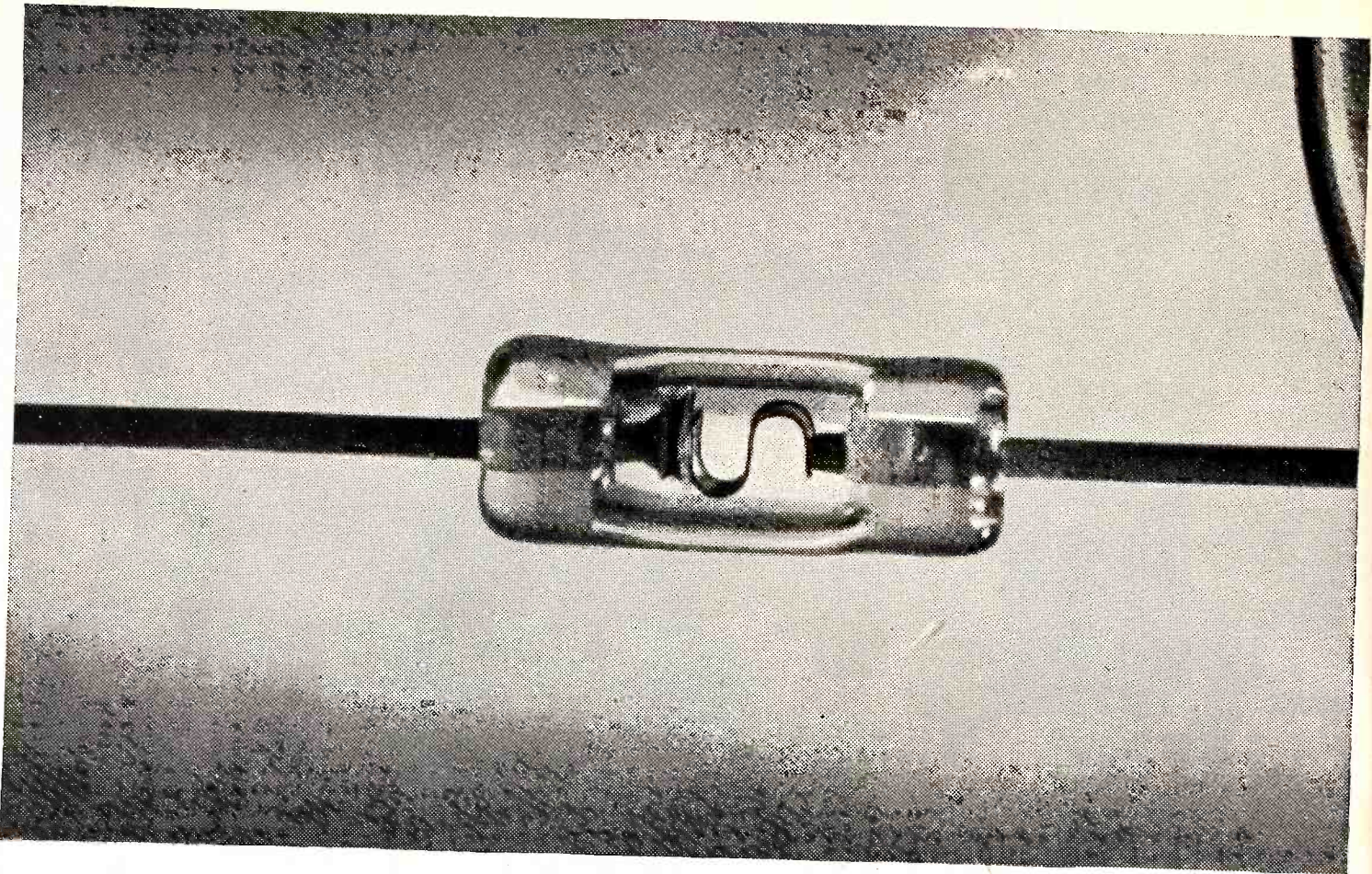
For additional information, write to  
HUGHES PRODUCTS • ELECTRON TUBES  
International Airport Station, Los Angeles 45, California

**HUGHES PRODUCTS**

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Creating a new world with **ELECTRONICS**

\*Trademark of Hughes Aircraft Company



## HUGHES SEMICONDUCTORS

DIODES • TRANSISTORS • RECTIFIERS

At Hughes, reliability is the standard upon which every device is based, from research and development through all phases of production. Its significance to you can only be determined if you specify Hughes, if you actually design our units into your equipment. Then you will *know* that Hughes reliability means trouble-free operation under even the most severe operating conditions.

*First of all, for reliability!*



### GERMANIUM POINT-CONTACT DIODES

STANDARD—A large series comprising RETMA, JAN and special types, all having Hughes' famous glass package for complete protection from contaminant penetration. For applications in computers, radar, communications equipment, control equipment.

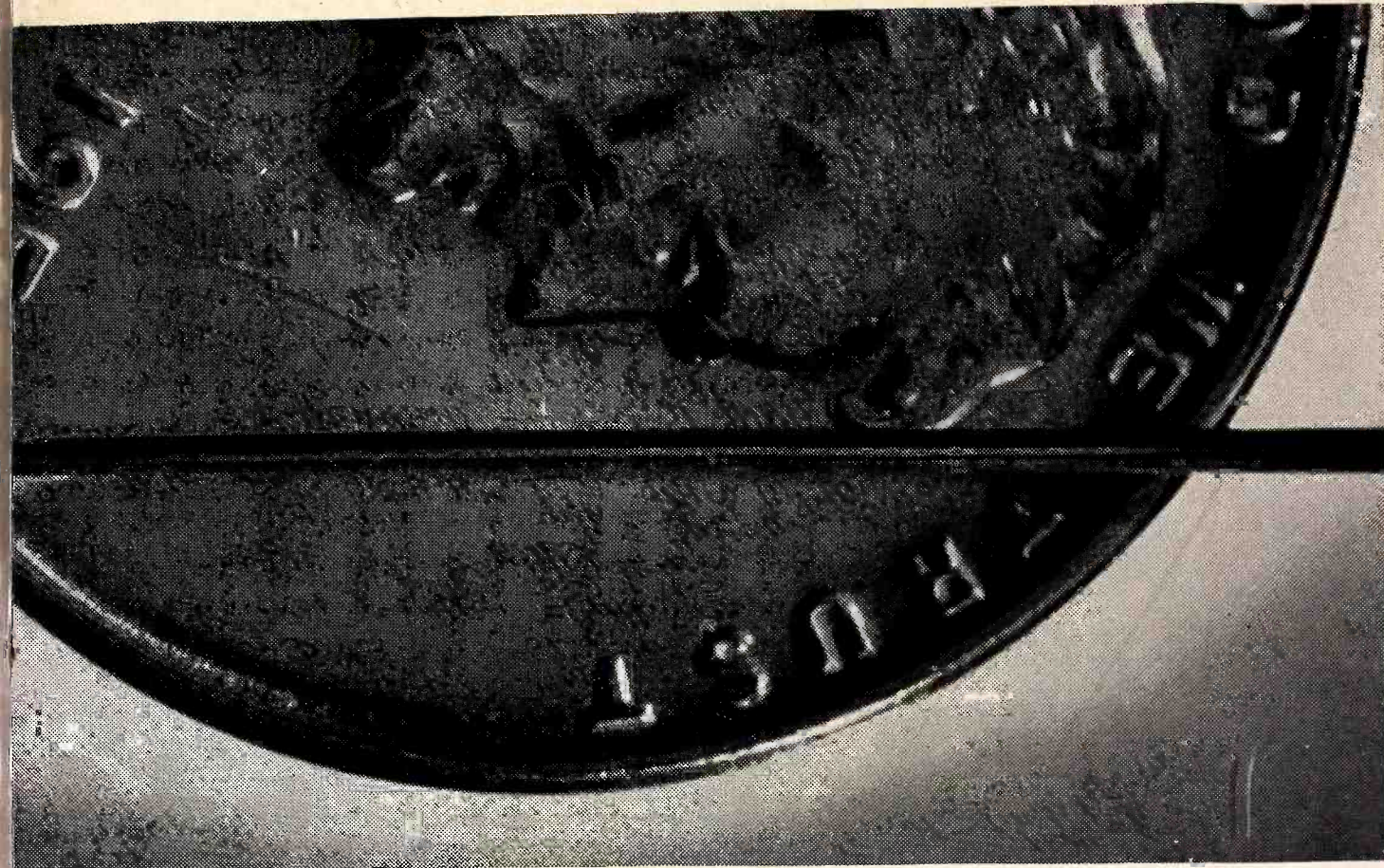
Peak Inverse Voltage	50-190V	Min. Forward Current @ +IV	3-200mA
Max. Inverse Working Voltage	40-150V	Max. Inverse Current @ -50V	.050-.850mA

QUICK RECOVERY, HIGH CONDUCTANCE—Germanium diodes with all the features of the standard series plus quick recovery and high conductance together.

Peak Inverse Voltage	50-130V	Min. Forward Current @ +IV	20-150mA
Max. Inverse Working Voltage	40-100V	Max. Inverse Current @ -50V	.050-.500mA
Recovery (IBM "F" test)		100KΩ in 1 μsec.	

For some time now the Hughes line has covered an extensive variety of applications in the electronics industry. And it is still growing, with many new products "just around the corner." Watch for their introduction, but meanwhile, for details of those already here, please write:

SEMICONDUCTOR DIVISION • HUGHES PRODUCTS  
International Airport Station, Los Angeles 45, California



### SILICON JUNCTION DIODES

STANDARD—High-temperature units (200°C) featuring excellent forward conductance, extremely high back resistance, and extremely low saturation current throughout wide temperature ranges.

Saturation Voltage	30-200V	Back Current @ 25°C	as low as .025 $\mu$ A (-175V)
Forward Current @ IV	1-40mA	Back Current @ 150°C	as low as .005 mA (-175V)

QUICK RECOVERY—A high-speed, high-voltage, high-temperature series for high-frequency or fast-switching circuits.

WIV @ 0.1mA	30-200V	Recovery (modified IBM "Y" test)	400K $\Omega$ (min.) in 1 $\mu$ sec.
Forward Voltage @ 4mA	<1.5V	Reverse Current @ 25°C	as low as 1 $\mu$ A (-175V)
		Reverse Current @ 100°C	as low as 100 $\mu$ A (-175V)

HIGH CONDUCTANCE—Reliable devices ideal for miniaturized circuits requiring high back resistance, high voltage, high temperature.

Breakdown Voltage	200-400V	Forward Current Rating (Ave. Rect.)	up to 200mA
Reverse Current	as low as 0.1 $\mu$ A (350V)	Forward Voltage @ 200mA	<1V



### SILICON POWER RECTIFIERS

Exceptionally efficient units for use in electronic power supplies and miniaturized rectifier circuitry in general.

Max. AC Input Voltage	140-275V RMS	Max. Ave. Rect. Fwd. Current	200mA
Max. Reverse DC Working Voltage	175-375V	Power Dissipation @ 25°C	200mW



### GERMANIUM NPN TRANSISTORS

A medium-power series of alloyed-junction devices in a hermetically sealed axial package.

Frequency Cut-off ( $f_{\alpha}$ )	0.5-2.0 mc/s min.	Maximum Collector Voltage ( $V_M$ )	10-40V
Output Admittance ( $h_{22}$ )*	100-400 mhos max. X10 <sup>-8</sup>	Collector Capacitance ( $C_c$ )**	20-40 $\mu$ f max. @ 10V
Current Amplification ( $1+h_{21}$ )*	25-150 max. X10 <sup>-3</sup>	Collector Cut-Off Current ( $I_{co}$ )†	10-30 $\mu$ A max.

\* Measured with 5V Collector Voltage and 1mA Emitter Current

\*\* Measured with 10V Collector Voltage

† Measured with 5V Collector Voltage

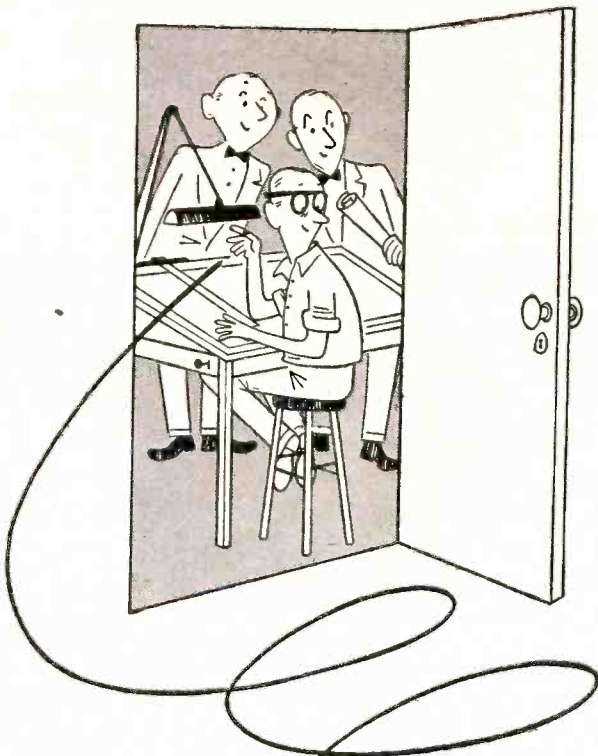
Creating a new world with ELECTRONICS

**HUGHES PRODUCTS**

HUGHES



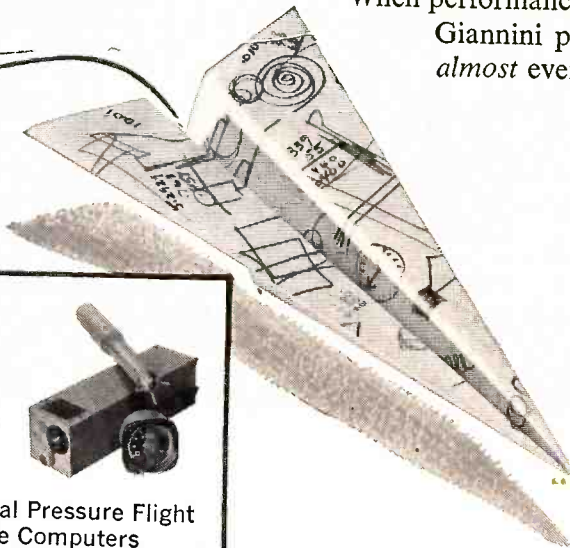
SEMICONDUCTORS


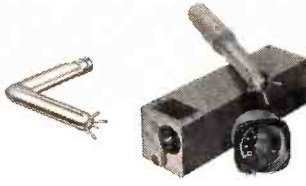

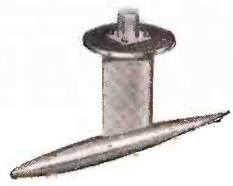

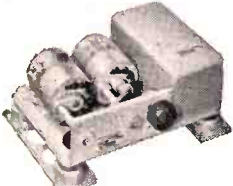




# Giannini Instruments and Controls for almost every airborne application

Whether single components or complex packaged systems, virtually all operational military aircraft (and civilian, too) use reliable Giannini precision-crafted instruments and controls.

When performance demands precision, specify Giannini products—they're available for almost every airborne application.



 <p>Accelerometers</p>	 <p>Differential Pressure Flight Angle Computers</p>		 <p>Low Pressure Transducers</p>
 <p>Temperature Probes</p>			 <p>Gyro Instruments</p>
 <p>Air Data Systems</p>	 <p>Fluid Filled Potentiometers</p>	 <p>High Pressure Transducers</p>	

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*Engineering positions are open for career-minded young men at several locations—write for details.*

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# CONTINENTAL-DIAMOND FIBRE

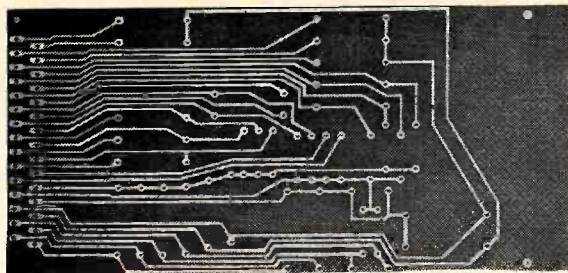
A SUBSIDIARY OF THE BUDD COMPANY

NEWARK 100, DELAWARE

HELPS YOU IMPROVE DESIGN  
HELPS YOU SIMPLIFY PURCHASING  
HELPS YOU SPEED PRODUCTION

## METAL CLADS

### For better printed circuits . . . lower costs . . . fewer rejects



**HIGH BOND STRENGTH**—C-D-F's special adhesive for metal-clad Dilecto bonds the copper foil to the plastic without affecting the laminate's superior electrical properties. Heat-resistance, dissipation factor, dielectric constant, dielectric strength, and insulation resistance of the Dilecto base remain unaffected. The closely-bonded foil can be etched cleanly and dipped in hot solder to 450°F. for ten

seconds with a guarantee of no blistering or separating. Metal-Clad Dilecto can be punched or machined either before or after etching.

**EXCELLENT WORKABILITY**—On all five Dilecto metal-clad grades, you can solder, punch, saw, and assemble components either by hand or automatically. Thanks to the inherently superior workability of the plastics laminate over that of ceramic-type materials, Dilecto can be dropped, jammed into tight chassis, and otherwise treated roughly on the assembly line and in service.

**HIGH HEAT-RESISTANCE**—Metal-Clad Dilecto Laminates are made of phenolic, epoxy, or Teflon\* resin for various conditions of service and assembly, and have either cellulosic paper or woven glass-fiber base. All are ideally suited to printed-circuit applications in which heat-dissipation is a major problem. Continuous exposure to high ambient operating temperatures in enclosed electronic equipment has no significant effects on Dilecto's electrical and physical properties.

Write for new Metal-Clad folder MC-57.

### TYPICAL PROPERTY VALUES

	Copper-Clad PHENOLIC (Grade XXXP-26)	Copper-Clad PHENOLIC (Grade XXXP-28)	Copper-Clad PHENOLIC 2350	Copper-Clad EPOXY (Grade GB-28E)	Copper-Clad TEFLON* (Grade GB-112T)
BOND STRENGTH—0.0014" foil (Lbs. reqd. to separate 1" width of foil from laminate)	6 to 10	6 to 10	6 to 10	8 to 12	4 to 8
MAXIMUM CONTINUOUS OPERATING TEMP. (Deg. C.)	120	120	120	150	200
DIELECTRIC STRENGTH (Maximum voltage per mil.)	800	800	700	650	700
INSULATION RESISTANCE (Megohms) 96 hrs. at 35° C. & 90% RH	50,000	30,000	200	25,000	Over 10 <sup>6</sup> megohms
DIELECTRIC CONSTANT 10 <sup>6</sup> Cycles	4.20	3.80	5.30	4.90	2.85
DISSIPATION FACTOR 10 <sup>6</sup> Cycles	0.026	0.027	0.047	0.020	0.0006
ARC-RESISTANCE (Seconds)	10	5	5	120	180
TENSILE STRENGTH (psi.)	16,000 x 13,000	12,000 x 10,000	19,000 x 16,000	48,000 x 44,000	23,000 x 21,000
FLEXURAL STRENGTH (psi.)	21,000 x 18,000	18,000 x 16,000	25,000 x 21,000	65,000 x 55,000	13,000 x 11,000
IZOD. IMPACT STRENGTH edgewise (ft. lbs. per inch of notch)	0.40 x 0.35	0.40 x 0.35	1.05 x 0.95	13.5 x 11.5	6.0 x 5.0
COMPRESSIVE STRENGTH flatwise (psi.)	28,000	22,000	36,000	62,000	20,000
BASE MATERIAL OF LAMINATE	Cotton rag paper	Cotton rag paper	Kraft paper	Medium-weave, medium-weight glass-fiber cloth	Fine-weave, medium-weight glass-fiber cloth
COLOR OF UNCLAD LAMINATE	Natural greenish	Natural Brown	Natural core with chocolate surfaces or solid black	Natural	Natural

All these standard grades are available with 0.0014", 0.0028", 0.0042", or thicker electrolytic or rolled copper foil on one or both surfaces. Other metal foils and other resin-and-base combinations can be supplied on special order.

\*DuPont Trademark

## MICABOND

Available in a wide range of sizes with many different backings including glass-fiber cloth, silk, cellophane, cotton fabric "Mylar," and paper. Micabond Tapes are hand laid; flexible sheets are both hand and machine laid; both retain their electrical insulating properties at elevated temperatures.

New . . . Micabond with glass-fiber cloth backing! When you need

maximum reliability under high-temperature service, resistance to mechanical abuse, coupled with the maximum safety factor, specify Micabond glass-fiber sheets, tapes, wrappers. Composed of India Mica splittings, bonded with flexible resin and faced on one or both sides with impregnated glass-fiber cloth, these new C-D-F products are superior to varnished glass-fiber combinations in deeply imbedded "hot-spot" applications. Write for technical bulletin and samples.

# CONTINENTAL DIAMOND FIBRE



# MOLDED AND LAMINATED PLASTICS — FOR ELECTRICAL INSULATION . . .

## DILECTO

## LAMINATED PLASTICS



**POST-FORMING:** Certain Dilecto grades (CF-1 and XF) may be formed to special shapes by heating and placing in an inexpensive cold mold. The thermoelastic properties of these Dilecto laminates open many production and design opportunities. Already widely used by the aircraft industry, Post-Forming Dilecto merits full investigation by every alert manufacturer. Write for complete C-D-F engineering service.

**DILECTO ROLLED OR MOLDED TUBING** finds wide usage in radio and electrical equipment because of excellent electrical insulation and mechanical strength. Impregnated paper or fabric is rolled on a mandrel between heated pressure rolls, then oven baked or press cured in a heated mold to set up the resin.

Dilecto, a laminated resin-bonded material, meets the need for a non-metallic light-weight insulating material that is moisture resistant, good electrically, strong and adaptable to all fabricating operations. Some grades have exceptionally high mechanical strength—tensile, flexural, impact; others have high dielectric strength, high insulation resistance, high arc resistance, or low loss factor.

Dilecto is a laminated material made from a base of either cellulosic paper; heavy or fine weave woven cotton fabric or mat; asbestos paper, woven asbestos fabric or mat; woven glass fabric or mat; and is coated with a synthetic resin.

The selection of the proper base material, the proper resin in the correct proportion, is C-D-F's job, but the end user must realize how important it is that he fully understands what dividend results can be gained mechanically, and electrically, and from a cost standpoint, by getting the very best C-D-F material for the project. Here is a brief, yet complete listing of Dilecto sheet grades, each one with a combination of proven characteristics built into the material for the specific job.

### SHEET GRADE CLASSIFICATIONS (Rod and Tubing similar to sheet stock)

- X For mechanical applications when electrical properties are secondary.
- P For punching (paper-based grades).
- XX For electrical applications requiring mechanical strength.
- XXX For high humidity applications with minimum cold flow.
- L For mechanical applications requiring fine machining.
- C For mechanical applications requiring toughness plus impact strength.
- CE and LE For electrical uses requiring greater toughness than paper-based grades.
- GB For applications requiring heat resistance and high mechanical strength. Supplied in combination with phenolic, silicone, melamine, polyester, epoxy, or Teflon resin.

Note: Various C-D-F grades, identified by numbers affixed to the grade classification, are available. Ask for catalog D-55-B.

## TEFLON

### OUTSTANDING PROPERTIES

**HEAT RESISTANCE:** Due to the non-flammability and high heat resistance of Teflon,\* it easily meets both Class B and Class H, AIEE standards for maximum hot spot insulation temperature. Teflon coated glass fabric laminates withstand 250°C. continuously and up to 300°C. intermittently. One factor which influences the heat resistance of Teflon is that there is no apparent degradation from oxygen, which does have a definite degrading effect on silicone materials, for instance.

\* Du Pont Trade Mark

**MOISTURE RESISTANCE:** A Teflon laminate has practically zero water absorption and its electrical properties are little affected after long exposure to high humidity. Teflon is unaffected by fungus and temperature changes. Not only has it lower moisture absorption than any other laminate known, but it tends to repel water . . . retaining high surface insulation resistance properties even under extreme humidity conditions.

**DIELECTRIC STRENGTH:** The dissipation factor and dielectric constant of Teflon glass-fiber base laminates are both extremely low over a wide frequency range. From 60 to 100 megacycles, the dissipation factor range is between .005 to .0005 and the dielectric constant ranges from 2.8 to 2.5 when measured in a field perpendicular to laminations. As corona will slightly degrade Teflon, care should be taken in designing parts used at voltages over 2500. Sharp corners, and other contributing factors to corona should be avoided.

**CHEMICAL INERTNESS:** Resistant to hot corrosive salts and most concentrated acids. Pure Teflon is unaffected by all known chemical agents, excepting molten alkali metals and, under special conditions, fluorine and chlorine trifluoride. Glass-supported Teflon, when exposed at cut edges, is affected only by those chemicals which attack glass. Otherwise, its properties remain the same. Write for Teflon folders.

TEFLON TYPICAL PROPERTY VALUES COMPARED WITH OTHER GLASS-BASE LAMINATES

	TEFLON (Unsupported)	TEFLON GB-122T (Teflon resin)	DILECTO GB-12S (Silicone resin)	DILECTO GB-28M (Melamine resin)	DILECTO GB-12D (Phenolic resin)	DILECTO GB-28E (Epoxy resin)
Dissipation Factor, 1 megacycle	.0005	.0006	.0012	.012	.018	.020
Dielectric Constant, dry, 1 megacycle	1.90	2.85	3.4	7.2	5.0	4.90
Loss Factor, 1 megacycle	.001	.0017	.004	.090	.090	.10
Dielectric Strength, { Short time	900	700	450	500	700	700
Perpendicular to Laminations { Step by step	800	500	400	350	600	600
(1/32" thick) VPM						
Arc Resistance, Seconds. ....	250*	160*	225	195	4	120
Maximum Constant Operating Temp. C°.	250	250	200	175	140	150
Flexural Strength { Lengthwise		13	30	48	24	65
{ Crosswise		11	27	40	20	55
(Thousands of psi)						
Water Absorption, % 24 hours (1/16" thick)	Negligible	.03	.20	1.7	2.0	0.12

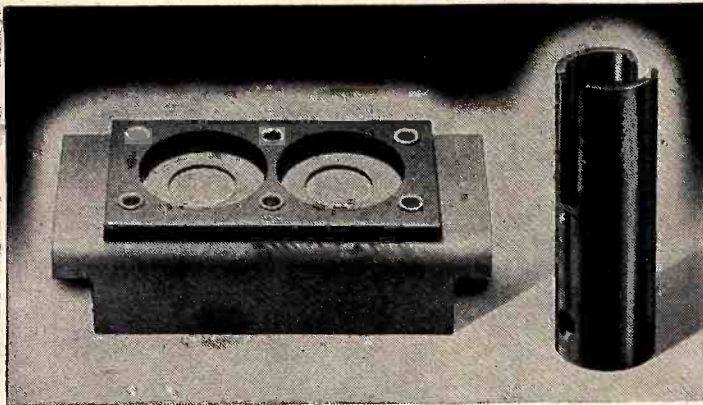
\* Will not form complete conducting path. Arc continues indefinitely but material gradually erodes away on full time continuous arc.

## CONTINENTAL DIAMOND FIBRE

# ..... FOR EVERY APPLICATION IN ELECTRONIC MANUFACTURING

## FABRICATED AND FORMED

### VULCANIZED FIBRE



**GOOD EXAMPLES** of Diamond Fibre formed and machined by C-D-F. Left—An insulating barrier made from three pieces of fibre, punched and formed. Fibre tubing is even used for rivets. Right—A fibre tube which has been smooth-sawed to length, punched twice and countersunk. C-D-F can handle the entire job for you, do it faster and at low cost. This includes selecting and testing the proper grade of fibre, machining and inspection, assembling if needed.

If your job is to select a general-purpose insulating material that is low cost, useful for both electrical and mechanical applications, easy to machine and form, consider the advantages of a unique old-timer—C-D-F's Diamond Vulcanized Fibre.

**WHAT IS FIBRE?** Vulcanized fibre is made by combining layers of chemically jelled paper. The chemical compound used in gelling the paper is subsequently removed by leaching and the resulting product, after being dried and finished by calendaring, is a dense material of partially regenerated cellulose in which the fibrous structure is retained in varying degrees, depending upon the grade of fibre. —NEMA Standard VU 1-1.1

**GOOD ELECTRICALLY.** Although given a modest insulation rating for resistance to heat (A.I.E.E. Class A with a temperature limit of 221°F.),

Diamond Fibre is often used because of its excellent arc resistance and good dielectric strength. It also has desirable deionizing properties and low heat conductivity. Fibre can be combined or surrounded with moisture-resistant laminated plastic.

**MANY GRADES AND FORMS.** Diamond Fibre sheet and roll grades include Bone, Commercial, and Electrical Insulation (fish paper) NEMA grades. Fibre tubing is normally made only in Bone grade, with rods available in both Bone and Commercial grades. The chart shown outlines the major characteristics of these grades.

<b>C-D-F BONE FIBRE</b>	Hard, stiffest grade. High density. Resists wear, abrasion, has high compressive strength. Good dielectric strength when dry. Super machining qualities. Not recommended for bending.
<b>C-D-F COMMERCIAL FIBRE</b>	Mechanical and electrical grade. Medium density. Tough, pliable. Good mechanical properties. Fair dielectric strength, normally high when dry. Can be bent, punched, and formed.
<b>C-D-F DIAMOND INSULATION</b>	Electrical insulation "fish paper" grade. Unusually free from foreign matter. Withstands extreme bending and forming without cracking. High dielectric strength, except under high humidity.

**TOUGH, RESILIENT, STRONG.** How long has it been since you examined the unique properties and wide range of C-D-F fibre grades? Vulcanized Fibre is arc resistant, mechanically strong, non-corroding, half the weight of aluminum. Repeated moistening and drying in forming insignificantly alters the nature, structure or quality of the fibre.

**A BIG, RELIABLE SOURCE.** C-D-F does business with the largest tonnage users of sheet, rod and tube fibre in the world. This means good deliveries, good prices, reliable products for every new customer. You deal with a materials engineer, a C-D-F man who knows how to give you the most value in Diamond Vulcanized Fibre. If you want to improve design, simplify purchasing, speed production, use Diamond Fibre and the facilities of C-D-F. Write for new Diamond Fibre catalog DVF-55, free test samples, or send us your print for quotation.

#### MECHANICAL PROPERTIES OF DIAMOND VULCANIZED FIBRE

Property	Sheet thickness, tube wall or rod diameter	SHEETS				TUBES	RODS	
		Bone Grade		Diamond Insulation* & Commercial Grades			Bone Grade	Commercial Grade
		CW	LW	CW	LW			
<b>Tensile Strength</b>	Up to 1/8"	6500	8500	6000	8000	6500	8500	8000
	Over 1/8 to 1/2	6000	8000	5500	7500	6500	8000	7500
	Over 1/2	.....	.....	5000	7000	6500	.....	7000
<b>Flexural Strength</b>	Up to 1/2"	13,000	15,000	12,000	14,000		15,000	14,000
	Over 1/2	.....	.....	11,000	13,000		.....	13,000
<b>Compressive &amp; Axial Strengths</b>	Up to 1/8"					10,000		
	Over 1/8 to 5/16 All thicknesses or diameters	30,000		20,000		9000	8000	6,000

NOTE—\* Tensile strength only.

### VULCOID

## RESIN-IMPREGNATED FIBRE

Only C-D-F supplies Vulcoid in sheets, tubes, rods, and fabricated parts. Made from Diamond Vulcanized Fibre that has been uniformly impregnated with a special resin, Vulcoid is a material approved and identified by the Underwriters' Laboratories as Class A Insulation. Natural greenish-tan in color, it is economical, easy to machine and punch. Property-wise, Vulcoid is an intermediate grade between Commercial Fibre and XX phenolic Dilecto.

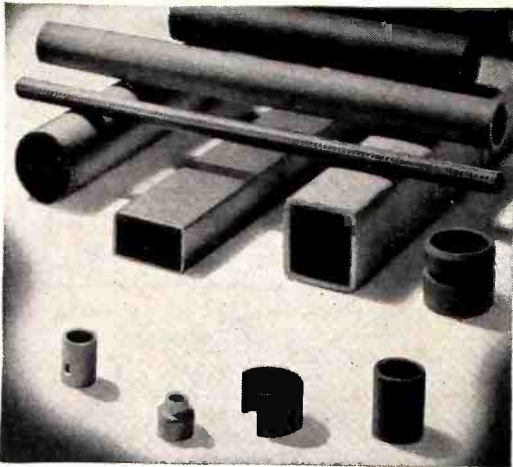
**USES:** (requiring arc resistance and mechanical strength)—contact and connector panels, knife switch arms and guides, arc deflector spacer bushings; (requiring dielectric strength and moisture resistance)—electrical fixture insulation, wiring devices, plugs, receptacles; (requiring moisture and arc resistance)—motor and transformer lead bushings and terminal blocks. Write for folder V-55 and test samples.

## CONTINENTAL DIAMOND FIBRE

# MOLDED AND LAMINATED PLASTICS... FOR THE ELECTRONIC INDUSTRY

## LOW COST, HIGH STRENGTH PLASTIC

### SPIRAL TUBING



#### AVAILABLE GRADES OF SPIRAL TUBING

##### IMPREGNATED

- 1 General Electrical and Mechanical Grade. ○
- 1A Electrical and Mechanical Grade—Special Punching. ○
- 2 Mild Stapling, Riveting, and Post Forming Quality. ○
- 2A Intermediate Fabricating and Stapling Quality. ○
- 3 Severe Stapling, Riveting, and Post Forming Quality. ○
- 5 Constant Torque and Formed-to-Shape Coil Form Tubing. ○
- 6 Special for High Humidity Applications. ○
- 6A Extra Hard, High Strength Tubing. ○
- 7 Soft Varnished Kraft Tubing. ○ □
- 7A Hard, Rigid Rectangular Tubing. □
- 8 Varnished Diamond Insulation—Tubing. ○
- 9 "Deflection Coil" Tubing. ○
- 10 Larger Size, Heavy Wall Tubing for Mechanical Uses. ○

##### UNIMPREGNATED

- 20 Special Wound in Specified Combinations of kraft paper, fish paper, etc. ○ □
  - 21 Plain Kraft Paper Tubing. ○ □
  - 22 Plain Diamond Insulation Tubing. ○
  - 23 Plain Chipboard Tubing. ○
- Round      □ Formed and Notched  
 △ Formed (fluted shape)      □ Square, Rectangular

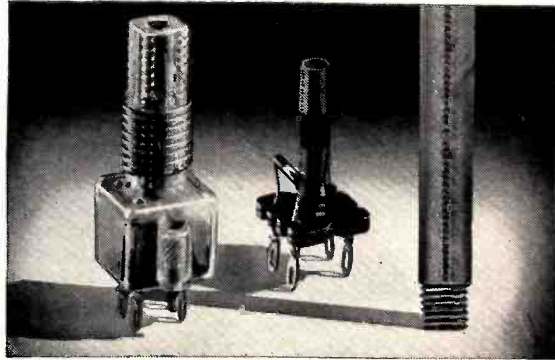
- GOOD DIELECTRIC STRENGTH
- LOW DIELECTRIC LOSS PROPERTIES
- GOOD MECHANICAL STRENGTH & MOISTURE RESISTANCE

C-D-F Spiral Tubing is a high-strength plastic made from paper or vulcanized fibre that is spirally wound. It is available in two forms: 1. as plain untreated tubing. 2. as impregnated tubing containing phenolic resin or insulating varnish.

Used in many coil form and electronic applications, C-D-F Spiral Tubing can be used to replace rolled or molded laminated phenolic tubing in many cases. The degree of mechanical strength and mois-

ture resistance is established during the manufacturing process, so that the designer and production man obtains the correct properties required for the application.

Write for new catalog and samples. Call the C-D-F sales engineer listed for complete information about C-D-F's fabricating and inspection facilities. Unit costs can be reduced, products improved with new C-D-F plastic Spiral Tubing!



**NEW CONSTANT TORQUE TUBING**, for permeability tuning with iron cores, features stable torque ratings, exact internal threading with three point suspension of core to prevent binding, no external embossing. Write for samples.



**ONE OF MANY GRADES** is Grade 3, a softer tube for difficult fabricating. May be notched and formed—suitable for severe stapling and riveting.

### THERE'S A CDF SALES OFFICE NEAR YOU

BALTIMORE 14, MD. 2451 Ellis Road	NORthfield 5-0964	GREENSBORO, N.C. 2103 Mimosa Drive	4-0226	PHOENIX, ARIZONA P. O. Box 1587	ALpine 8-7893
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EXPORT DEPARTMENT: BRIDGEPORT, PENNSYLVANIA, U.S.A.				<b>Canadian Representative DIAMOND STATE FIBRE CO. OF CANADA, LTD. 46 Hollinger Rd., Toronto 13, Ontario, Can.</b>	

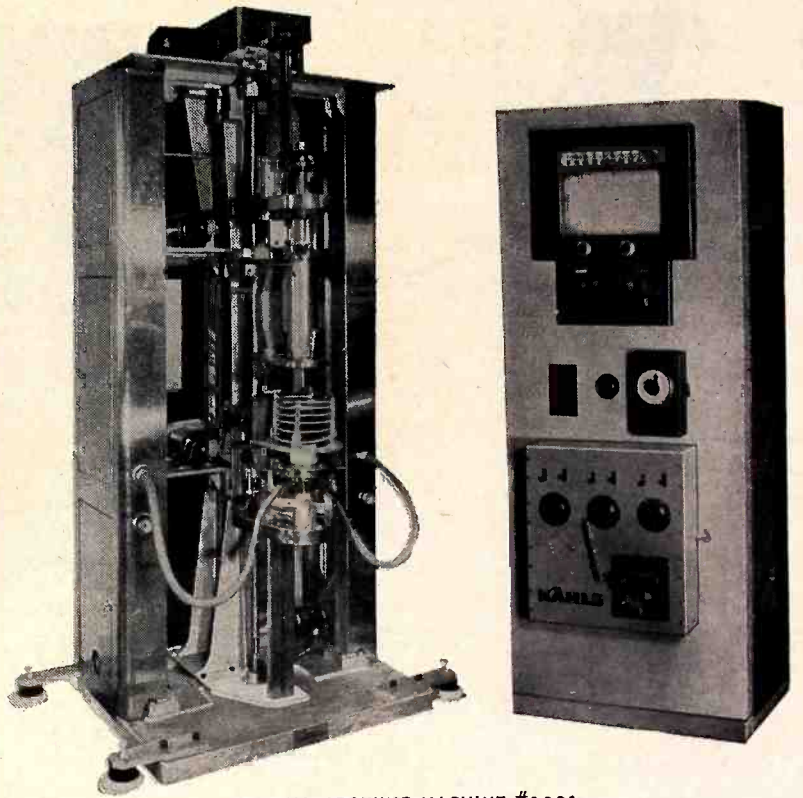


## CONTINENTAL-DIAMOND FIBRE

A SUBSIDIARY OF THE BUDD COMPANY • NEWARK 41, DELAWARE

## CONTINENTAL DIAMOND FIBRE

# need semiconductor production equipment?



CRYSTAL GROWING MACHINE #2901  
FOR GERMANIUM AND SILICON CRYSTALS

**KAHLE'S  
MACHINE DESIGN,  
DEVELOPMENT AND FABRICATION  
SERVICES  
ARE THE NO-RISK ANSWER**

When you work with Kahle, the end result is assured . . . because all Kahle Machines are tested under *your* actual production conditions before shipment. In addition each machine is the result of Kahle's continuous experience which dates back to the days of the old carbon lamp.

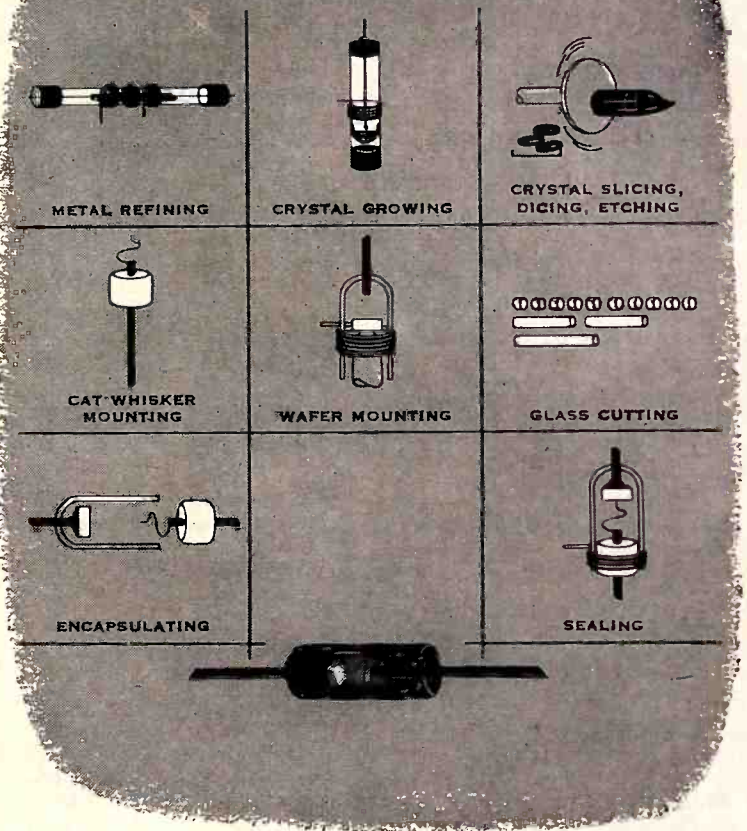
But Kahle is modern, too . . . having *already* manufactured machines for every semiconductor production process. Their outstanding production records achieved for leading companies are available for your inspection.

Economy is another mark of a Kahle machine . . . hundreds of standard models can help solve your problems . . . when required, a special design is quickly and effectively created.

Relieve your engineering staff . . . assign the design, development and fabrication of production machinery and equipment to Kahle.

For an individual analysis of your problem, write outlining details.

**GLASS DIODE PRODUCTION OPERATIONS  
PERFORMED BY KAHLE MACHINERY:**



# KAHLE

## ENGINEERING COMPANY

GENERAL OFFICES:  
1357 SEVENTH STREET  
NORTH BERGEN, N. J.

PLANTS:  
SEVENTH STREET, NORTH BERGEN, N. J.  
HUDSON AVE., UNION CITY, N. J.



#### SUBMINIATURE FILTERS

- for I.F. amplifiers, printed circuit use
- temperature compensated to .15% from  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- for operations above 1 mc
- dimensions:  $13/16'' \times 2-1/2'' \times 2''$  high



#### ENCAPSULATED TOROIDS

- hermetically sealed
- high Q
- center-mounting permits stacking
- complete range of sizes and types
- dimensions:  $21/32'' \times 3/8''$



#### TOM THUMB TELEMETERING FILTERS

- miniaturized for guided missiles
- high temperature stability
- designed to withstand shock and vibration
- hermetically sealed —wt. 1.5 oz.
- dimensions:  $45/64'' \times 45/64'' \times 2''$  high



#### SUBMINIATURE ADJUSTOROIDS

- precise continuous adjustment of inductance over a 10% range
- no external control current needed
- hermetically sealed
- low cost—wt. .83 oz.
- dimensions:  $45/64'' \times 45/64'' \times 3/4''$  high



## you're all set to roll...

...with a toroid, filter or related network by Burnell.

For Burnell *specializes* in these components; in manufacturing them *and* in delivering them on schedule — at competitive prices.

Today Burnell makes toroids, and the filters of which they are the basic components, small enough to meet a multitude of new purposes . . . in aircraft and guided missiles . . . in receivers, carrier and telemetering systems.

Very likely we already have the answer to your network needs among our extensive files. If not, we can swiftly find that answer for you. Try us and see.

# Burnell & Co., Inc.



first in toroids, filters and related networks

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10 PELHAM PARKWAY, PELHAM, N. Y.

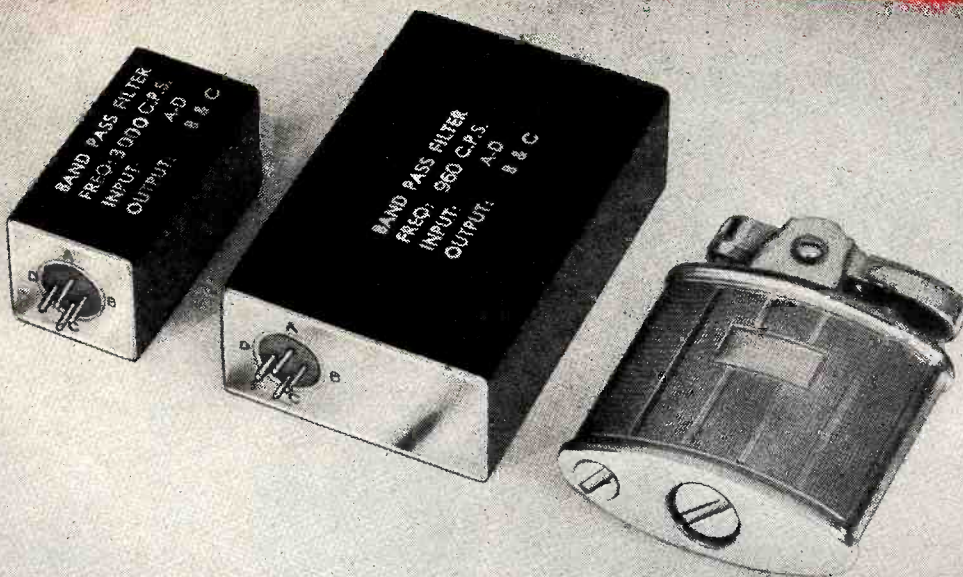
TELEPHONE: Pelham 8-5002

PACIFIC DIVISION: 720 MISSION STREET, SOUTH PASADENA, CALIFORNIA

TELETYPE: PASADENA 7578

# Burnell SUBMINIATURE FILTERS

AS SMALL AS 3/4" X 3/4" X 1 3/8"  
AS LIGHT AS 1 1/4 OUNCES



## "TOM THUMB" TELEMETERING FILTERS

Designed and tested to specification #MIL-T 26985

Supplied in two principal case sizes:

1. For RDB channels 1 through 6, case size is 3/4 x 1 1/2 x 2 1/4 inches high; weight: 4 ounces.
2. For channels 7 and up, case size is 3/4 inches square and 1 3/8 inches high; weight: 1 1/4 ounces.

These cases are generally equipped with a 4-pin plug to match the small Winchester socket.

### ATTENUATION CHARACTERISTICS

Impedance: 100 K ohms in and out.

Insertion loss: less than 6 db.

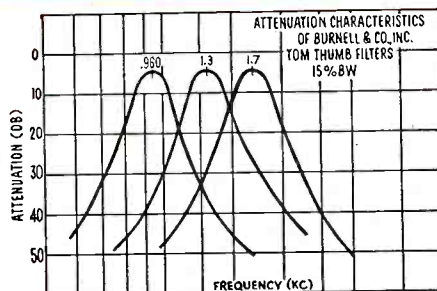
At  $\pm 7.5\%$  band width is less than 3 db.

At  $\pm 25\%$  band width is greater than 15 db.

At 1.75 f attenuation is 40 db or more.

At .57 f attenuation is 40 db or more.

CHAN. #	FREQ.	IMP. 100K P/N	B. W.	SIZE	WT.
1	400 cps.	S-60001	$\pm 7\frac{1}{2}\%$	3/4 x 1 1/2 x 2 1/4 H	4 oz.
2	560 cps.	S-60002	$\pm 7\frac{1}{2}\%$	3/4 x 1 1/2 x 2 1/4 H	4 oz.
3	730 cps.	S-60003	$\pm 7\frac{1}{2}\%$	3/4 x 1 1/2 x 2 1/4 H	4 oz.
4	960 cps.	S-60004	$\pm 7\frac{1}{2}\%$	3/4 x 1 1/2 x 2 1/4 H	4 oz.
5	1300 cps.	S-60005	$\pm 7\frac{1}{2}\%$	3/4 x 1 1/2 x 2 1/4 H	4 oz.
6	1700 cps.	S-60006	$\pm 7\frac{1}{2}\%$	3/4 x 1 1/2 x 2 1/4 H	4 oz.
7	2300 cps.	S-60007	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
8	3 KC	S-60008	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
9	3.9 KC	S-60009	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
10	5.4 KC	S-60010	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
11	7.35 KC	S-60011	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
12	10.5 KC	S-60012	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
13	14.5 KC	S-60013	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
14	22 KC	S-60014	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
15	30 KC	S-60015	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
16	40 KC	S-60016	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
17	52.5 KC	S-60017	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
18	70 KC	S-60018	$\pm 7\frac{1}{2}\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
A	22 KC	S-60019	$\pm 15\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
B	30 KC	S-60020	$\pm 15\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
C	40 KC	S-60021	$\pm 15\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
D	52.5 KC	S-60022	$\pm 15\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.
E	70 KC	S-60023	$\pm 15\%$	3/4 x 3/4 x 1 3/8 H	1 1/4 oz.



Note our new address:

Dept. BG-2 10 PELHAM PARKWAY, PELHAM, N. Y. • TEL. PELHAM 8-5002

PACIFIC DIVISION • 720 MISSION STREET • SOUTH PASADENA, CALIFORNIA • RYAN 1-2841

Burnell & Co., Inc.

Compact, packaged fans and blowers  
for Original Equipment Manufacturers

# AMERICAN BLOWER AIR-MOVING UNITS



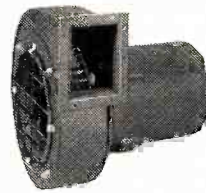
Aluminum pressure blower for radar cooling. Capacity: 984 cfm @ 1" sp to 536 cfm @ 7" sp @ 3450 rpm.

**Bulletin 4512**



Aluminum pressure blower. Capacity: 546 cfm @ 1" sp to 215 cfm @ 6" sp @ 3450 rpm.

**Bulletin 4312**



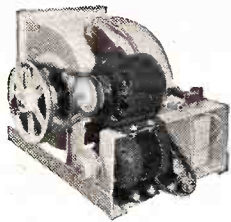
High-pressure, low-volume blower for commercial or military applications. Capacity: 200 cfm @ 5.5" sp @ 3450 rpm.

**Bulletin 2412**



Typical small blower for commercial applications. Capacity: 15 cfm @ .4" sp to 65 cfm, free delivery @ 2775 rpm.

**Bulletin 912**



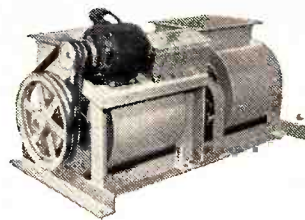
High-volume, double air inlet blower. 800 cfm @ 1.5" sp to 1370 cfm, free delivery @ 2485 rpm and 340 cfm @ 0.7" sp to 830 cfm, free delivery @ 1545 rpm.

**Bulletin 1912**



Space-saving duplex blower. Total capacity: 215 cfm @ 1.75" sp to 430 cfm, free delivery @ 3450 rpm.

**Bulletin 1412**



Two-fan V-belt-drive unit combines high volume, light weight and minimum size. Capacity: 2700 cfm @ 0.5" sp @ 1000 rpm and 4800 cfm @ 0.5" sp @ 1400 rpm.

**Bulletin 3412**



Propeller fan designed for electronic cabinet ventilation. Capacity: 1325 cfm @ 0" sp to 310 cfm @ 0.62" sp @ 1725 rpm.

**Bulletin 4812**

American Blower Division of American-Standard  
Detroit 32, Michigan

Yes, I am interested in your Air-Moving Units.  
Please send me Bulletins I have circled at right.

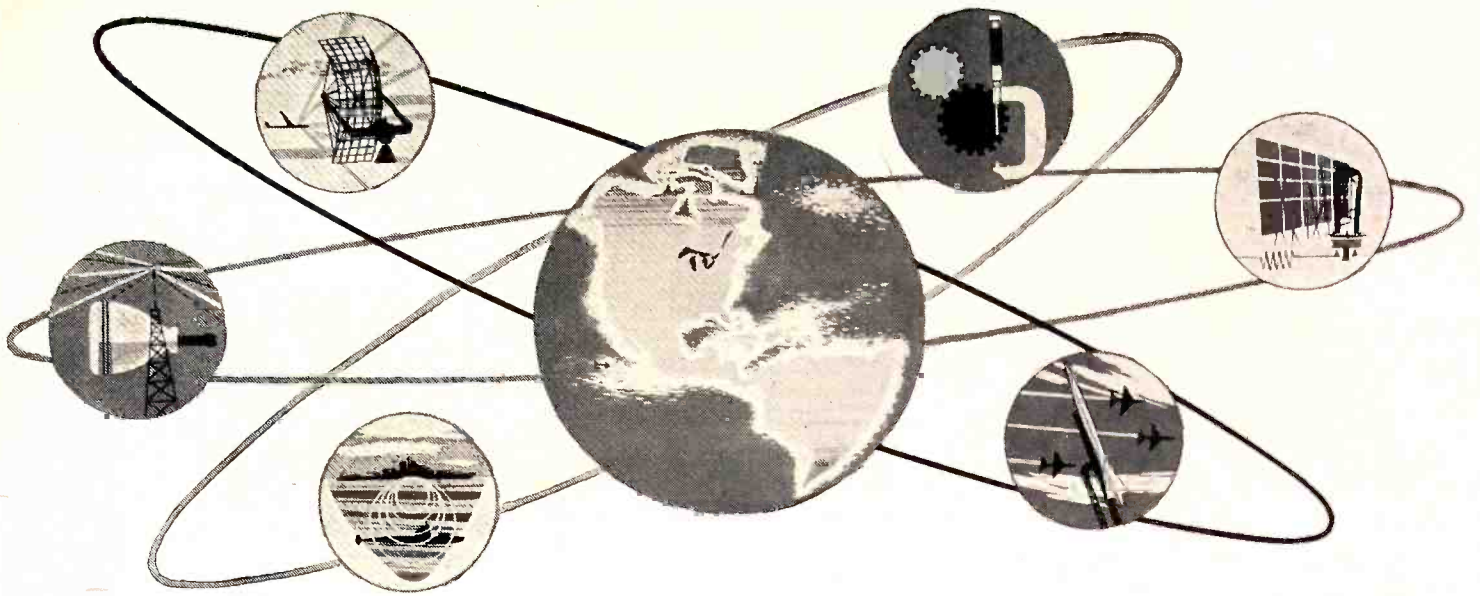
Name \_\_\_\_\_





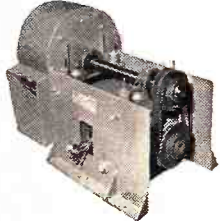

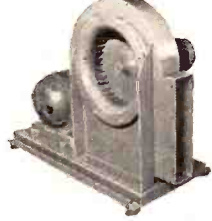

Company \_\_\_\_\_ Title \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

Circle the Specification Bulletins  
you want, fill out coupon, and mail.

Bulletin 312	Bulletin 2412	Bulletin 4312
Bulletin 412	Bulletin 2712	Bulletin 4512
Bulletin 912	Bulletin 3212	Bulletin 4812
Bulletin 1412	Bulletin 3412	Bulletin 5112
Bulletin 1912	Bulletin 3612	Bulletin 5312
	Bulletin 3812	



 <p>Small aluminum axial flow fan designed for cooling electronic equipment in aircraft. Capacity: 110 cfm @ 0.6" sp to 165 cfm, free delivery @ 7250 rpm.</p> <p><b>Bulletin 3812</b></p>	 <p>Aluminum axial flow fan designed to meet military requirements. Capacity: 500 cfm @ 5" sp @ 5600 rpm.</p> <p><b>Bulletin 3612</b></p>	 <p>Axial flow fan; no dip in pressure curve. 226 cfm @ 0" sp to 134 cfm @ 3" sp at 7600 rpm max. sp 4.5". 285 cfm @ 0" sp to 150 cfm @ 7" sp at 11000 rpm max. sp 9.5".</p> <p><b>Bulletin 5312</b></p>	 <p>Tubeaxial fan for flushing electronic equipment cabinets and racks. Double flange allows mounting at either end. Capacity: 295 cfm, free delivery @ 1550 rpm.</p> <p><b>Bulletin 5112</b></p>
 <p>Heavy-duty V-belt-driven blower for communication transmitter cooling. Capacity: 517 cfm @ 0.25" sp at 640 rpm and 1400 cfm @ 1.5" sp @ 1642 rpm.</p> <p><b>Bulletin 2712</b></p>	 <p>Special blower for military requirements. Capacity: 100 cfm @ 1" sp to 150 cfm, free delivery @ 5600 rpm.</p> <p><b>Bulletin 412</b></p>	 <p>V-belt-driven blower for TV transmitter cooling. Capacity: 1700 cfm @ 4.5" sp @ 1540 rpm at sea level and 2700 cfm @ 5.75" sp @ 2030 rpm at 7500 ft. elevation.</p> <p><b>Bulletin 3212</b></p>	 <p>Compact tube cooler designed to meet military applications. Capacity range: 35 cfm @ 4" sp to 80 cfm @ 1.5" sp @ 8000 rpm approx.</p> <p><b>Bulletin 312</b></p>

All of the above American Blower air-moving units can be modified to meet your specific requirements. We welcome the opportunity to discuss and quote on your application. Individual Specification Bulletins are available on each unit. Simply fill out and mail coupon at right and they will be sent to you promptly. American Blower Division of American-Standard, Detroit 32, Michigan. In Canada: Canadian Sirocco products, Windsor, Ontario.

## AMERICAN BLOWER

Division of **AMERICAN-Standard**





# HYDROGEN THYRATRON TUBES

KUTHE HYDROGEN THYRATRON TUBES are built to the most rigid specifications that insure consistently uniform, top quality performance.



## 1258

Peak pulse power.....10 KW  
Peak forward anode voltage.....1.0 KV  
Peak anode current.....20 amperes  
Average anode current.....50 ma. max.  
Pb..... $0.1 \times 10^9$

## 3C45

Peak pulse power.....50 KW  
Peak forward anode voltage.....3000 volts max.  
Peak anode current.....35 amperes max.  
Average anode current.....45 ma. max.  
Pb..... $0.3 \times 10^9$

## 3C45W

Electrical characteristics same as 3C45 except a hydrogen reservoir is incorporated for long tube life. Ruggedized construction is used.

## 4C35

Peak pulse power.....350 KW  
Peak forward anode voltage.....8.0 KV max.  
Peak anode current.....90 amperes max.  
Average anode current.....100 ma. max.  
Pb..... $2.0 \times 10^9$

## SGR-1

Electrical characteristics same as 4C35 except  
tad .....0.6 us  
 $\Delta$ tad .....0.04 us  
Ii .....0.01 us  
A hydrogen reservoir is incorporated for long tube life.

## 5956/E36

(Compact and rugged, suitable for airborne radar)  
Peak pulse power.....350 KW  
Peak forward anode voltage.....8.0 KV max.  
Peak anode current.....90 amperes max.  
Average anode current.....100 ma. max.  
Pb..... $2.5 \times 10^9$   
A hydrogen reservoir is incorporated for long tube life.

## 5957/E37B

Electrical characteristics same as 5956/E36. Construction also identical, except for special ceramic, 4-pin base and size, which is 4.0" o.a.l. x 1.56" dia. max.

## 6777/KU14

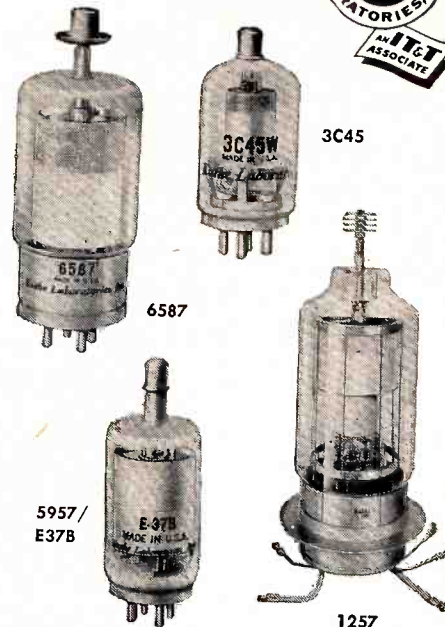
Peak pulse power.....120 KW  
Peak forward anode voltage.....8.0 KV max.  
Peak anode current.....35 amperes max.  
Average anode current.....45 ma. max.  
Pb..... $1.1 \times 10^9$

## 5958/E40

(Compact and rugged, suitable for airborne radar)  
Peak pulse power.....150 KW  
Peak forward anode voltage.....8.0 KV max.  
Peak anode current.....40 amperes max.  
Average anode current.....45 ma. max.

## 5959/E41

Electrical characteristics same as 5958/E40. Construction also identical, except for special all-glass, 4-pin base and size, which is 4.0" o.a.l. x 1.56" dia. max.



## 1257

Peak pulse power.....38,000 KW  
Peak forward anode voltage.....38.0 KV max.  
Peak anode current.....2000 amperes max.  
Average anode current.....2500 ma. max.  
Pb..... $20 \times 10^9$

## 5C22/HT415

Peak pulse power.....2500 KW  
Peak forward anode voltage.....16.0 KV max.  
Peak anode current.....325 amperes max.  
Average anode current.....200 ma. max.  
Pb..... $3.2 \times 10^9$

## KU25

Electrical and mechanical characteristics same as 5C22/HT-415, except for modification permitting operation at high pulse recurrence rates.

## 6587

Peak pulse power.....2500 KW  
Peak forward anode voltage.....16.0 KV  
Peak anode current.....325 amperes  
Average anode current.....225 ma. max.  
Pb..... $3.9 \times 10^9$

## 5949/1907

Peak pulse power.....6000 KW  
Peak forward anode voltage.....25.0 KV max.  
Peak anode current.....500 amperes max.  
Average anode current.....500 ma. max.  
Pb..... $6.25 \times 10^9$

## 5948/1754

Peak pulse power.....12,000 KW  
Peak forward anode voltage.....25.0 KV max.  
Peak anode current.....1000 amperes max.  
Average anode current.....1000 ma. max.  
Pb..... $9.0 \times 10^9$

## RESERVOIR EQUIPPED TUBES

# Kuthe Laboratories, Inc.

An Associate of  
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION  
730 SOUTH 13th STREET  
NEWARK, NEW JERSEY



Engineers,  
designers,  
specifiers,  
and technicians

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to be

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the most accurate

and the only

complete source

available.

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of the industry

(the buying influences)

rely on the "Guide"

as the answer

to all their

product problems

choose  
and  
use

the

electronics

# BUYERS'

# GUIDE

When ordering or seeking information  
please mention Electronics Buyers' Guide.

DEPENDABLE

*Federal*

**ELECTRON TUBES**

**TRAVELING WAVE TUBES**

TRANSMITTING • BROADCASTING

INDUSTRIAL

SPECIAL PURPOSE

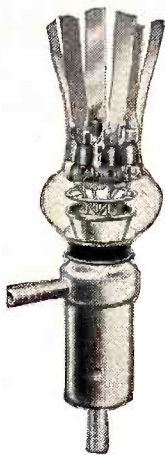
Clipper Diodes • Hard Tube Modulators

High Voltage Rectifiers

Mercury Vapor Rectifiers



Traveling Wave Tube



**F-6399**  
Integral water jacket triode designed especially for industrial applications.



**F-5918**  
High power triode for broadcast communications and industrial applications.

**FEDERAL TRAVELING WAVE TUBES**

Type	Frequency KMC	Power Output (Watts) CW	Pulse
F-6658	2.0-4.0	1	2.5
F-6825	2.4-3.6	—	1000
F-6826	2.4-3.6	—	750
F-6867	8.5-9.6	0.2	0.2
F-6868	2.0-4.0	10	10
F-6996	8.0-9.6	10	—
F-6997	2.7-2.9	—	30

**FEDERAL RECTIFYING TUBES**

Type	Description	Max. Peak Inverse Volt.	Max. Peak Current (Amps.)	Filament Voltage
F-869-B	Mercury Vapor	20,000	10	5
F-857-B	Mercury Vapor	22,000	40	5
F-575-A	Mercury Vapor	15,000	6	5
F-673	Mercury Vapor	15,000	6	5

**Basic Technical Data Covering Complete Line of FEDERAL POWER TUBES**

Type	Description	Cooling*	Plate Dissipation	Mu	Plate Input	DC Plate Volt.	Max. Freq. Ratings	Filament Voltage
F-3X2500A3	HF Triode	A	2.5 KW	20	8 KW	4,000	110 MC	7.5
F-3X2500F3	HF Triode	A	2.5	20		6,000	30	7.5
F-7C23	Pulse Triode	A	1.2	25		17,000	5	11
F-7C25	HF Triode	A	2.5	25	5.6	4,500	50	11
F-7C26	HF Triode	A	1	17	3	3,000	150	9
F-8C25	AF Triode	A	5	6	10	5,000		7
F-9C23	RF Triode	W	25	32	50	15,000	20	22
F-9C28	AF Triode	W	40	4.75	100	15,000		7.5
F-9C29	AF Triode	A	20	4.75	50	15,000		7.5
F-9C30	RF Triode	W	40	42	120	15,000	20	7.5
F-9C31	RF Triode	A	20	42	100	15,000	20	7.5
F-110X	RF Triode	W	25	40	50	20,000	3	28
F-124-A	RF Triode	W	40	42	135	20,000	20	13.6
F-124R	RF Triode	A	20	42	100	20,000	20	13.6
F-125-A	AF Triode	W	40	4.75	100	15,000		13.6
F-127-A	RF Triode	A	0.2	38	0.95	3,000	30	10
F-128-A	RF Triode	A	0.6	36	3	3,500	30	11
F-129-B	RF Triode	W	7.5	26	18	12,000	30	18
F-129-R	RF Triode	A	5	26	18	12,000	30	18
F-132-A	AF Triode	A	0.6	10	1.8	3,500		11
F-134	RF Triode	W	150	21	450	20,000	22	25
F-212E	RF Triode	A	0.275	16	0.7	2,000	4.5	14
F-220CA/320BA	RF Triode	A	5	40	22.5	15,000	4	21.5
F-220C/320B	RF Triode	W	10	40	22.5	15,000	4	21.5
F-342-A	RF Triode	W	25	40	50	20,000	4	20
F-343-A	RF Triode	W	10	40	36	18,000	4	21.5
F-343-AA	RF Triode	A	5	40	20	18,000	4	21.5
F-631	RF Triode	W	25	40	50	20,000	3	28
F-862-A	RF Triode	W	100	45	200	20,000	1.6	33
F-891	RF Triode	W	6	8.5	18	12,000	1.6	11/22
F-891-R	RF Triode	A	4	8.5	15	10,000	1.6	11/22
F-892-A	RF Triode	W	10	50	30	15,000	1.6	11/22
F-892-R	RF Triode	A	4	50	18	10,000	1.6	11/22
F-898-A	RF Triode	W	100	45	200	20,000	1.6	16.5
F-5604	HF Triode	A	10	19.5	32.5	12,500	22.5	11
F-5606	RF Triode	W	10	50	30	15,000	1.6	22
F-5619	HF Triode	W	20	19.5	32.5	12,500	22.5	11
F-5658	RF Triode	W	20	20.5	60	10,500	25	12
F-5666	HF Triode	W	12.5	21	20	10,000	22.5	11
F-5667	RF Triode	A	7.5	21	20	10,000	22.5	11
F-5668	RF Triode	W	20	50	28	14,000	5	22
F-5669	RF Triode	A	10	50	28	14,000	5	22
F-5680	HF Triode	A	2.5	25	12	6,000	30	13
F-5762	HF Triode	A	3	29	8.7	6,200	30	12.6
F-5771	RF Triode	W	22.5	20	60	12,500	25	7.5
F-5874	AF Triode	W	7.5	6	15	6,000		7
F-5917	HF Triode	W	5	20	8	4,000	110	7.5
F-5918	RF Triode	W	70	37	300	17,500	22	11
F-5919	RF Triode	A	35	37	175	17,500	22	11
F-5996	HF Triode	A	2.5	25	12	6,000	30	13
F-6009	HF Triode	W	6	25	12	6,000	30	13
F-6166	VHF Tetrode	A	10	10	16	5,900	220	5
F-6179	AF Triode	W	50	4.75	120	15,000		27.2
F-6366	HF Triode	A	3	25	7	5,500	30	11
F-6367	HF Triode	A	3	25	12	6,200	30	13
F-6379	AF Triode	W	70	4.75	150	17,500		11
F-6398	RF Triode	W	225	21	500	25,000	22	15.5
F-6399	HF Triode	W	6	25	9	6,200	30	11
F-6400	HF Triode	W	6	25	18	9,200	30	13
F-6401	Pulse Triode	W	1	12		17,000	600	4.25
F-6691	HF Triode	A	15	37	54	12,500	30	5
F-6692	HF Triode	W	30	37	80	15,000	30	5
F-6800	HF Triode	W	20	20	45	15,000	22	7.5
F-6801	HF Triode	A	10	20	40	15,000	22	7.5
F-6920	Pulse Triode	A	10	41		35,000		11
F-6921	AF Triode	W	30	4.25	60	15,000		5
F-6925	RF Triode	A	3	17	12	6,500	50	13
F-6926	RF Triode	W	6	17	12	6,500	50	13
F-7012	HF Triode	A	2.5	25	12	6,000	30	15

\* A=Forced Air Cooling W=Water Cooled ALL RATINGS MAX.

**FEDERAL TUBES**

Components Division

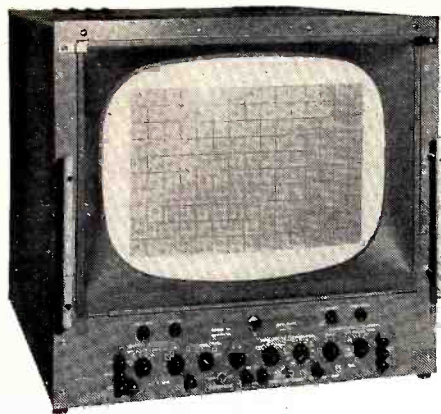
**INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION**

100 Kingsland Road • Clifton, N. J.



## LARGE SCREEN OSCILLOSCOPES

Available in 21" Bench Console and 17" Rack Mounted Model. Basic models of each type are available; the "35" Dual Response Medium Sensitivity Models, and the High Sensitivity "40" Model featuring Differential Input in the 1 to 10 Millivolt Sensitivity Range. These Oscilloscopes feature unequalled stability and linearity.



## MULTI-CHANNEL OSCILLOSCOPES

Large Screen Multi-channel Oscilloscopes feature forty input channels and permit continuous reading of forty separate signals.

The display consists of a vertical-bar graph 9" high by 12" wide. The vertical length of each line indicates the value of the maximum input voltage which existed during the previous tenth of a second.

## SWEPT FREQUENCY GENERATORS

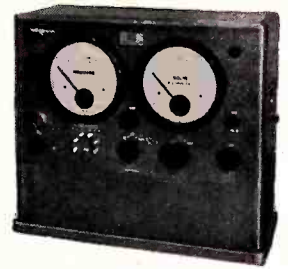
Used in conjunction with an oscilloscope provides an amplitude versus frequency display of high accuracy. The frequency response plots obtained thereby permit highly accurate and rapid production testing and calibration of frequency sensitive devices. This instrument also enables the user to determine instantly the effects of changes in circuit parameters upon frequency characteristics, thus permitting an optimum design to be obtained in minimum time.

## SHORT FORM CATALOGS AVAILABLE ON FOLLOWING:

TERA-OHMMETERS • IMPEDANCE BRIDGES • FREQUENCY MEASURING SYSTEMS • WAVEFORM ANALYZERS • SIGNAL GENERATORS • ELECTRONIC VOLTMETERS AND POWER METERS • CAPACITANCE STANDARDS • ATTENUATORS • FIELD INTENSITY METERS • GALVANOMETERS.

## TERA-OHMMETERS INSULATION MEASUREMENTS up to 5000 MILLION MEGOHMS

For testing resistors, capacitors, cables, switches, tube sockets, transformers and many other components... incoming inspection and quality control.



Type FT-H

### TYPE FT-H4

Range: 20 megohms to 5000 x 10<sup>6</sup> megohms in 6 ranges • Test Voltage: Adjustable from 100 to 1000 v., dc • Accuracy: ±3% in scale center • Power Supply: 115 v., 50-60 cps. Instrument can also be operated from its own battery supply.

Note: Other types available to cover ranges from .2 megohms to 500 x 10<sup>6</sup> megohms with fixed test voltages between 3 and 1000 volts.

## Z-G DIAGRAPH Plots Impedance Instantaneously

### Features:

- Rapid Measurement of Impedance and Admittance of Antennas, Components, Coaxial Systems, Cables, Transistors, Filters and Attenuators
- Rapid Measurement of Transmission Characteristics of Coaxial Cables, Filters and Attenuators
- Measures Phase Angle between RF Voltages
- Direct Readings on Standard Charts:
  - eliminate need for calculation
  - prevent computation errors
  - save valuable engineering time



Type FT-ZDU

### SPECIFICATIONS

Freq Ranges: Type FT-ZDU . . . 30 to 300 mc; Type FT-ZDD . . . 300 to 2400 mc • Characteristic Impedance: 50 ohms • Measuring Ranges: Impedance . . . 1 to 2500 ohms; Phase . . . 0 to 360°; Attenuation . . . 0 to 30 db • Accuracy: Amplitude . . . ±3%; Phase . . . ±1.5 • Terminals: Type N • Power Supply: 115 volts (or 220 volts), 50 to 60 cycles.

## FEDERAL INSTRUMENTS

Industrial Products Division

## INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

100 Kingsland Road • Clifton, N. J.

### A LIST OF IT&T PRODUCTS NOT DESCRIBED HERE:

AMPLIFIERS  
Klystron AFC  
Magnetic  
Microwave  
Null

ANALYZERS  
Distortion  
Frequency  
Harmonic  
Spectrum  
Wave

ANTENNAS  
Aircraft Type  
Ground Plane

ATTENUATORS  
Audio  
r-f & i-f

BATTERY CHARGES  
Selenium

BEACONS  
Radio Navigation

BRIDGES  
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Electrical  
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CALIBRATORS  
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Cameras

CAMERAS  
Television

CIRCUITS  
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Plug-In  
Potted  
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COMMUNICATION SYSTEMS

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Airport Traffic Control  
Portable Installation  
Railroad  
Teletype  
Vehicular

COMPARATORS  
Capacitance  
Inductance

COMPUTERS  
Analog  
Digital

CONVERTERS  
Analog to Digital  
Power Frequency, Electronic  
DATA RECORDING EQUIPMENT  
DECADE BOXES  
Capacitance

DETECTORS  
Null  
Null-R-F  
Null-vtvm

FLUXMETERS  
GENERATORS, ELECTRONIC  
AM-FM  
Microwave  
Random Noise  
Variable Frequency

Signal, a-f  
Signal, f-m  
Signal, r-f  
Signal, shf  
Signal, Sweeping  
Signal, uhf or vhf  
Variable Frequency  
INDICATORS  
Null

INVERTERS  
DC-AC

LINES  
Slotted

MEG OHMMETERS  
MEG OHMMETERS, VACUUM TUBE  
METERS

Distortion and Noise  
Electronic Capacitance  
Field Strength  
f-m Deviation  
Frequency  
Frequency, Microwave  
Impedance  
Microvolt  
Microwave  
Modulation  
Null

Power-Microwave  
MICROFARAD METERS  
MILLIVOLTMETERS

OSCILLATORS  
Microwave Power  
Radio Frequency  
Sweeping  
OSCILLOSCOPES  
Cathode Ray  
Cathode Ray, Multiple Channel

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RADAR SYSTEMS  
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RECEIVING EQUIPMENT  
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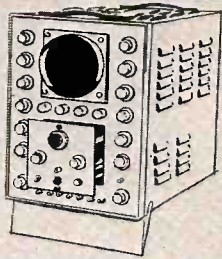
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Industrial

TERMINATIONS  
Microwave

TRANSMITTERS  
Aircraft  
Direction Finding  
Loran  
Portable and Mobile Radio-Telephone  
Radio Range  
Railroad  
Single Side Band  
TUBE PARTS  
TUBES—ALL TYPES

Send for complete details — address FEDERAL TELEPHONE AND RADIO COMPANY, 100 KINGSLAND ROAD, CLIFTON, N. J.

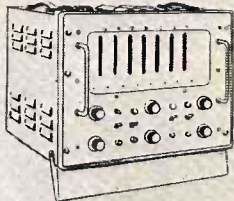
# LFE PRECISION INSTRUMENTS and COMPONENTS for advanced electronics



## 411A OSCILLOSCOPE

The only oscilloscope with X-axis diversification. Plug-in adapters give delayed sweep, gated markers, dual trace, etc. Direct-reading controls. Reliable and accurate for advanced research.

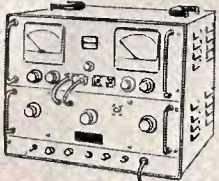
Write for Bulletin 411A



## 501A TIME RATE INDICATOR

High speed digital frequency meter and timing instrument for measurement and digital display of frequency, period, ratio, rate, pulse width, intervals, elapsed time and total. Built-in video amplifier and period measurement unit.

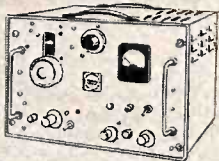
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## 814 ULTRASTABLE MICROWAVE OSCILLATOR

For any microwave research requiring a stabilized signal source.

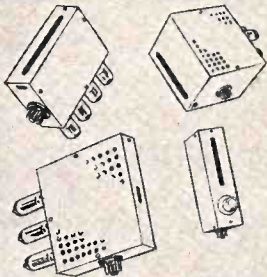
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## 5004 MICROWAVE STABILITY TESTER

Measures drift and f.m. in frequency bands between 1120 and 10,800 mc. Also at 30 mc and at 30 kc to 230 kc. Direct reading, continuous display. Provision for oscilloscope display.

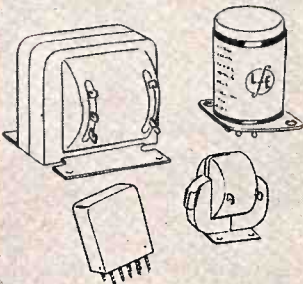
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## PLUG-IN SCALERS

Printed wire units with easy-to-read digital display. Standard and special purpose models. Decade scalers available with 9 or zero reset.

Write for Bulletin 1700



## TRANSFORMERS

Pulse, power, magnetic amplifiers, charging and filter chokes, audio transformers, high "Q" inductors, i.f. and r.f. coils, computer storage coils, special purpose h.v. power supplies. To meet commercial and MIL-T-27A grades and any physical requirement.

Write for Bulletin TR500

## POTTED POWER SUPPLIES

Made to customer specifications

## CONDENSED SPECIFICATIONS

Bandwidth: DC to 10 mc., .035  $\mu$ sec rise time  
Sensitivity: 20 mv/cm  
Square wave calibrating voltage: from 0.1 to 100V, 5% accuracy  
Sweep range: .1  $\mu$ sec/cm to .1 sec/cm  
Triggering: External, internal, recurrent 500 to 5000 cps.

10 mc counting rate  
All neon display  
7 decade scalers in time base  
Period range: 10  $\mu$ sec to 28,000 hrs.  
Interval range: .1  $\mu$ sec to 28,000 hrs.  
Display time: .07 to 10 sec or INF  
Recorder, heterodyne, and timing pulse outputs

Frequency range: 8500 to 10,000 mc/s.  
Stability: 5 parts in  $10^8$  short term, 1 part in  $10^6$  long term  
80 mw nominal into 50 ohm load power output

S-band deviation measurements to less than 2 cps.  
X-band deviation measurements to 10 cps.  
Measurable f-m deviation to 1000 cps.  
Max. measurable rate of drift: 300 kc/sec/sec  
Instrument stability: 1 part in  $10^{11}$ .

Decade: 10 mc, 1 mc, 100 kc, 40 kc, 20 kc.  
Preset: 20 kc, 40 kc, 100 kc.  
Binary: 20 mc

IF, RF coils to 150 mc pulse as required.  
Inductance: to 1000 henries up to 50 amps DC.  
Hipot: to 40,000 V.  
Power: frequency to 100,000 cycles. Power to 500 watts at non-standard (60 and 400 cycles) frequencies.  
60 and 400 cycle testing to any power range.  
Toroids to 1/16" I.D., 5" O.D.

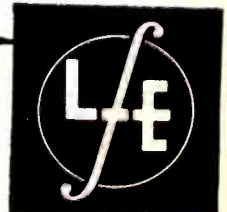
From 2,000 to 100,000 volts  
1 ma to 5 ma

Address foreign inquiries to Export Dept., 431 Fifth Ave., N. Y. 16, N. Y.  
For additional information on these or any LFE products, write today:

**SPECIAL PRODUCTS DIVISION**

**LABORATORY FOR ELECTRONICS, INC.**

75 Pitts Street, Boston 14, Massachusetts  
Richmond 2-3200 TWX BS574 Cable SPAR



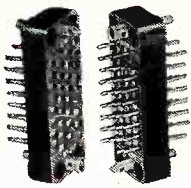
Research and development engineers. Also manufacturers of radar sets, business machines, control systems for automatic machinery and other complex electronic equipment.

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Avionics • Automation • Communication • Controls • Instrumentation  
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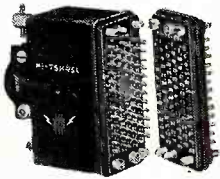
### MINIATURE & SUB-MINIATURE Solder—Solderless Types



MINIATURE	
MI SOLDER	MI-SDL SOLDERLESS
AMP. 37 Term	

AVAILABLE IN 7, 12(8-4),  
14, 18, 20, 21, 26, 34, 41, 50,  
75 contacts.

### DOUBLE-LEAD MINIATURE SCREW-LOCK



**REMEMBER,  
TWICE THE  
SPEED WITH  
DOUBLE  
LEAD!**

MI-SL SOLDER	MI-SL-SDL SOLDERLESS
AMP. 37 Term	

AVAILABLE IN  
7, 12(8-4), 14,  
18, 20, 21, 26,  
34, 41, 50, 75  
contacts.

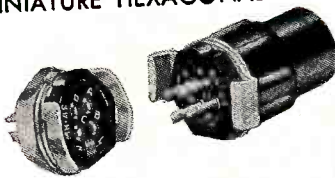
### SUB-MINIATURE SCREW-LOCK



SMI-SL SOLDER	SMI-SL-SDL SOLDERLESS
AMP. 37 Term	

AVAILABLE IN  
7, 11, 14, 20,  
26, 34 contacts. Also  
available, SMI  
rack and  
panel series.

### MINIATURE HEXAGONAL



MH SOLDER	MH-SDL SOLDERLESS
AMP. 37 Term	

AVAILABLE  
IN 4, 5, 7,  
9 contacts.

The above items are covered by U. S. Pat.  
2,658,182; 2,751,108. Add'l Patents Pending.

**SPECIAL FEATURES:** Side or rear cable entrance hoods  
available. Alkyd, Melamine or diallyl phthalate molding com-  
pounds.

- Other U.S.C. products are available such as pressure seals, adapters, mounting brackets.
- Over 1500 stock sizes and types for standard and special applications.

### POWER

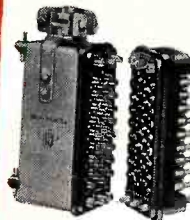
#### HEAVY-DUTY



980 SOLDER	980-SDL SOLDERLESS
AMP. 53 Term	

AVAILABLE IN  
12, 18, 24, 34  
contacts.

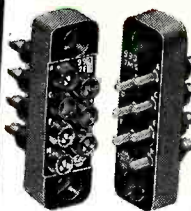
#### HEAVY DUTY DOUBLE-LEAD SCREW-LOCK



980-SL SOLDER	980-SL-SDL SOLDERLESS
AMP. 53 Term	

AVAILABLE IN  
12, 18, 24, 34  
contacts.

#### HEAVY DUTY



990 SOLDER	990-SL-SDL SOLDERLESS
AMP. 53 Term	

AVAILABLE IN  
7, 10, 15, 18 long  
or short (S) con-  
tacts.

#### HEAVY DUTY DOUBLE-LEAD SCREW-LOCK



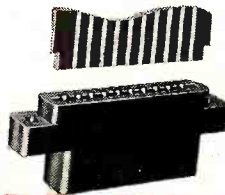
990-SL SOLDER	990-SL-SDL SOLDERLESS
AMP. 53 Term	

AVAILABLE IN  
7, 10, 15, 18  
contacts.

**REMEMBER,  
TWICE THE  
SPEED WITH  
DOUBLE  
LEAD!**

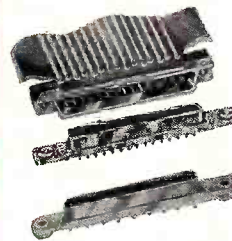
### PRINTED CIRCUIT

#### SERIES UPCR (printed card receptacle)



6, 10, 15, 18, 22  
contacts. Single  
row for 1/16 cards  
—wire solder.  
Double row for  
1/16 & 3/32 cards  
—wire solder (D),  
wire-wrap (DW),  
taper pin (DTP), or  
taper tab (DT), ter-  
minals.

#### PRINTED CIRCUIT CONNECTOR

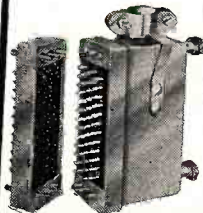


**UPCC-M**  
Solder Dip

**UPCC-F**  
Solder Term

**UPCC-FD**  
Solder Dip Term

#### MINIATURE BRACKET SCREW LOCKING



MI-BSL SOLDER	MI-BSL-SDL SOLDERLESS
AMP. 37 Term	

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Modular design  
permits up to 250  
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# INSTRUMENTS

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- vibration and sound analyses
- noise analyses
- geophysical investigations
- servo analyses
- frequency response analyses
- harmonic and cross modulation investigations
- monitoring communications channels
- analyzing characteristics of AM, FM and pulsed signals
- checking telemetering or carrier current systems for distortions, hum, noise, microphonics, interference, channel spillover
- monitoring magnetic tape re-recordings
- and many special applications

Accurate . . . rapid, exceedingly flexible and discriminating, Panoramic instruments are **PROVED PERFORMERS** in plants, laboratories and military applications. Simple to operate . . . easy to interpret . . . they have helped to speed research and development projects . . . solve production testing problems.

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**PANORAMIC**  
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### Panoramic Waveform & Spectrum Analyzers

These automatic heterodyne scanning receivers present a visual display of both the frequency and amplitude of the waveform content of an electrical voltage or any parameter which is converted into an electrical voltage. Their easily read panoramic display provides a rapid, reliable method of detecting defects, checking variations, making adjustments, testing production, improving product design and solving many other measurement problems. A broad range of instruments satisfies a great variety of applications, which are even further extended by combining carefully designed accessory equipments with basic analyzers to form instrumentation systems which offer unique advantages.



**Model LF-2, Subsonic (0.5 cps-2250 cps)**, features 0.1 cps to 20 cps resolution, 40 db dynamic range, six scanning widths, permanent ink-on-paper recordings, high stability.



**Model LP-1a, Sonic (40 cps-20 kc)**, features both linear and log amplitude scales, 60 db dynamic range, directly read, broad logarithmic frequency scale and a three-step scanning range selector and tuning control which permits selection and magnification of linear segments 200, 1000 or 5000 cps wide centered anywhere between 0 and 20 kc for sharp detailed analysis of components closely spaced in frequency. Optional companion recorder allows permanent ink-on-paper recordings over extended periods.



**Model SB7aZ, Ultrasonic (1 kc-300 kc)**, features both linear and log amplitude scales, exceptionally stable displays, continuously variable sweepwidth, center frequency and resolution controls which facilitate overall observation of a band 200 kc wide or highly detailed analysis of selected narrow bands.



**Panalyzers and Panadaptors (RF, VHF and UHF)** feature continuously variable sweepwidths, resolution and scan rates; long or short persistence displays, linear or log amplitude scales. Offer the advantages of wide scan display yet permit examination of closely adjacent signals. Special features vary with model and type selected. 5 models in 23 different types fulfill almost every need from low-cost general purpose instruments to those for highly special applications.



**Model SPA-1, Microwave (50 mc-4000 mc)**, features two tuning heads (RF-2 from 50 mc to 250 mc; RF-3 from 220 mc to 4000 mc in five ranges) with a single tuning control dial having an accuracy of  $\pm 1\%$ , continuously variable resolution, sweep rate and differential markers,—100 dbm sensitivity.

### Panoramic Accessory Instruments



**Models G-2 and G-3, Sweep Generators**, convert the LP-1a and SB-7aZ, respectively, into single line response curve tracers, discriminate against noise and hum, show response to fundamental frequency only, and assure accurate frequency response measurements.



**Model TW-1, Triangular Wave Generator**, operates together with both sonic and ultrasonic analyzers and sweep generators to produce a continuously variable (0.05 to 60 per sec.) linear bi-directional time base enabling the establishment of the proper scan rate to insure presentation of a true response.



**Model SW-1, Signal Alternator**, permits observation of two independent inputs either for comparison or calibration purposes. With high persistence indicators, alternate displays can be viewed simultaneously thus allowing a very high degree of readability on small differences in frequency and/or amplitude.

### Panoramic Special Instruments

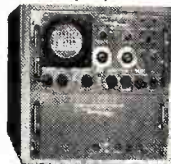
**Model TFA-1, Time-Frequency Analyzer**, in combination with one of the analyzers (subsonic through microwave) or telemetering indicator, provides a complete history of the time occurrence of transient waveform components, in addition to frequency and amplitude information.

**Model PDA-1, Spectral Power Density Analyzer**, used in combination with one of the analyzers (subsonic through microwave) measures the spectral power density of random information by translating transient voltage amplitudes of a complete data sample into an integrated continuous plot of total power vs. frequency.

**Model SF-1, Synchronous Frequency Analyzer**, has many application possibilities and is excellent for dynamic balance analysis. Automatically tracks a frequency component derived from a rotating or oscillating source and provides simultaneously a visual plot of component frequency vs. component amplitude.

### Panoramic Telemetering Test Instruments

These instruments are specifically designed to provide a simple, reliable, almost instantaneous method of checking FM/FM Telemetering Systems.



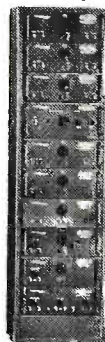
**Model TMI-1a, Telemetering Indicator**, provides a visual display of the frequency and amplitude of composite signal components. Scans spectrum logarithmically from 350 cps to 85 kc, or linearly, any 100 cps to 20 kc segment centered anywhere between 400 cps and 70 kc. Permits measurement of spurious products down 40 db. Features 20 db linear and 40 db log amplitude scales; 2 mv full scale sensitivity; automatic optimum resolution.



**Model TMC-1 Telemetering Subcarrier Deviation and Three Point Calibrator**, is a dual purpose instrument, which: (1) Sequentially furnishes upper limit, center and lower limit frequencies channel by channel for all RDB channels as outputs for discriminator calibration. Limits are  $\pm 7.5\%$  for all channels and  $\pm 15\%$  for upper five, others optional, with an accuracy of 0.02%. Channel switching can be either manual or automatic. (2) Establishes maximum deviation limits and center frequency of subcarrier oscillators. An internal signal switcher permits alternate display, on the screen of the TMI-1a, of subcarrier vs. calibrating marker from the built-in channel selector of the TMC-1 which automatically establishes proper center frequency and sweepwidth of the selected channel for comparison with deviation or spread of subcarrier.



**Model TMC-307, Seven Point Telemetering Frequency Calibrator**, sequentially furnishes seven equally spaced frequencies for all RDB channels singly, as outputs for discriminator calibration. Limits and accuracy are the same as the TMC-1. Switching can be either manual or automatic. Can also be used in combination with the TMI-1a and the CHS-1 (Channel Selector), for multipoint calibration of subcarrier oscillators. 0.02% accuracy.



**Model TMC-211, Simultaneous Eleven Point Telemetering Frequency Calibrator**, differs markedly from the TMC-1 and TMC-307 in that it provides 11 equally spaced frequencies for all RDB channels simultaneously as outputs for discriminator calibration. All channels can be sampled in as little as 294 seconds with an accuracy of 0.002%, stability of .0005%. Limits are the same as the TMC-1 and TMC-307. Channel switching may be manual, semi-automatic or completely automatic. On automatic, switching is controlled synchronously and cycling time is adjustable. Can also be used in combination with the TMI-1a and the CHS-1, for simultaneous multipoint calibration of subcarrier oscillators. The instrument can be remotely controlled from a central station with subcarrier channels diverted to various locations.



**Model CHS-1, Telemetering Channel Selector**, automatically establishes the correct center frequency, sweepwidth and resolution for any RDB channel selected for display on the screen of the TMI-1a. An internal signal switcher permits alternate display of subcarriers vs. external calibrating markers, available from the TMC-307, TMC-211 or other source, for visual comparison of linearity or spread of subcarrier.

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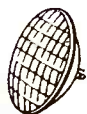
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Miniature Lamps



Sealed Beam Headlamps



Signal Flashers



Radio And TV Tubes



Aluminized Picture Tubes

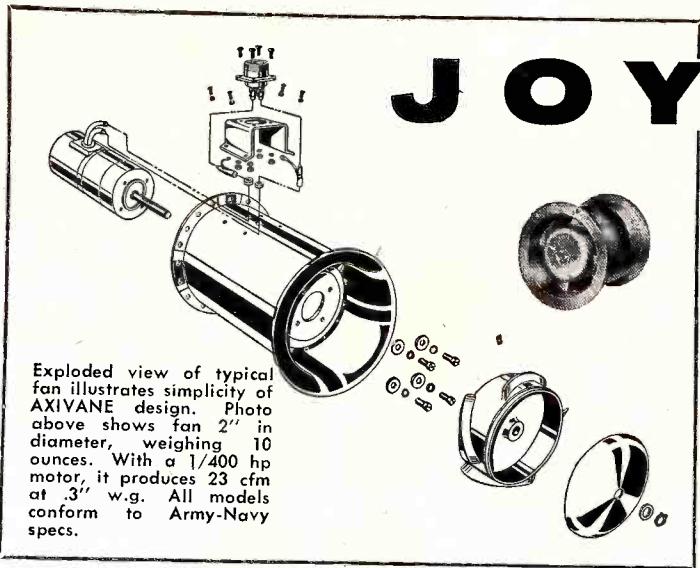


Special Purpose Tubes



Semiconductor Products





# AXIVANE FANS

for electronic cooling

Joy Manufacturing Company has developed over 240 models & 1300 designs of small, powerful fans for use in electronics. Each fan can be modified for exact conformation to any specifications. Aluminum and magnesium one-piece castings provide minimum weight, yet enable fans to withstand severe shock and vibration. Vanexial design assures compactness, space saving and provides high capacity performance with low horsepower expenditure. Motors meet minimum vibration standards for exact balance tolerance in motor driven fans. All rotors are dynamically and statically balanced. Direct drive is an important built-in (but readily accessible) feature.

## APPLICATIONS IN THE ELECTRONIC INDUSTRY:

- Heat removal where space is so restricted that natural ventilation is insufficient.
- Cooling electronic tubes under conditions of sea level to 50,000 feet with high temperatures.
- Electronic equipment.
- Radio gear.

- Magnetrons.
- Maintain correct temperature for fire control equipment.
- Counter measures.
- Providing air for many unusual electronic applications.
- Spot cooling of electronic tubes where local high temperatures arise.
- Heat removal from pressurized or hermetically sealed units.

## SPECIAL 60 CYCLE A. C. FANS

Model	Capacity CFM	Pressure Inches W.G.	Weight Pounds	Diameter Inches	Horse Power	Speed RPM
AVR47-37D952	65	0.25"	3.0	4.75	.005	3,200
AVR102-95D838	200	1.5"	45.0	10.25"	.167	3,450/2,875
1-6-4-32A	200	.25"	7.5	6.0"	.013	3,450
AVR75-55D517	300	0.8"	14.0	7.5"	.066	3,200

## 27 VOLT D. C. FANS

Model	Capacity CFM	Pressure Inches W.G.	Weight Pounds	Diameter Inches	Horse Power	Speed RPM
AVR20-12D802	20	0.5"	.68	2.0"	.0025	10,500
AVFR35-42D1014	20	4.75"	4.5	3.5"	.083	14,200
AVF2R35-27D815	25	6.0"	3.5	3.5"	.050	12,000
AV3.5-2.75-120D	60	5.0"	5.0	3.5"	.083	14,200
AV40-32D629	80	5.0"	5.5	4.0"	.083	14,200
AVR52-45D702	120	5.0"	6.25	5.25"	.166	10,000
AVR50-32D647	175	5.0"	9.50	5.0"	.30	12,000
AVR45-30D714	200	1.0"	5.0	4.5"	.06	18,500
AVR50-30D501	200	1.5"	5.25	5.0"	.075	6,800
AV6-5-4-8000DX4	250	6.5"	9.0	6.5"	.5	8,800
AV65-52D830	300	6.5"	9.75	6.5"	.5	8,800
AVR55-45D809	300	8.0"	9.1	5.5"	.6	11,200
AV6.5-4-8000DX3	350	5.0"	7.5	6.5"	.5	8,800
AV-0406.5-5D	400	5.0"	7.75	6.5"	.5	8,800
AVR80-65D786	425	7.0"	80.0	8.0"	.75	7,500
AVR77-55D641	475	4.75"	16.0	7.75"	.5	7,000
AVR80-65D591	600	6.0"	28.0	8.0"	1.3	9,750
AV-8-4-50D	750	1.0"	11.5	8.0"	.20	5,000
AV-8-4-0.75-DX2	750	4.5"	14.25	7.75"	.75	8,400

## 400 CYCLE A. C. FANS

Model	Capacity CFM	Pressure Inches W.G.	Weight Pounds	Diameter Inches	Horse Power	Speed RPM
AVR20-12D802	20	0.5"	.625	2.0"	.0025	10,500
AVR27-20D974	45	1.0"	2.0	2.75"	.02	11,000
AVR42-35D794	60	5.0"	6.25	4.25"	.083	11,500
AVR35-27D976	60	5.0"	4.5	3.5"	.083	11,500
AVF50-35D844	100	0.5"	3.5	5.0"	.02	5,600
AVR-40-30D998	100	3.0"	3.0	4.0"	.083	11,400
AVR45-32D1018	140	3.0"	6.0	4.5"	.125	11,300
AVR47-32D732	200	1.0"	4.75	4.75"	.066	7,400
AVR50-35D1017	200	4.0"	6.5	5.0"	.25	11,300
AVR50-30D501	200	1.5"	5.25	5.0"	.09	7,400
AVR45-32D823	200	1.7"	4.5	4.5"	.1	7,500
AVR47-32D869	255	0.25"	5.8	4.75"	.066	7,400
AVR55-40D773	300	6.0"	9.0	5.5"	.45	11,400
AVR55-45D809	300	6.5"	11.5	5.5"	.70	11,275
AVF65-40D804	300	3.7"	8.0	6.5"	.333	7,500
AVR60-35D738	400	5.0"	9.0	6.0"	.50	11,400

### Design specifications for above models: A&N

The models listed in the specification tables are at basic design only. Listed weights will vary with the type of casting and accessories. Capacities shown are at design duty only. Performance curves, illustrating the complete duty range, are available for each model and version of each model.

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**REDUCE IMPURITIES TO NEW LOWS!**

Here are chemicals made to entirely new standards of purity—chemicals made especially for use in manufacture of semiconductors. Metallic and other undesirable impurities are held to maximum limits as low as one part in ten million!

These exceptionally pure B&A "Electronic Grade" Chemicals have been developed to fulfill the exacting requirements of the electronic industry. It is natural that they should come from B&A. For Baker & Adamson is America's foremost producer of laboratory and scientific chemicals, and has worked in close partnership with the electronic

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Listed here are the B&A "Electronic Grade" Chemicals now offered in small package sizes. They are readily available from convenient stock locations, together with many other B&A "Electronic Grade" Chemicals produced in bulk for use in TV tube and receiving tube manufacture. Additional special high-purity chemicals can be custom-made to meet your needs.

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**No matter what factors govern your choice of precision components...**

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June, 1957 — MID-MONTH — ELECTRONICS BUYERS' GUIDE

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hour to  
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and larger



Yardney SILVERCEL®  
helicopter battery  
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# Yardney

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Wherever weight, space and severe current drains are critical factors . . . Yardney SILVERCEL® Batteries will solve your power problems! Small, lightweight, these power-packed batteries have surpassed stringent requirements of Spec MIL-E-5272A.

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We can assemble batteries of any size, of any capacity to your

specifications . . . from advanced-design, test-proved cell models ranging from 0.1 AH to 300 AH, or specially-built models of much larger capacity. For your medium and low rate applications, ask about the Yardney SILCAD®, our new silver-cadmium battery!

And to solve your power problems . . . or for assistance in checking your battery requirements . . . please contact our Applications Engineering Department (AED) for Free consultation service.

Table of Yardney High-Rate Models

Yardney Silvercel	Nominal Capacity	Peak Pulse Discharge	Weight (ounces)	H. (all in inches)	W. (all in inches)	D. (all in inches)	Typical Applications
HR 01	0.1 AH	3 amps	0.15	1.38	.61	0.20	Instrumentation
HR 05	0.5 AH	30 amps	0.70	1.52	1.10	0.55	Telemetry
HR 1	1.0 AH	45 amps	0.79	1.98	1.08	0.54	Motor-Driven Recorders
HR 3	3.0 AH	75 amps	2.98	2.86	1.72	0.59	Tow-Target Drones
HR 5	5.0 AH	75 amps	4.24	2.95	2.08	0.80	Photo-Flash, Camera Drives,
HR 10	10 AH	220 amps	7.88	4.78	2.32	0.74	Portable Lights, Missile Guidance
HR 15	15 AH	350 amps	9.70	4.93	2.31	.81	Helicopter Starting
HR 20	20 AH	500 amps	13.82	4.28	2.05	1.73	Missile Power Sources and
HR 21	20 AH	500 amps	15.02	7.56	2.31	0.81	Servo Controls
HR 40	40 AH	600 amps	23.20	7.0	3.25	0.99	Torpedo Propulsion
HR 60	60 AH	1000 amps	31.85	4.50	2.75	2.38	Portable TV
HR 85	100 AH	1900 amps	52.30	9.44	2.81	1.81	Aircraft Power Sources
HR 90	100 AH	1800 amps	51.40	7.0	3.25	2.16	Tow-Target Drones
HR 100	100 AH	2000 amps	44.10	4.78	3.43	2.79	
HR 200	200 AH	3000 amps	102.50	11.31	5.87	1.31	Portable Power Station
HR 300	300 AH	3500 amps	148.00	17.5	4.19	1.78	Portable Power Station

- **MINIMUM WEIGHT AND SIZE** — six times lighter and five times smaller than conventional batteries of equal capacity
- **LOW INTERNAL RESISTANCE** — designed to meet high current discharge requirements
- **FLAT VOLTAGE CHARACTERISTIC** — no discharge dip at any current drain to end of capacity
- **HIGH SAFETY FACTOR** — Spillage and leakage hazards eliminated; no fumes during charge and discharge cycles
- **MECHANICAL STRENGTH** — High resistance to shock, vibration, rapid acceleration and deceleration
- **WIDE TEMPERATURE RANGE** — Efficient at 160° F. and as low as -60° F.

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Silvercel

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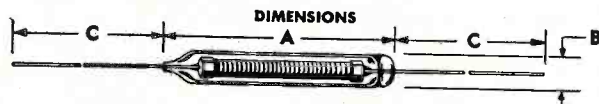
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# Specify VICTOREEN Components for "MIL" Performance

## Glass-Sealed Deposited Carbon Resistors

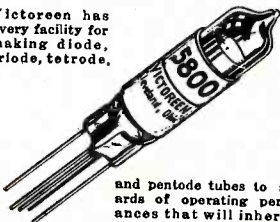
TYPE	RESISTANCE	TOLERANCE %	VOLTAGE COEF. %/V	TEMP. COEF. %/°C	MAX. W.V.	WATTAGE	MAX. TEMP. °C	DIMENSIONS			LEAD DIAM.
								A (MAX)	B (MAX)	C (MIN)	
RX1	10 <sup>6</sup> to 10 <sup>14</sup> ohms	2.5, 10 Note 1 & 7	-0.03 Note 4	±0.15	1000	Note 5	100	1 1/2	.20	1	.020 ±.002
RX2	1 Meg to 50 Meg.	1.2, 5, 10, 20 Note 2	-0.002	-0.08	3000	1	200	2	.413	1 1/2	.022 ±.005
RX3	1 Meg to 200 Meg.	1.2, 5, 10, 20 Note 3	-0.002	-0.08	10,000	3	200	3 1/4	.413	1 1/2	.022 ±.005
RX4	200 ohm to 1 Meg.	1.2, 5	-0.002	-0.05	800	5	300	2	.413	1 1/2	.022 ±.005
RX5	200 ohm to 200 Meg.	1.2, 5 Note 6	-0.002	-0.05	2000	10	300	3 1/4	.413	1 1/2	.022 ±.005
RX6	100 ohm to 500 K.	1.2, 5	-0.002	-0.05	180	.5	200	3/4	.156	1 1/2	.016 ±.002
RX7	100 ohm to 1 Meg.	1.2, 5	-0.002	-0.05	600	.5	200	1 1/4	.187	1 1/2	.016 ±.002
RX8	100 ohm to 10 Meg.	1.2, 5	-0.002	-0.05	750	2	200	1 1/2	.240	1 1/2	.020 ±.002

NOTE 1: 2% tolerance available only below 10<sup>12</sup> ohms.  
 2: 1% and 2% tolerance available only below 20 meg.  
 3: 1%, 2% and 5% tolerance available only below 100 meg.  
 4: below 10<sup>13</sup> ohms.  
 5: RX1 wattage is reciprocal of resistance in megohms  
 6: 1%, 2% and 5% available only below 1 meg.  
 7: 5% available only below 5 x 10<sup>11</sup> ohms.



## Subminiature Electrometer Tubes

Victoreen has every facility for making diode, triode, tetrode,



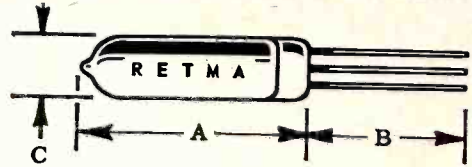
and pentode tubes to standards of operating performance that will inherently improve the performance of their application. In addition to exceptional quality, Victoreen offers engineering skill to assist in solving your problems and production facilities to meet your requirements.

# The Victoreen Instrument Company

Components Division

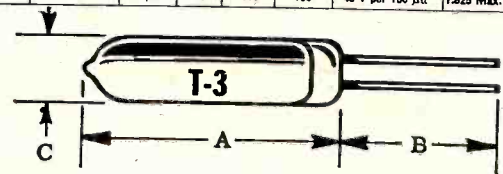
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## CORONA VOLTAGE REGULATORS



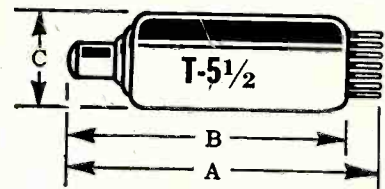
R.E.T.M.A. TYPE

TYPE	NOM.	TOLERANCE	NOM TEST PT.	CURRENT IN $\mu$ a			REGULATION	DIMENSIONS		
				MIN.	MAX.	PEAK		A	B	C
5950	700 V	± 15 V	25 $\mu$ a	5	100	150	14 V per 100 $\mu$ a	1.825 Max.	1 1/4 Min.	.400
5841	900 V	± 18 V	25 $\mu$ a	5	100	150	18 V per 100 $\mu$ a	1.825 Max.	1 1/4 Min.	.400
6143	1200 V	± 24 V	25 $\mu$ a	10	100	150	24 V per 100 $\mu$ a	1.825 Max.	1 1/4 Min.	.400
6119	2000 V	± 100 V	25 $\mu$ a	15	100	150	40 V per 100 $\mu$ a	1.825 Max.	1 1/4 Min.	.400



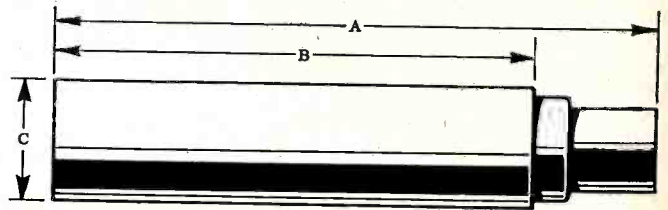
T-3 SIZE

TYPE	NOM.	TOLERANCE	NOM TEST PT.	CURRENT IN $\mu$ a			REGULATION	DIMENSIONS		
				MIN.	MAX.	PEAK		A	B	C
GV3B-400	400 V	± 10 V	50 $\mu$ a	5	150	300	10 V per 150 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3B-500	500 V	± 10 V	50 $\mu$ a	5	100	150	12 V per 100 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3B-600	600 V	± 10 V	50 $\mu$ a	5	100	150	13 V per 100 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3B-700	700 V	± 15 V	50 $\mu$ a	5	100	150	13 V per 100 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3B-800	800 V	± 15 V	50 $\mu$ a	5	100	150	15 V per 100 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3A-900	900 V	± 15 V	50 $\mu$ a	10	250	350	25 V per 250 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3A-1000	1000 V	± 20 V	50 $\mu$ a	10	250	350	30 V per 250 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3A-1200	1200 V	± 30 V	50 $\mu$ a	10	250	400	40 V per 250 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3A-1500	1500 V	± 30 V	50 $\mu$ a	15	300	500	50 V per 300 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3A-1800	1800 V	± 40 V	50 $\mu$ a	15	300	500	65 V per 300 $\mu$ a	1.880 Max.	1 1/2 Min.	.400
GV3A-2000	2000 V	± 50 V	50 $\mu$ a	15	300	500	75 V per 300 $\mu$ a	1.880 Max.	1 1/2 Min.	.400



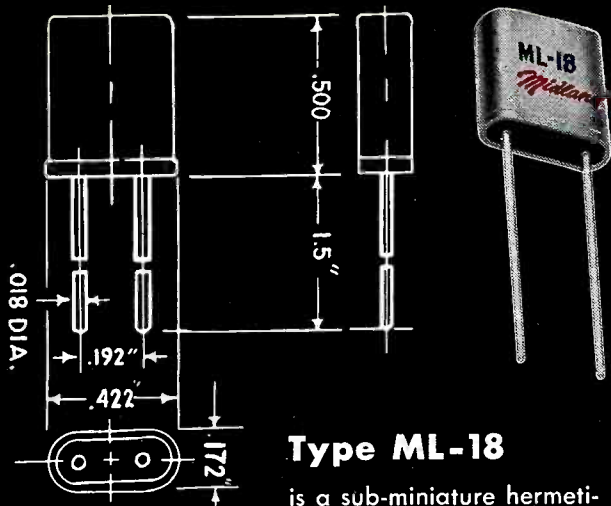
T-5 1/2 SIZE

TYPE	NOM.	TOLERANCE	NOM TEST PT.	CURRENT IN $\mu$ a			REGULATION	DIMENSIONS		
				MIN.	MAX.	PEAK		A	B	C
GV5B-700	700 V	± 20 V	100 $\mu$ a	10	250	350	25 V per 250 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5B-900	900 V	± 25 V	100 $\mu$ a	10	300	500	30 V per 300 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5B-1000	1000 V	± 30 V	100 $\mu$ a	10	300	500	35 V per 300 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5A-1200	1200 V	± 36 V	100 $\mu$ a	10	400	600	40 V per 400 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5A-1600	1600 V	± 50 V	100 $\mu$ a	15	600	800	40 V per 600 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5A-2200	2200 V	± 65 V	100 $\mu$ a	20	800	1000	50 V per 800 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5A-2500	2500 V	± 78 V	100 $\mu$ a	25	1000	1200	40 V per 1000 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5A-3000	3000 V	± 90 V	100 $\mu$ a	30	1000	1200	50 V per 1000 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5C-4000	4000 V	± 120 V	100 $\mu$ a	30	750	1000	80 V per 750 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5C-5000	5000 V	± 150 V	100 $\mu$ a	30	600	1200	100 V per 600 $\mu$ a	2.70 Max.	2.47 Min.	.750
GV5C-6000	6000 V	± 180 V	100 $\mu$ a	30	500	1200	150 V per 500 $\mu$ a	2.70 Max.	2.47 Min.	.750



METAL

TYPE	VOLTAGE RANGE	TOLERANCE	NOM. TEST POINT	CURRENT		REGULATION 100-1000 $\mu$ a	DIMENSIONS		
				MAX.	MIN.		A	B	C
M1058	5 KV-10 KV	± 500 V	500 $\mu$ a	1000 $\mu$ a	50 $\mu$ a	7 1/2%	6 1/2	5	1 1/4
M105	10 KV-20 KV	± 500 V	500 $\mu$ a	1000 $\mu$ a	100 $\mu$ a	10%	8 1/2	5	1 1/4
M108	10 KV-20 KV	± 500 V	500 $\mu$ a	1000 $\mu$ a	100 $\mu$ a	7%	9 1/2	8	1 1/4
M126	20 KV-25 KV	± 500 V	500 $\mu$ a	1000 $\mu$ a	100 $\mu$ a	10%	7 1/2	6	1 1/4
M128	20 KV-27 KV	± 500 V	500 $\mu$ a	1000 $\mu$ a	100 $\mu$ a	7%	9 1/2	8	1 1/4

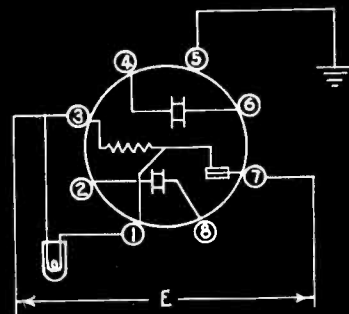


Wire pin diameter:  $.017 \pm .001$   
 Wire pin length:  $1.500 \pm .062$   
 Fixed pin diameter:  $.040 \pm .002$   
 Fixed pin length:  $.234 \pm .030$

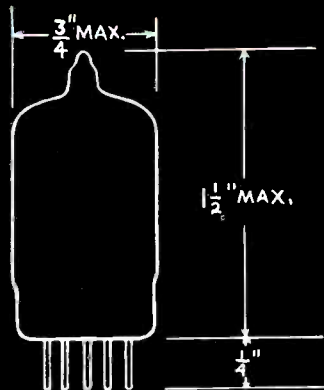
### Type ML-18

is a sub-miniature hermetically sealed crystal unit with glass and metal base. Available with fixed pins or wire leads.

**Range:**  
 5.0 mc — 150.0 mc



**Standard Octal Base Crystal Oven** for ML-6 or ML-13 crystal units: Oven accommodates one or two crystal units. Available in 1 3/4" or 2 1/2" tall can. Furnished in 6, 12, 27 or 115 volt. Temperature setting tolerance accurate to  $\pm 1^\circ\text{C}$ . Operative temperature calibrated at any desired temperature between  $60^\circ\text{C}$  and  $100^\circ\text{C}$ .

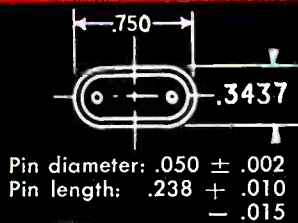


Pin diameter:  $.040 \pm .002$   
 Pin length:  $.250 \pm .030$

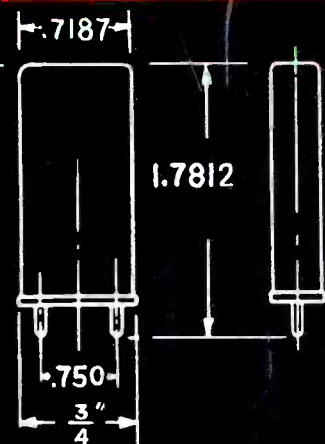
### Type ML-2G

a new all glass, 7-pin miniature.

**Range:**  
 200 kc — 150.0 mc



Pin diameter:  $.050 \pm .002$   
 Pin length:  $.238 \pm .010$   
 — .015



### Type ML-13

**Range:** 4 kc — 300 kc

This unit is hermetically sealed. The can is taller to accommodate the low frequency crystal blank.

**MORE HIGH QUALITY CRYSTALS  
 HAVE BEEN PRODUCED BY *Midland* THAN  
 BY ANY OTHER MAKER IN THE WORLD!**

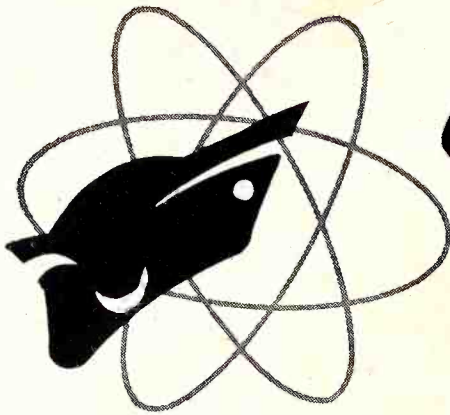
When absolute accuracy in frequency control units must be rigidly maintained—entrust the job to Midland. You are assured of years of quality manufacturing experience plus constant advanced research in critical problems. Midland crystals used by the Military Services are consistently found to surpass military specifications in precise, constant and unflinching performance.

*Check with us on all your crystal needs...  
 and any special requirements.*



**Midland MANUFACTURING COMPANY** 3155 Fiberglas Road  
 Kansas City 15, Kansas



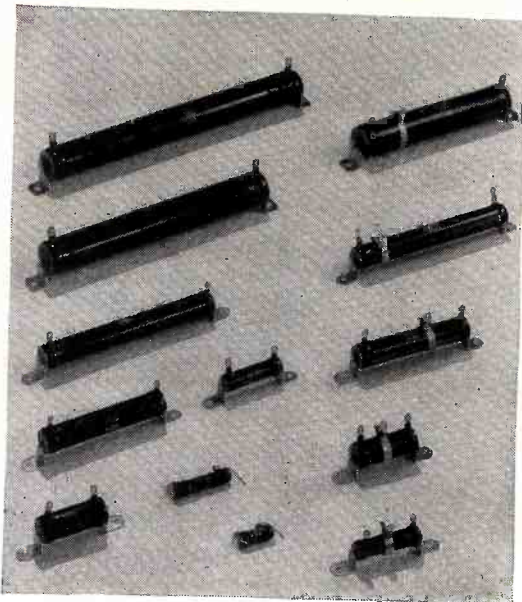


# Continental wire wound

## HIGH POWER RESISTORS

9 Fixed Types Covering 5 to 200 Watts  
in 1 to 100,000 Ohms Ranges

8 Adjustable Types Covering 10 to 200  
Watts in 1 to 100,000 Ohms Ranges



Fixed taps or Edison type base are  
also available.

Wirt Power Resistors are  
precisely space wound  
to exacting quality  
standards for maximum  
reliability in long trouble-  
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an ambient of 40° C.  
Stock sizes are available in  
all standard RETMA  
values. Vitreous enamel  
coating is moisture-proof,  
acid resistant and  
permits rapid heat  
dissipation.  $\pm 5\%$  standard,  
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tolerances are available.

## LOW POWER RESISTORS

1/3 - 1/2 - 1 Watt Sizes

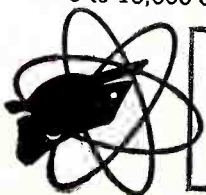
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## POTENTIOMETERS and RHEOSTATS

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These small size wire wound controls are popular for use in compact circuitry,  
and are available in 6 styles including printed circuit style. 1.5 watt rating with  
5 to 15,000 ohms linear range in  $\pm 20\%$  standard.



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BULLETIN RL-2  
Deltaply "165" miniature self-  
healing capacitors, greatest num-  
ber of values in range  $-65^{\circ}\text{C}$  to  
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BULLETIN RL-3  
Deltaply "200" Teflon capacitors  
with one of the lowest values of  
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BULLETIN RL-4  
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"PROVEN  
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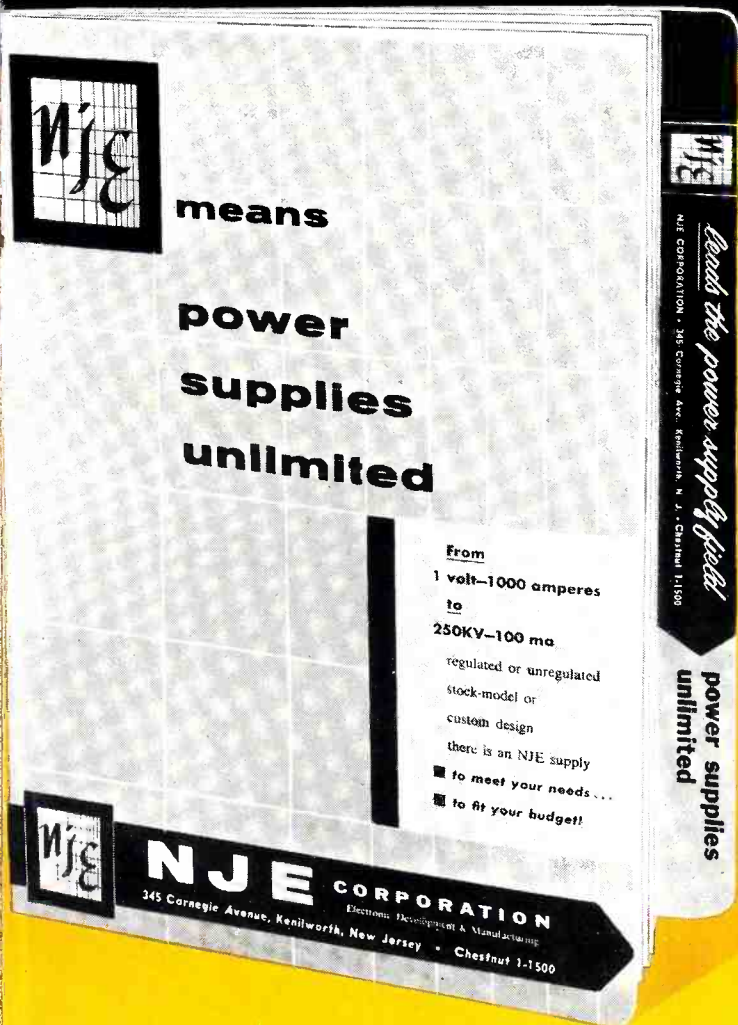
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LUdlow 9-3360

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We manufacture every type of power supply in current demand. During 1956, almost every major electronics manufacturer in the nation turned to us for power supplies.

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NJE catalogs are the most complete and informative available.

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| Brute-Force, Semi-Regulated | <input type="checkbox"/> | Vacuum-Tube Regulated        | <input type="checkbox"/> |
| Thyratron                   | <input type="checkbox"/> | Photomultiplier              | <input type="checkbox"/> |
| High Voltage                | <input type="checkbox"/> | Chopper-Cell Super-Regulated | <input type="checkbox"/> |
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| Thyratron                   | <input type="checkbox"/> | Photomultiplier              | <input type="checkbox"/> |
| High Voltage                | <input type="checkbox"/> | Chopper-Cell Super-Regulated | <input type="checkbox"/> |
|                             |                          | Constant Current             | <input type="checkbox"/> |

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|                             |                          | Constant Current             | <input type="checkbox"/> |

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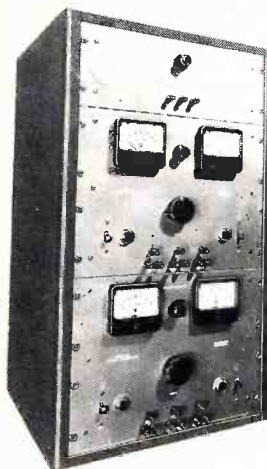
for

## POWER SUPPLIES UNLIMITED

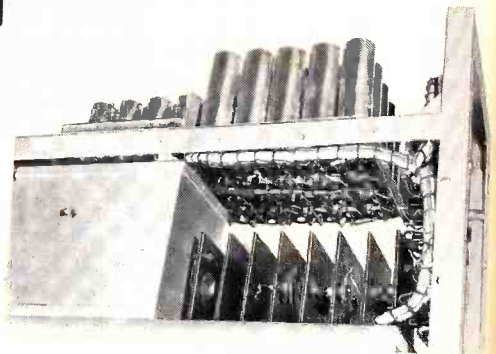


**TRANSISTORIZED**  
The most advanced circuits and modern compact packaging yield completely dependable high-performance supplies that are years ahead. NJE was transistorizing early in 1955, has produced almost half a million dollars worth. Commercial and MIL, standard and custom, AC to DC, DC to DC (inverters). Small, cool, light, rugged, inexpensive. Power-zener regulators, too!

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With or without our famous ZERO-LAG feature, these supplies still lead in popularity for low-voltage, high-current, surge-demand applications. 240 Models are available in 1-4 weeks; literally thousands of custom variations, including constant-current, are on a 6-8 week delivery cycle. Unmatched for large computer applications!



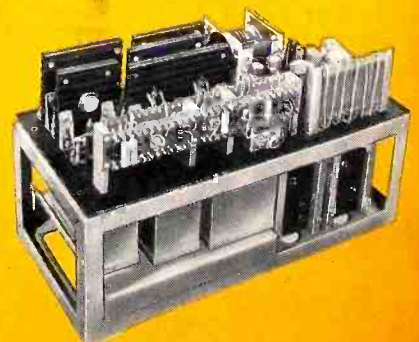
**VACUUM-TUBE**  
Catalog designs offer Standard-grade economy or Laboratory-grade precision, in single or dual models. Chopper-cell super-regulation, constant-current, programmable, interreferenced . . . endless custom variations.



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Fast-response magnetic-amplifier supplies, with or without transistorized preamplifiers. We offer unusual experience in Custom MIL-spec mag-amp equipment.



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# Fenwal Precision Temperature Control and Detection Devices

## CONTROL ELEMENTS OF THERMOSWITCH® UNITS

In Standard Types and Sizes, also Midget and Miniature Units, control is based on a differential expansion principle, simple and unique. A single-metal shell always in direct contact with the medium being controlled, contracts or expands instantly with temperature changes, making or breaking electrical contacts.

In Snap-Action Units, control is provided by an expandable liquid acting on a bellows assembly.

The bellows motion, actuated by volume changes of the liquid, operates the switch contacts through a push rod. In Fenwal units, the liquid is outside the bellows, adjacent to the shell, for shorter heat transfer path and greater sensitivity.

In All Units each control setting is easily adjustable. High resistance to shock and vibration is characteristic, together with hermetic-sealing and many different temperature ranges.



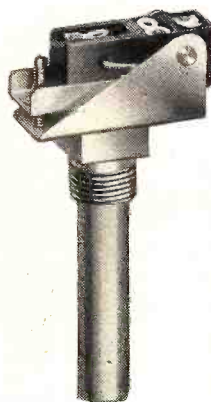
### INDUSTRIAL UNITS

A standard, cartridge type THERMOSWITCH unit. Compact, self-contained in a wide variety of mounting heads for temperatures ranging from  $-100^{\circ}\text{F}$  to  $+400^{\circ}\text{F}$ , or  $+100^{\circ}\text{F}$  to  $+600^{\circ}\text{F}$ . Also furnished in higher ranges Bulletin MC-135.

### ELECTRONIC CONTROLLERS

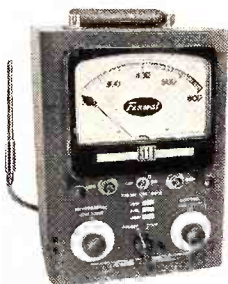
**Thermistor Indicator Controller (Series 560).** For industrial or laboratory applications. Sensitivity 0.25% of scale range. Temperature ranges  $-100^{\circ}\text{F}$  to  $+600^{\circ}\text{F}$ . Available in single or dual range models. Bulletin MC-140.

**Unit Thermistor Controls (Series 530).** For all modern control equipment, systems and processes. Utilizes temperature-resistance property of thermistors in a new "electronic building block" concept of precision temperature control. Bulletin MC-133A.



### SNAP-ACTION UNITS

**Single and Dual Types.** Single has one snap-switch, dual has two. For high current applications, controls loads up to 20 Amps, 125 Volts D.C., or 10 Amps, 250 Volts A.C. without relays. Liquid-filled sensing element assures minimum heat transfer path, fast response, control within  $\pm 2^{\circ}\text{F}$ . Thousands of variations possible. Temperature ranges: from  $-75^{\circ}\text{F}$  to  $+300^{\circ}\text{F}$ . Single Type Bulletin MC-120. Dual Type Bulletin MC-143.



### NEW TEMPERATURE INDICATING CONTROLLERS

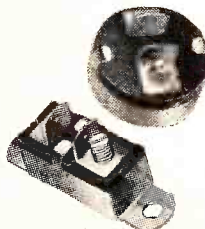
The New Series 541 bulb-and-capillary controllers offer single or dual switch control, choice of four snap-switch types and four temperature ranges:  $-150^{\circ}\text{F}$  to  $+200^{\circ}\text{F}$ ,  $50^{\circ}\text{F}$  to  $200^{\circ}\text{F}$ ,  $50^{\circ}\text{F}$  to  $400^{\circ}\text{F}$  and  $50^{\circ}\text{F}$  to  $700^{\circ}\text{F}$ . Special ranges available on request. Corrosion-proof capillaries and bulbs assure long life and easy operation — in over 576 design variations for temperature control problems. Bulletin MC-139.



### MIDGET AND MINIATURE UNITS FOR TIGHT SPOTS

**Midget Units.** Outside stainless steel shell diameter of  $\frac{1}{4}$ " provides high sensitivity and resistance to vibration, assuring accurate control under severest conditions. Temperature range:  $-50^{\circ}\text{F}$  to  $+500^{\circ}\text{F}$ . Bulletin MC-124.

**Miniature Units.** Sugar-lump size, but with the same stainless steel shell and efficient performance of the Midget. Temperature range:  $-20^{\circ}\text{F}$  to  $+275^{\circ}\text{F}$ . Available in adjustable or hermetically-sealed types. Bulletin MC-124.



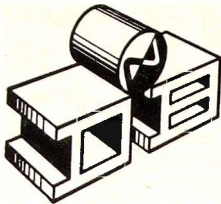
For complete information about Fenwal devices, or about modifications for special applications, write us.

**Fenwal**

INCORPORATED

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Fenwal Controls Temperature . . . Precisely



# FIRST in MICROWAVE and

Effective Date March 15, 1957  
Prices F. O. B. Pasadena, Calif.

Prices subject to change without notice.

Size Designation Frequency Band in KMC Waveguide Nomenclature	DBA 60-90 RG-99/U	DBB 50-75 RG-98/U	DBC 33-50 RG-97/U	DBD 26.5-40 RG-96/U	DBE 18-26.5 RG-95/U	DBF 12.4-18 RG-91/U	DBG 8.2-12.4 RG-82/U	DBH 7.05-10.0 RG-81/U	DBJ 5.85-8.2 RG-80/U	DBK 3.95-5.85 RG-49/U	DBL 2.6-3.95 RG-48/U											
	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price										
<b>Tube Mounts</b> Klystron Tube Mount Noise Tube Mount with Tube						DBE-140-T	\$800	DBG-111-1	\$218	DBH-111-1	\$285	DBJ-111-1	\$260	DBK-111-1	\$270	DBL-111-1	\$285					
<b>Transmission Line Components</b> Adaptors, Choke to Cover Tapered Transitions N to Waveguide Transformers *Straight Sections 90° E-Plane Elbows 90° H-Plane Elbows Rotating Joints 90-Col. Rotating Joints 90-90 Rotating Joints Col.-Col. 90° Twisted Sections Bulkhead Flanges Bulkhead Flanges with Seals Pressurizing Units	DBAL-018	\$225	DBBL-018	\$225	DBCL-018	\$125	DBDL-010	\$30	DBEL-010	\$26	DBFL-010	\$26	DBG-010	\$23	DBH-010	\$27	DBJ-010	\$37	DBK-010	\$46	DBL-010	\$73
<b>Crystal Mounts &amp; Multipliers</b> Crystal Mounts Crystal Mounts, Movable Short Tunable Crystal Mounts Crystal Multipliers	DBA-310	\$83	DBB-310	\$83	DBC-310	\$83	DBD-310	\$83	DBE-310	\$83	DBF-310	\$83	DBG-310	\$55	DBH-310	\$66	DBJ-310	\$76	DBK-310	\$88	DBL-310	\$128
<b>Power Absorbing Units</b> Precision Attenuators Variable Attenuators, Calibrated Variable Attenuators Fixed Attenuators Low Power Terminations Movable Low Power Terminations Movable Term. with Ext. & Vernier Movable Term. with Ext. & Vernier Tunable Low Power Terminations High Power Terminations	DBA-410	\$358	DBB-410	\$358	DBC-410	\$358	DBD-410	\$358	DBE-410	\$358	DBF-410	\$270	DBG-410	\$250	DBH-410	\$275	DBJ-410	\$310	DBK-410	\$326	DBL-410	\$380
<b>Horns</b> Pickup Horns Standard Gain Horns, 10, 15 DB Standard Gain Horns, 20 DB	DBA-510	\$83	DBB-510	\$83	DBC-510	\$83	DBD-510	\$83	DBE-510	\$83	DBF-510	\$72	DBG-510	\$71	DBH-510	\$78	DBJ-510	\$80	DBK-510	\$90	DBL-510	\$110
<b>Tees, Junctions and Mixers</b> E-Plane Tees Waveguide Switches, 2 Way Waveguide Switches, 4 Way H-Plane Tees Basic Directional Couplers Directional Couplers, Flg. to Term. Directional Couplers, Coax. to Term. Directional Couplers, Xtal. to Flg. Directional Couplers, Xtal. to Term. Magic Tees Balanced Crystal Mixers	DBA-610	\$56	DBB-610	\$56	DBC-610	\$56	DBD-610	\$56	DBE-610	\$56	DBF-610	\$41	DBG-610	\$38	DBH-610	\$46	DBJ-610	\$61	DBK-610	\$74	DBL-610	\$119
<b>Frequency Meters</b> Precision Cavity Wavemeters, Reaction Type Absorption Type Transmission Type Reference Cavity, Reaction Type Reference Cavity, Absorption Type Reference Cavity, Transmission	DBA-715-1	\$506	DBB-715-1	\$506	DBC-715-1	\$506	DBD-715-1	\$506	DBE-715-1	\$506	DBF-715-1	\$478	DBG-715-1	\$457	DBH-715-1	\$495	DBJ-715-1	\$534	DBK-715-1	\$583	DBL-715-1	\$809
<b>Impedance Meters</b> Precision Standing Wave Detectors, Complete Carriage Units Only Waveguide Sections Broadband Probes	DBA-825	\$560	DBB-825	\$560	DBC-825	\$560	DBD-825	\$514	DBE-825	\$514	DBF-825	\$500	DBG-825	\$440	DBH-825	\$445	DBJ-825	\$454	DBK-825	\$482	DBL-825	\$585
<b>Phase Shifters, Tuners &amp; Shorts</b> Phase Shifters Calibrated Phase Shifters Variable Stub Tuners Fixed Shorts Movable Shorts Movable Shorts with Extension Movable Shorts with Ext. & Vernier E-H Plane Tuners E-H Plane Tuners with Vernier	DBA-915	\$110	DBB-915	\$110	DBC-915	\$110	DBD-915	\$110	DBE-915	\$110	DBF-915	\$220	DBG-915	\$200	DBH-915	\$225	DBJ-915	\$260	DBK-915	\$276	DBL-915	\$315
<b>Accessories</b> Standard Plain Flange Standard Choke Flange Aluminum Plain Flange Aluminum Choke Flange Special Round Flange Screw Plain Flange Screw Choke Flange Adjustable Waveguide Supports, Ultramicrowave Adjustable Waveguide Supports, Microwave Waveguide Chassis Mounting Stands Waveguide Fastening Screws, Pr. Waveguide Window Seals	DBA-1000	\$2.45	DBB-1000	\$2.45	DBC-1000	\$2.45	DBD-1000	\$2.00	DBE-1000	\$2.00	DBF-1000	\$1.50	DBG-1000	\$1.05	DBH-1000	\$1.90	DBJ-1000	\$3.35	DBK-1000	\$5.25	DBL-1000	\$6.15
<b>Electronic Equipment</b> Noise Diode Power Supplies CW-DC AFC Amplifiers I.F. Amplifiers							DB-2140	\$140	DB-2328	\$800	DB-2340	\$940										

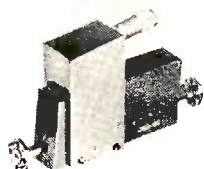
\*Sections One Foot Long or Shorter.  
All instruments sizes A through E solid coin silver waveguide.

# ULTRAMICROWAVE equipment

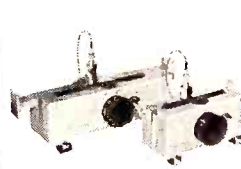
it's a  
fact

that D-B offers  
the most complete  
line of dependable  
equipment

Here's the newest equipment for 2.6 to 140 KMC—by DeMornay-Bonardi, leaders in microwave instrumentation for 16 years. This advanced line offers you the ultimate in precision, dependability and operating ease. Major items are shown. Deliveries on most items are running 30 days. Ask for latest catalogue containing complete data.



DB-410 Precision Attenuator 0-40 DB



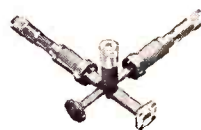
DB-825 Standing Wave Detector



DB-420 Flap Attenuator 0-20 DB



DB-111 Klystron Tube Mount Pressurized, Shielded



DB-350 Crystal Multiplier



DB-430-1 Calibrated Attenuator 0-40 DB



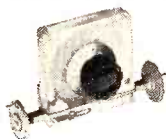
DB-460 High Power Termination



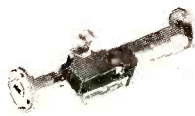
DB-520 Standard Gain Horn



DB-715 Cavity Wavemeter Sealed, Temperature Compensated



DB-915 Phase Shifter 180° Minimum



DB-919 Variable Stub Tuner



DB-969 Movable Short



DB-979-1 E-H Plane Tuner



780 South Arroyo Parkway, Pasadena, California, U.S.A.

# RF WATTMETERS | DUMMY LOAD RESISTORS | VSWR METERS

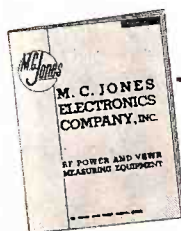
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Please write for our 46-page catalog describing the complete M. C. Jones line.



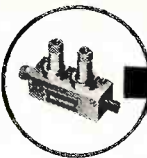
## RF POWER and VSWR INSTRUMENTS

Model No.	Frequency Range (mcs.)	Power Range Incident & Reflected (watts)	RF Connectors and Impedance
261**	0.5 - 225	0 - 1000	Type 83-1R 52 ohms
262	-	0 - 1000 (relative)	Indicator only
263	0.5 - 225	0 - 10; 100; 1000	Type N* 52 ohms
701N	20 - 2000	0 - 1.2	Type N* 52 ohms
702N	28 - 2000	0 - 4	Type N* 52 ohms
703N	20 - 2000	0 - 12	Type N* 52 ohms
704N	46 - 2000	0 - 40	Type N* 52 ohms
705N	20 - 2000	0 - 120	Type N* 52 ohms
706N	28 - 2000	0 - 400	Type N* 52 ohms
711N	25 - 1000	0 - 30; 75; 300	Type N* 52 ohms
405B8	28 - 2000	0 - 4000	N plus 83-1R Adapters
445A9	28 - 2000	0 - 12,000	1 5/8" Flange 51.5 ohms
445A10	29 - 2000	0 - 40,000	3 1/8" Flange 50.0 ohms



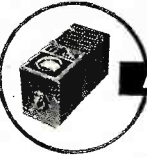
## DC OUTPUT DIRECTIONAL COUPLERS

Model No.	Frequency Range (mcs.)	Power Range Incident & Reflected (watts)	RF Connectors and Impedance
576N1	42 - 2000	1.2	Type N* 52 ohms
576N2	28 - 2000	0 - 4	Type N* 52 ohms
576N3	20 - 2000	0 - 12	Type N* 52 ohms
576N4	46 - 2000	0 - 40	Type N* 52 ohms
576N5	42 - 2000	0 - 120	Type N* 52 ohms
576N6	28 - 2000	0 - 400	Type N* 52 ohms
402B8	28 - 2000	0 - 4,000	1 5/8" Flange 51.5 ohms
442A9	28 - 2000	0 - 12,000	3 1/8" Flange 50.0 ohms
442A10	20 - 2000	0 - 40,000	3 1/8" Flange 50.0 ohms



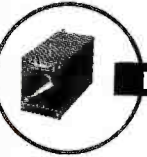
## RF OUTPUT DIRECTIONAL COUPLERS

Model No.	Frequency Range (mcs.)	Coupling Attenuation	RF Connectors and Impedance
313N3	300 - 2000	30 db	Type N* 52 ohms
313N4	120 - 2000	40 db	Type N* 52 ohms
313N5	60 - 2000	50 db	Type N* 52 ohms
313N6	30 - 2000	60 db	Type N* 52 ohms
313N7	25 - 2000	70 db	Type N* 52 ohms



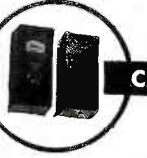
## ABSORPTION TYPE RF WATTMETERS

Model No.	Frequency Range (mcs.)	Power Range (watts)	RF Connectors and Impedance
621N	1 to over 1000	0 - 120 milliwatts	Type N* 52 ohms
623N	1 to over 1000	0 - 1.2	Type N* 52 ohms
624N	1 to over 1000	0 - 4	Type N* 52 ohms
625C5	50 - 1000	0 - 120	Type C 50 ohms
611A7	50 - 1000	0 - 1200	3 1/8" Flange 50 ohms
612A	44 - 1000	0 - 6000	3 1/8" Flange 50 ohms



## RF LOAD RESISTORS

Model No.	Frequency Range (mcs.)	RF Power Dissipation (watts)	RF Connectors and Impedance
633N	3000	50 (air cooled)	Type N* 52 ohms
635N	3000	200 " "	Type N* 52 ohms
636N	3000	600 " "	Type N* 52 ohms
636A	2000	600 " "	3 1/8" Flange 50.0 ohms
638A	2000	6000 (water cooled)	3 1/8" Flange 50.0 ohms



## CALORIMETRIC TYPE Primary Standard of RF Power

Model No.	Frequency Range (mcs.)	Power Range (watts)	RF Connectors and Impedance
641N	0 - 3000	0 - 3; 10; 30; 100; 300	Type N 52 ohms

\*Also available with UHF, C, and HN Connectors.  
\*\*Coupler Unit Only for use with 262 Indicator.



**M. C. JONES ELECTRONICS CO., Inc.**  
BRISTOL, CONNECTICUT

# Constantin GLASS-TO-METAL SEALS

YOUR "INSURANCE POLICY" FOR



## RELIABLE OPERATION

Wherever glass-to-metal sealing is needed to insure long life and continuously high performance, Constantin seals give your components a big bonus "premium" in endurance and protection.

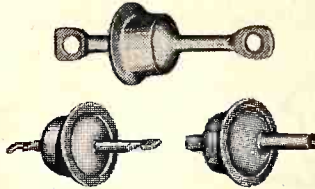
Constantin's experienced research and production engineers have designed and manufactured thousands of different glass-to-metal seals for specific applications. Its complete research, design and manufacturing facilities . . . machine shops for die construction, stamping, wire cutting and forming . . . and separate glass shops . . . provide prompt action on any work order.

For any glass-to-metal electronics application where a positive, efficient, vacuum-tight seal is a critical need, Constantin can meet your technical specifications with a custom designed unit. Improve the quality of your components . . . "insure" their high performance by making Constantin seals a major part of your production "policy." Write today for complete details.



### ALL-IN-ONE ASSEMBLIES

Constantin can design an original seal to meet the special needs of your equipment. All-In-One Assemblies come with different types of internal and external mountings, doing away with expensive sub-assemblies and costly production line operations such as hole stamping, brazing, soldering, mounting of seals, etc.



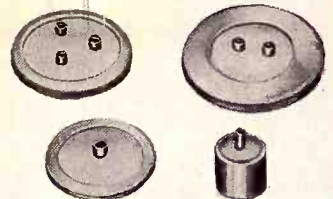
### SINGLE TERMINALS

Extensive line of Single Terminals includes high compression and kovar types. Available Standard Pin types include pierced flats, hollow tubes, turret heads, tubulations with self-lugs, straight ends and cane or goose neck hooks.



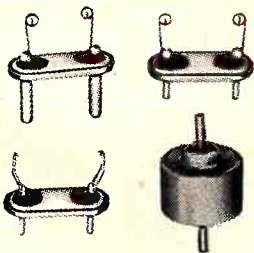
### TRANSISTOR AND DIODE MOUNTS

For any soldering or welding application, Constantin has a complete line of Transistor and Diode Mounts which provide complete protection from moisture, dust, heat conditions and shock.



### END SEALS

These quality units are designed and produced for electronic components which must stand up under extended operation . . . such as rectifiers, capacitors, resistors, delay lines, etc. Many different types and sizes are continually being developed to meet varying technical requirements.



### CRYSTAL BASES AND COVERS

Constantin's Crystal Bases and Covers are world-known and have been widely used for many years by components manufacturers. They meet all military specifications and can be manufactured in varying designs with standard and special crystal mounts.



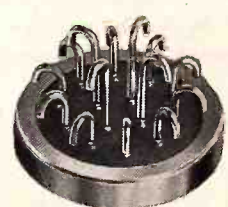
### CONNECTORS

Constantin Connectors are made with special steel alloys which are combined with glass using high compression techniques. Any desired finish can be supplied to meet all present anti-corrosion requirements. Constantin is especially known for the construction of standard and unique flanges and pin types.



### ALL-METAL HIGH COMPRESSION HEADERS

Special fusing techniques are used in the manufacture of Constantin's All-Metal Headers. Standard types find use in countless applications . . . in relays, transformers, thermostats and many others. If your technical specifications encompass a special unit, Constantin will design a seal for your equipment.



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*L. L. Constantin & Co.*

**MANUFACTURING ENGINEERS**

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TRANSISTOR MOUNTS • SINGLE TERMINALS • COMPRESSION HEADERS • END SEALS • CRYSTAL BASES • CONNECTORS • MINIATURIZATION

# RF WATTMETERS | DUMMY LOAD RESISTORS | VSWR METERS

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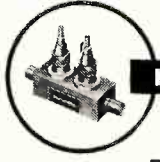


Please write for our 46-page catalog describing the complete M. C. Jones line.



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576N4	46 - 2000	0 - 40	Type N* 52 ohms
576N5	42 - 2000	0 - 120	Type N* 52 ohms
576N6	28 - 2000	0 - 400	Type N* 52 ohms
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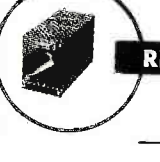
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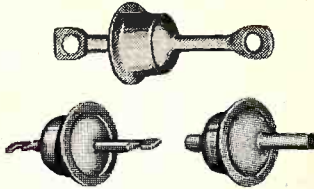
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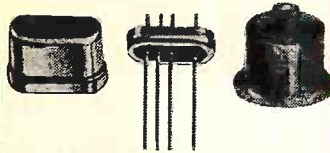
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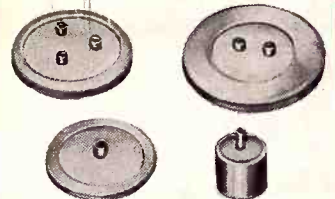
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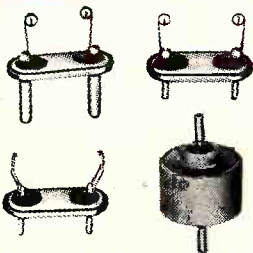
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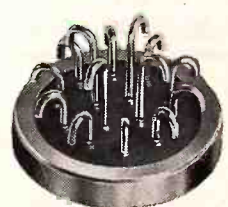
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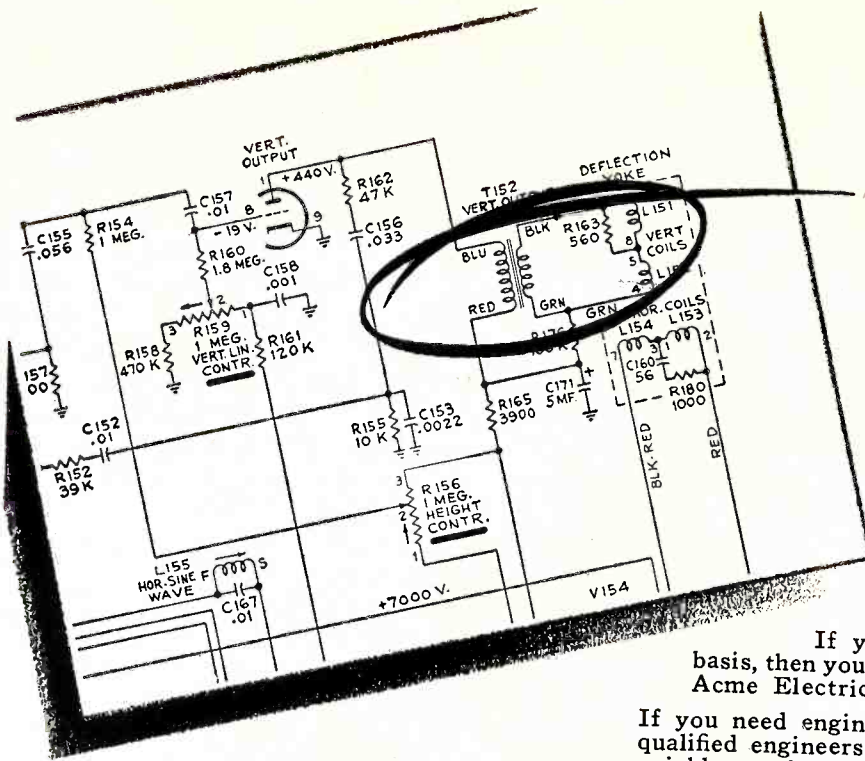


whenever the circuit indicates a

# TRANSFORMER

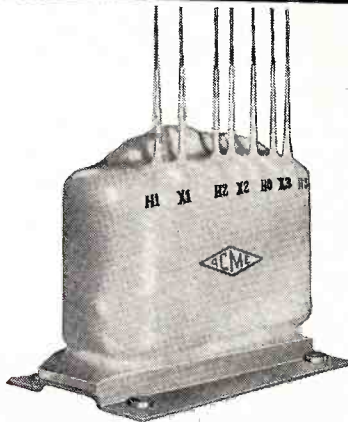
GET IN TOUCH WITH

Acme  Electric

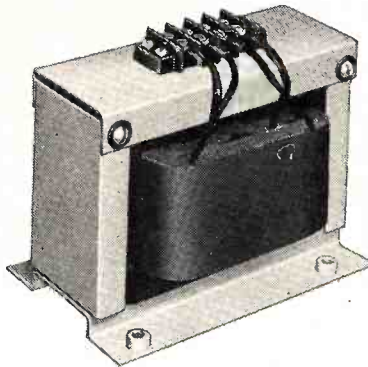


If you buy transformers on a "quality foremost" basis, then you should be interested in the advantages of having Acme Electric produce the transformers you need.

If you need engineering help with a design, we have a staff of qualified engineers to assist you. If you need quantity production quickly, we have every modern facility and carry large stocks of basic supplies to ship your production requirements as your needs demand. And, with our modern production equipment, experienced assemblers, we quote prices that are usually competitive.



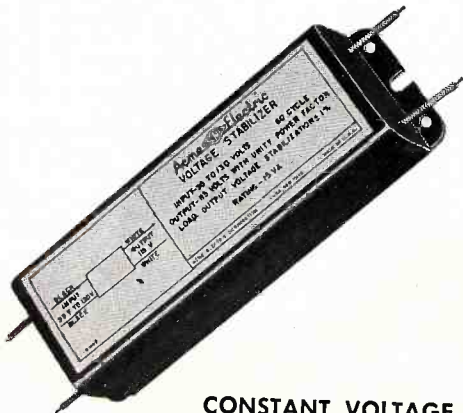
HIGH FREQUENCY AVIATION TRANSFORMER



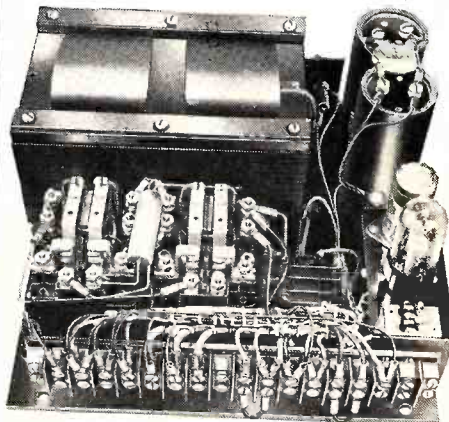
SATURABLE REACTORS



EPOXY ENCAPSULATED TRANSFORMERS



CONSTANT VOLTAGE STABILIZERS



D.C. REGULATED POWER SUPPLIES



PULSE TRANSFORMERS

**Acme  Electric**  
TRANSFORMERS

**ACME ELECTRIC CORPORATION**  
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West Coast: 1375 W. Jefferson Blvd. • Los Angeles, Calif.  
In Canada: Acme Electric Corp. Ltd. • 50 Northline Rd., Toronto, Ont.

ELECTRONIC ACHIEVEMENTS BY

# BURROUGHS CORPORATION

## BEAM SWITCHING TUBES

BURROUGHS Beam Switching Tubes are 10-position high vacuum electronic distributors with high input impedance and ten individual constant current outputs.



Type 6700  
Operation:  
75-300 v  
Switching Rate:  
Above 2 Mc



Type 6701  
Operation:  
12-25 v  
Switching Rate:  
Above 1 Mc



Type M0-10R  
Operation:  
75-300 v  
Switching Rate:  
Above 10 Mc

## NIXIE NUMERICAL INDICATORS



Burroughs all electronic indicators are gas-filled, cold cathode tubes, having a common anode with as many as 10 combinations of numerical or alphabet symbols. They are intended for use as a direct, in-line, readout device.

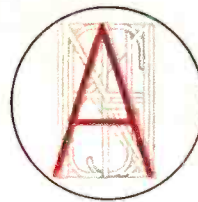


The 6844 is a ten digit numerical indicator tube with digits 0 through 9.  
Rating:  
170 v Dc  
1.0 to 2.2 MA



"MINIATURE"

BD200 is a miniature numerical indicator same as 6844 except 4 x smaller volume, 40% less diameter.  
Rating:  
170 v Dc  
0.5 to 0.9 MA



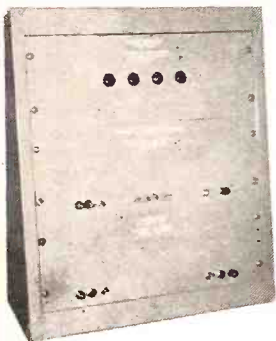
ALPHABET same as 6844 except cathodes are shaped in the form of letters instead of digits. Combinations can be made as desired.

## PIXIE POSITION INDICATOR



The HB-105 is a gas filled, cold cathode, 10 position read-out device, having a common anode. It features 10 glow positions, 36° apart, visible through 10 numerical perforations (0 to 9) in the common anode, in the manner of an internal bezel.

## TRANSFER STORAGE COUNTER



Burroughs' TS-204 with Magnetron Beam Switching Tubes counts, stores, and samples at predetermined intervals. It has the ability to sample high-speed information without stopping the count or losing the original data.

The design of this versatile unit allows visual storage display on the Burroughs' in-line numerical indicator tube, "Nixie", and direct operation of most standard print-out devices. Applications include:

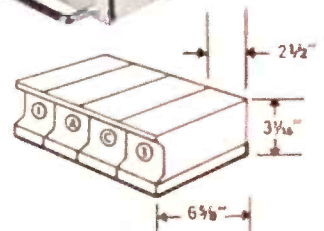
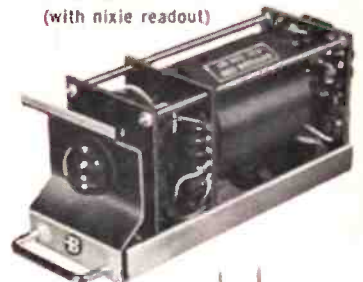
- Data Handling Systems
- Telemetry Monitoring Systems
- Automatic Processing Control
- Events Per Unit Time
- Instrumentation

This Decade Counter combines the reliability of the Beam Switching Tube with the human-engineered "Nixie" to set a new standard in performance and appearance. These plug-in units have been designed for a minimum panel height with provisions for manual and electronic zero setting. Three models are available:

Type	Counting Rates
DC-101	10 kc
DC-102	100 kc
DC-103	1 mc

## DECADE COUNTER

(with nixie readout)



## ACCESSORIES

### SOCKETS

- HSK100-R1 (for 6700 & 6701)
- HSK106 (for regular 6844)
- HSK112 (for 6844)
- HSK109 (printed circuit for 6844)
- HSK105 (for M010R)
- HSK111 (for HB105)

### TEST CHASSIS

- TC100 (for 6700)
- TC101 (for 6701)
- TC10R (for M010R)

### TUBE CLAMPS

- HCL100 (for 6700-6701 M010R)
- HCL102 (for 6700-6701 M010R)

### PULSE TRANSFORMERS

- PT100 Blocking oscillator
- PT102 Directly coupled (Pulse standardizer)

### PIN STRAIGHTENERS

- LS-100 26 pin (6700, 6701, M010R)
- LS-101 20 pin (M010R)
- LS-102 13 pin (Nixie)
- LS-103 13 pin (Pixie)
- Wiring Plugs available

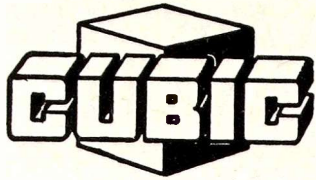
Write today for complete technical engineering data on any of the above items.

# Electronic Tube Division



BURROUGHS CORPORATION

Plainfield, New Jersey



# VERSATILITY THROUGH

## TRANSISTORIZED TEST EQUIPMENT



### WAVEFORM GENERATOR

500

A truly portable signal source for rapid response tests in the audio and video region.

Pulse, squarewave, clipped sawtooth output. Continuously variable repetition rate and amplitude.

SIZE: 8½" by 5" by 4½"

WEIGHT: 5 pounds.



### PULSE GENERATOR

502

A Battery Powered Pulse Generator which operates as well in the field as in the laboratory.

Provides stable pulses completely free from hydrogen-thyratron jitter. Permits amplitude modulation of the output.

SIZE: 6¼" by 8½" by 5¼"

WEIGHT: 5¼ pounds.



### FREQUENCY METER

503

Provides accurate, direct frequency measurements from 3 to 100,000 cps in nine separate ranges.

Accuracy is independent of waveform or amplitude. No sensitivity control is required and the instrument requires no warmup.

SIZE: 11¼" by 8½" by 7"

WEIGHT: 8½ pounds.



### TRANSISTOR CURVE TRACER

504

This fully transistorized, self-powered instrument measures the transistor characteristics most useful for design activities.

Eight curves of collector voltage vs. collector current are presented by electronically stepped values of base drive. An accessory, Transistor Test Fixture provides rapid short-safe inspection.

SIZE: 6¼" by 8½" by 8"

WEIGHT: 5¼ pounds.



### 30 MC GENERATOR

505

An RF signal source designed as a companion piece to the Model 500 and Model 502. Co-use provides a wide variety of amplitude modulated RF waveforms.

Alone, it serves as a handy source of CW RF Energy.

SIZE: 3½" by 6" by 3½"

WEIGHT: 1 pound.

# CONSTANT PRODUCT DEVELOPMENT

## POWER MEASURING EQUIPMENT



**CALORIMETRIC WATTMETER**  
**LIQUID CIRCULATOR**

Measures, in nomographic form, the temperature rise of the calorimetric fluid to watts of average power dissipated in the Calorimetric Termination. These instruments exhibit matched rf characteristics over an exceptional frequency range.

Freq Range 2.6 to 26.5 KMC  
Av'g Power 0-600 watts  
Peak Power 600 kw



**MICROWAVE TERMINATION**

MC 1B



**PEAKPOWER TEST SET**  
**100 X**

Provides direct-reading power measurements from 10 microwatts to 3 milliwatts. Through the use of directional couplers, measurements up to the megawatt region are made with speed and convenience.

Operates from 8.5 to 9.6 MC at any repetitive rate from 10 cps to 20,000 cps.

## MICROWAVE INSTRUMENTATION



**KLYSTRON POWER SUPPLY**  
**701**

The ideal Klystron Power Supply for all general microwave laboratory applications. Includes metering provisions for beam voltage and current and repeller voltage. Occupies minimum bench space.

Beam voltage 200 to 500 v, 65 ma at top end.

Reflector voltage 0-900

At 1 ma, 1% regulation with less than 1% ripple.



**STANDING WAVE AMPLIFIER**  
**601**

Offers increased sensitivity and flexibility for routine VSWR and attenuation measurements. Outstanding performance is attained through a unique design which features extensive use of low-noise techniques.

0-60 db decade switch and continuous gain adjustment are combined in a single concentric control.

Sensitivity, full scale at 0.3 microvolts, VSWR 1.00 to 10 in two ranges.



**MICROWAVE TEST SET**  
**801**

Consists of the Model 601 Standing Wave Amplifier and the Model 701 Klystron Power Supply. Ideally suited for microwave test bay application and includes all the electronic instrumentation necessary for VSWR and attenuation measurements together with a Klystron Power Supply that is the favorite in industrial and military laboratories.

Cubic Corporation's product line has been conceived to follow the military trend toward transistorization. The Military finds these instruments well suited to the versatile requirements of electronics testing.

5575 KEARNY VILLA ROAD • SAN DIEGO 11, CALIFORNIA

**CUBIC**  
**CORPORATION**

# Gabriel electronics division

THE GABRIEL COMPANY

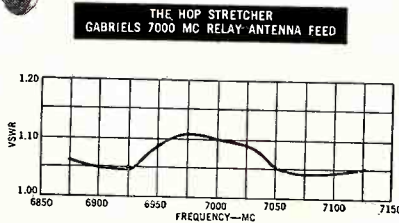
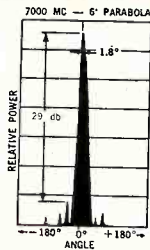
INTEGRATED  
ANTENNA  
PROGRAMS

RESEARCH  
DEVELOPMENT  
PRODUCTION

## New Products

The HOP-STRETCHER feeds offer higher gain, lower sidelobe levels and more desirable beam-widths for center-fed parabolic antennas. This feed was developed for S, X, K<sub>a</sub> and K<sub>b</sub> bands.

**Technical features of X-band antenna** • Sidelobes at least 24 db down on 4, 6, 8 and 10 ft. reflectors • High gain efficiency, 65-70%

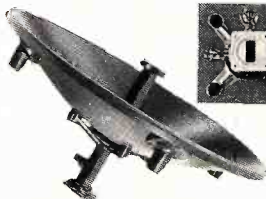


THE HOP STRETCHER  
GABRIEL'S 7000 MC RELAY ANTENNA FEED

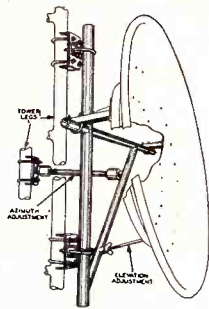


The new hi gain 3 kmc Cylindrical Coaxial Feed provides similar E and H-plane patterns, minimum side and backlobes, and negligible squint. Rear-mounted, with easy polarization adjustment to any angle.

7000 mc Offset Antenna. Ideal for installations where passive reflectors are utilized — VSWR less than 1.10:1 over 5900-8500 mc — Sidelobes at least 24 db down — gain is 41 db at 7000 mc. Elliptically shaped reinforced fiberglass reflector.

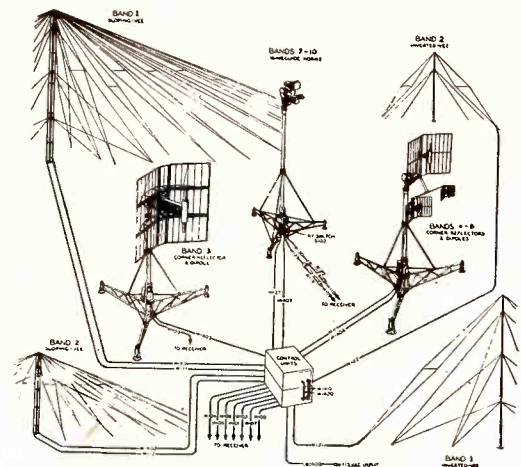


The new X-band parabolic antenna with standard feed. Features variable polarizing adjustment, 0 to 90°. Manually locked in position.



The new universal 3-point suspension mounting bracket for 2, 4, 6, 8 and 10 ft. parabolic reflectors.

**Features** • Independent azimuth adjustment. • Independent elevation adjustment. • Adaptable for mounting in all locations.



Broadband, HF to SHF, Directional Antenna Group — Remotely controlled.



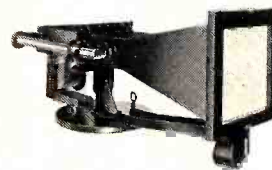
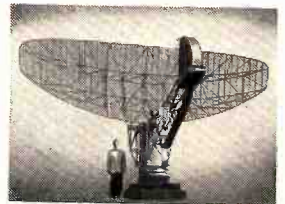
Low-drag Airborne Flush-mount Antenna.  
Beacon — Countermeasures — Homing — Navigation

Missile Antennas — Telemetry, Destruct, Guidance  
ICBM, Land-to-Air, Air-to-Air, and Land-to-Land.

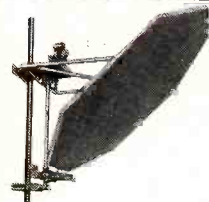
### Radar Antennas

- Shipborne Search
- Harbor Control
- Airborne Height Finding
- Land Base Search

Designed, developed, and constructed to military specifications with improved strength-to-weight ratio and component reliability.



Aleutian Line—Dew Line  
Low loss, heavy duty duplex feed horns for Tropospheric Scatter Radio Communication Systems.



Motorized Passive Reflector  
For maximum point-to-point transmission in microwave relay links. Fast, accurate, easy adjustment from remote location. Manually adjusted reflectors also available.

The Gabriel Electronics Division is one of the world leaders in microwave relay link antennas, and the more complex antennas. They are dedicated to improve and extend the state-of-the-art in antennas and antenna components.

Call or write to GABRIEL ELECTRONICS DIVISION for counsel on your antenna needs.

# Gabriel

## GABRIEL'S STANDARD MICROWAVE PARABOLIC ANTENNAS

... Contributing millions of trouble-free operational hours for industry and the military.

- 7000 mc — Broadband (5925-7425 mc) high gain > 40 db, low sidelobes — low VSWR < 1.13 over band.
- 4000 mc — Narrow-beam broadband (3700-4200 mc) — low VSWR < 1.2:1 — gain > 37 db.
- 2000 mc — Available in offset and center-fed feeds. Narrow-beam broadband (1750-2110 mc) — high gain > 28 db, low VSWR < 1.3 over band.
- 940 mc — All weather radome covered feed — gain > 22 db, low VSWR < 1.25:1.

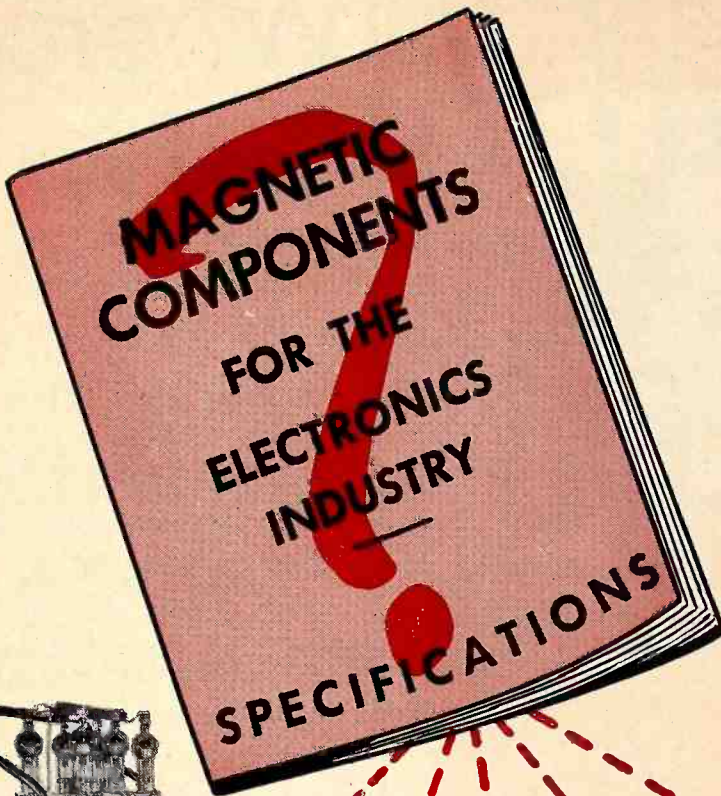
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June, 1957 — MID-MONTH — ELECTRONICS BUYERS' GUIDE

**WHEN QUESTIONS ARISE — REMEMBER...**

**The SURE WAY  
is to  
CHOOSE and USE  
the  
transformers of  
proven  
performance and  
quality**



**LEADS THE WAY**



**UNITIZED  
RECTIFIERS®**



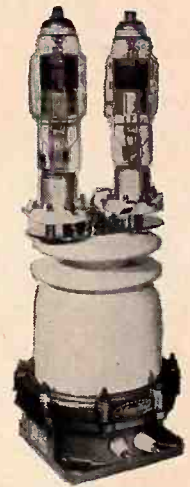
**RECTIFIER  
PLATE TRANSFORMERS**



**FILTER  
REACTORS**



**MODULATION  
TRANSFORMERS-  
REACTORS**



**FILAMENT  
TRANSFORMERS-  
AMPLIFIER  
RECTIFIER**

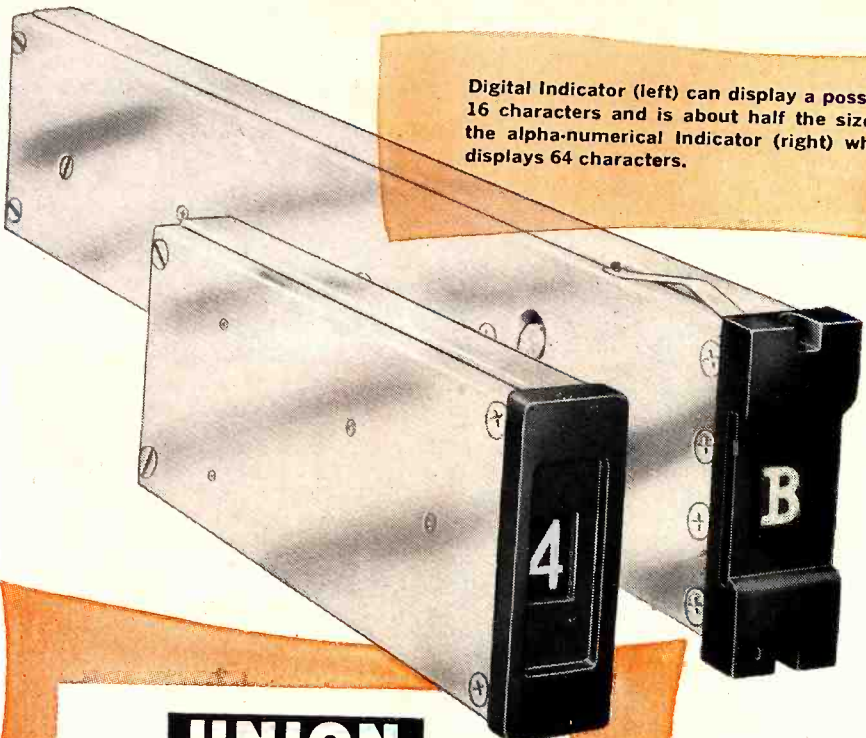
Magnatran transformers have become "Standard" for many of America's largest Electronic Manufacturers. Whether you require conventional equipment or specially engineered products, choose and use Magnatran. Be modern and secure. All Magnatran components meet or exceed the standards of AIEE, ASA, NEMA and RETMA.

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BULLETINS**

**MAGNATRAN** incorporated

P.O. Box 211

KEARNY, NEW JERSEY, U.S.A.



Digital Indicator (left) can display a possible 16 characters and is about half the size of the alpha-numerical Indicator (right) which displays 64 characters.

## UNION INDICATORS

### for Data Display Storage and Transfer

UNION Digital and Alpha-numerical Indicators are electro-mechanical, D.C.-operated readout devices for displaying characters in accordance with a predetermined code. The character display may be made to suit the users' requirements.

Indicators are designed for plug-in mounting in a row so that data or messages of any desired length can be stored, displayed or transmitted at will. The indicators can be applied to the output of digital computers, teletype receiving equipment in conjunction with a buffer storage unit, telemetering systems, or wherever data needs to be displayed.

An important feature of these indicators is their inherent storage and transmitting characteristics, which provide for data entry and

retransmission. The indicators can be used to accept data from a source, free the source for other programs, and disseminate the data from one indicator to another as required.

*Two interesting applications:* The Alpha-numerical indicator is being used in data display equipment for flight control built for CAA wherein data enters the system by keyboard or via teletype at 60 words a minute, or from magnetic drum storage at speeds up to 1000 words per minute.

The Digital Indicator is being used in pipeline remote control systems, for displaying and storing telemeteral data such as temperature, pressure, flow, etc. in a central office. Write for Bulletin No. 1011 for further information.

GENERAL APPARATUS SALES

 **UNION SWITCH & SIGNAL**

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

PITTSBURGH 18, PENNSYLVANIA

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## BUSINESS INFORMATION

Two BUSINESS EDITIONS of ELECTRONICS, published on the 10th and 20th of each month, are providing business-minded electronic engineers with the marketing, topical and commercial information needed to keep abreast of today's complex electronic industry. The engineer who used to be concerned chiefly with designing a circuit or product now wants to know where and how it can be sold.

ELECTRONICS TECHNICAL EDITION, published on the 1st of each month, contains the same type of business information in "Industry Report" — one of the best read sections of the magazine.

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# electronics



A McGraw-Hill Publication  
330 West 42nd St., N. Y. 36, N. Y.



# NEWS for design engineers



ACTUAL SIZE

## UNION

### DIGITAL INDICATOR

A new lightweight Digital Indicator for data display has been developed by Union Switch & Signal that has many uses in aviation and other industries. It is designed for either local or remote use, on a direct wire basis, and responds to binary code. The indicator reads out directly and has a non-dissipating storage facility. Data can be printed out if necessary. Write for Bulletin 1011.

## UNION

### MINIATURE RELAYS AC or DC

A wide variety of UNION AC or DC Miniature Relays, with all standard mountings, is stocked for immediate shipment. Contacts can be gold alloy, palladium or the new HI-LO material which permits the use of one relay for both high-level loads of two amperes and low-level, dry-circuitry loads, eliminating the need for two separate relays.

Coil resistance runs up to 13,500 ohms, vibration resistance up to 2000 cycles at 30 G's, and shock in excess of 50 G's. Write for Bulletin 1012.



ACTUAL SIZE

GENERAL APPARATUS SALES

# UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

PITTSBURGH 18, PENNSYLVANIA



HIGH TEMPERATURES CALL FOR

# HITEMP WIRES

(-90°C. to +250°C.)

**TEFLON® MAGNET WIRE — "TEMPRITE"** Sizes 14 to 50 AWG, single, heavy, triple, or quadruple thicknesses.

**SPECIAL TEFLON MAGNET WIRE — "TEMPRITE X"** Same characteristics and sizes as regular Temprite, but specially processed for severe application.

**FLEXIBLE TEFLON TUBING — "TEMPRENE NON-RIGID"** Sizes 10 to 26, solid colors and special striped combinations.

**TEFLON EXTRUDED TUBING — "TEMPREX TUBING"** Sizes 4 to 24. Fourteen solid colors.

**TEFLON HOOK-UP WIRE — "TEMPRENE"** Sizes 14 to 30 AWG. Two and three color striped combinations, plus 10 solid colors. Conforms to MIL-W-16878B (E and EE).

**TEFLON EXTRUDED HOOK-UP WIRE — "TEMPREX"** Sizes 10 to 32 AWG, in both striped and solid colors. Conforms to MIL-W-16878B (E and EE).

**TEFLON INSULATED LEAD WIRE — "TEMPCLAD"** Teflon insulated lead wire with an outer covering of Teflon impregnated glass fiber braid. Sizes 8 to 30 AWG.

**TEFLON FIBER LACING TAPE "NEBROC® TF"** All Teflon lacing tape, exhibits excellent thermal and mechanical properties. An ideal tape for Class H assemblies.

**TEFLON GLASS FIBRE SLEEVING — "TEMPTUBE"** Available in sizes up to 1¼" I.D. Colors on request.

**SILICONE MAGNET WIRE — "THERMALON"** Sizes 14 to 42 AWG Incl. Used for temperatures from -54°C. to +150°C. Made in single or heavy thicknesses.

**SHIELDED AND JACKETED MINIATURE CABLES** Consist of Temprene or Temprex conductors, shielded and jacketed for high temperature operation.

**MINIATURE COAXIAL CABLES** Consist of 50, 75 and 95 ohm cables, shielded and jacketed for applications up to +250°C.

**RIBBON CABLE ASSEMBLIES — "TEMPBRAID"** 100% Teflon, flexible, flat ribbon multi-conductor cables.

**SHIELDED RIBBON CABLES — "METALBRAID"** Flexible, shielded, flat, multi-conductor cables, i.e. tinned or silver plated copper.

**TEFLON MARKING FLUID** Teflon printing ink available in ten standard colors. Can be used for printing codes, etc., on Teflon.

**SURFACE TREATED TEFLON WIRES** Adherence of varnishes and compounds on Teflon and magnet hook-up wires now practical.

**REINFORCED STANDARD CONDUCTORS — "HIGH STRENGTH"** Mechanically improved Teflon insulated hook-up wires meet all requirements of MIL-W-16878. Sizes 24-32 AWG.

\*Du Pont's Trade Name for POLYTETRAFLUOROETHYLENE

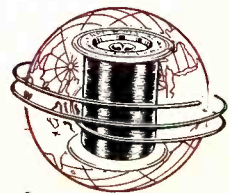
All Teflon products are rated for continuous operation from -90°C to +250°C., have excellent dielectric strength, and are impervious to all commercial solvents. All colors conform to MIL. Std. 104.

Write for Complete Engineering Specifications

**HITEMP WIRES INC.**

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*"Leading Specialists in High Temperature Insulations"*

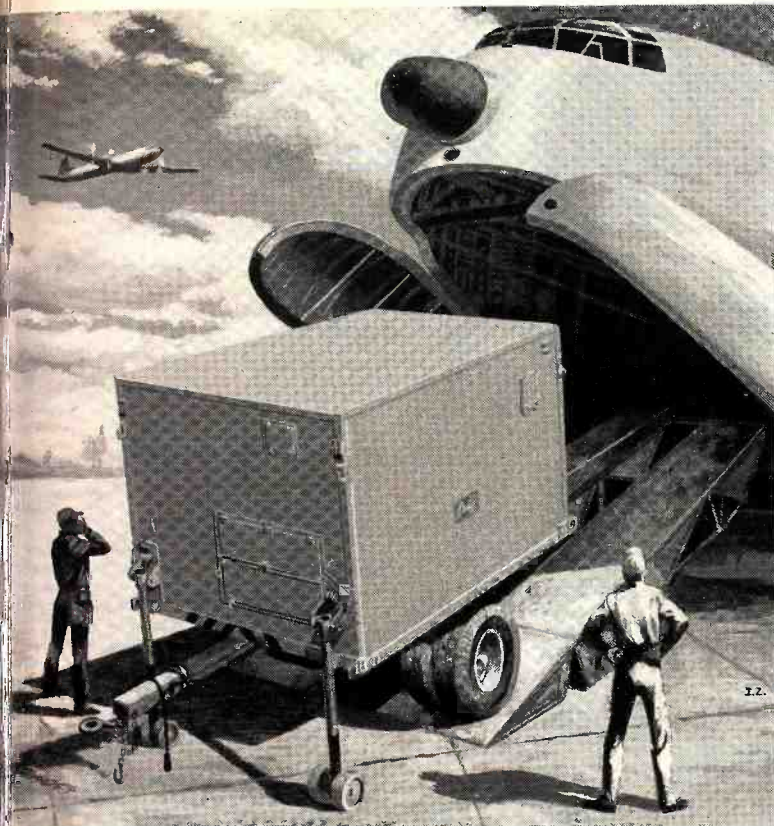


# The word for mobile, air-transportable systems is **CRAIG!**

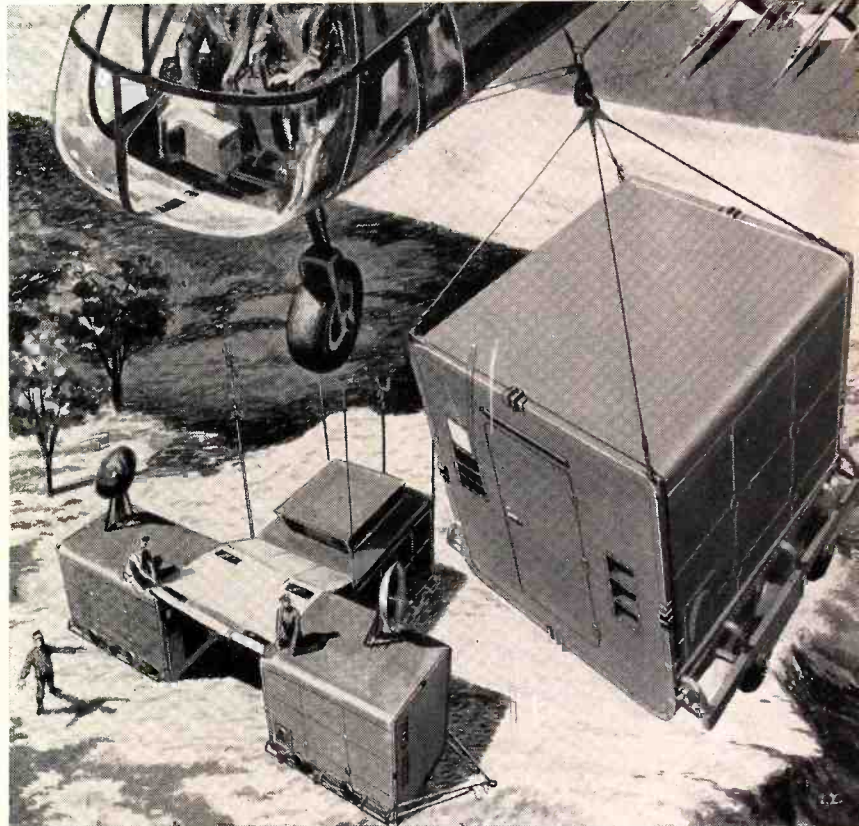
In this increasingly mobile age of electronics, nearly everything that must move swiftly and arrive safely can do it better in Craig-designed and built shelters and carriers. Complete electronic systems — with equipment installed and ready to operate — travel in rugged, roomy vans like the LM-105 you see on this page. Other systems fly direct — for a helicopter can transport an entire system

when that system is housed in a lightweight Craig Helicop-Hut LM-104. New developments like these . . . plus matchless experience in the field . . . and Craig's complete, design-through-installation service . . . are excellent reasons why you can turn to Craig with complete confidence when you have a problem in mobile, air-transportable systems.

From Craig: A COMPLETE LINE OF MOBILE, AIR-TRANSPORTABLE SHELTERS, VANS, TRAILERS LIKE THESE . . .



**TRAILER VAN LM-105** — Transportable by land, sea, or air. 7,000 lb. payload. Detachable chassis. 2" thick honeycomb insulation for walls, floor, ceiling. Inside dimensions: 140" x 90" x 79". Easily detachable from dolly for aircraft, ship, or rail loading.



**HELICOP-HUT\* LM-104** — Lightweight (950 lbs.) Payloads up to 6300 lbs. Aluminum skins with foamed-in-place plastic core. Inside dimensions 76" x 76" x 96". Insulated. Highly adaptable. Quickly attachable dolly for towing overland.

Designed for world-wide use — **RUGGED, DEPENDABLE, CRAIG-BUILT PRODUCTS LIKE THESE . . .**



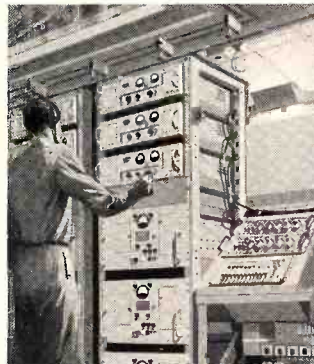
**CONSOLES** — For air traffic control and other installations. Provision for remote control equipment, loud-speakers, etc.



**REUSABLE CONTAINERS** — For transporting and storing airplane parts, optical systems and electronic equipment. Aluminum construction. Built to pass all applicable government specifications.



**MISSILE CARRIERS** — Lightweight, aluminum construction. Fully tested for shock, vibration, impact and submersion. Craig's missile programs include carriers for Falcon, Petrel, Sidewinder, Terrier, and Sparrow.



**RELAY RACKS** — Rugged, high strength, aluminum construction general purpose electronic racks. Accommodate standard RETMA panels. Drawers and accessories available.



**SPARE PARTS CABINETS** — For indoor and outdoor storage. Many sizes and configurations. Removable drawers, doors and covers. Aluminum or steel.

**ANTENNA TOWERS** — Full information on towers for supporting all types of antennas on request.

**COMPLETE INSTALLATION SERVICE** — Craig service includes layout, installation, and check-out of electronic equipment in shelters of all types. Complete systems are ready to operate when they leave the factory.

\*TRADE MARK

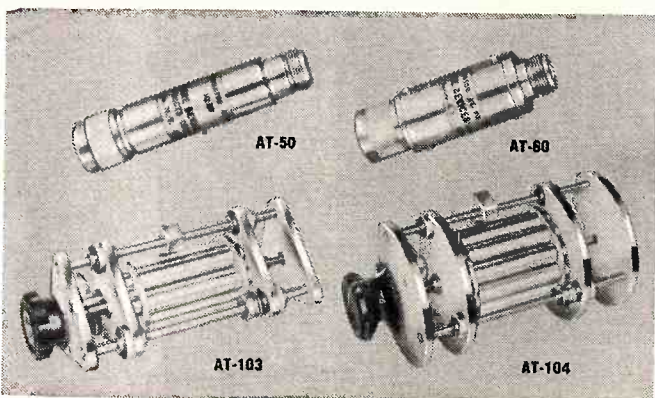
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 Dept. T, Danvers, Mass.  
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is built on  
Quality*

**NOISE AND FIELD INTENSITY METER, Model NF-105**  
(Commercial equivalent of AN/URM-7) 150 KC to 1000 MC

Four quick-change tuning heads • Single knob tuning for easy scanning  
Built-in impulse generator serves as calibrator • Carrier and peak reading  
VTVM • Aural slideback • Coaxial step attenuators • Regulated 'A' and  
'B' supply.



**UHF ATTENUATORS, Models AT-50, AT-60**

50 ohm resistive T-networks of concentric line construction.

**FREQUENCY RANGE:**

AT-50: DC to 4000 MC.

AT-60: DC to 3000 MC.

VSWR: Better than 1.2 at all frequencies.

**ACCURACY:**  $\pm 1/2$  DB.

**RATED POWER:**

AT-50: 1W continuous

1KW peak

AT-60: 2W continuous

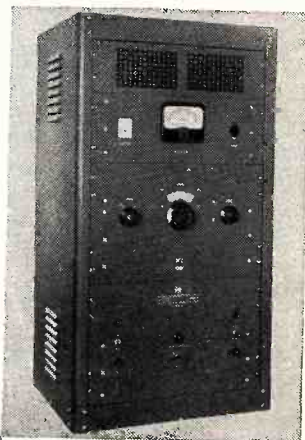
2KW peak

**STEP ATTENUATORS, Models AT-103, AT-104**

These units use AT-50 pads in 6 step and 12 step coaxial turret arrangements respectively.

**COAXIAL TERMINATION, Model TE-80**

1 watt, DC to 4000 MC.



**VARIABLE FREQUENCY POWER SUPPLY, Model VP-400**

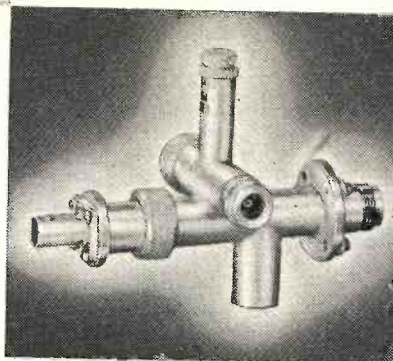
POWER OUTPUT: 500 watts

VOLTAGE REGULATION:

2%, no load to full load

HARMONIC DISTORTION:

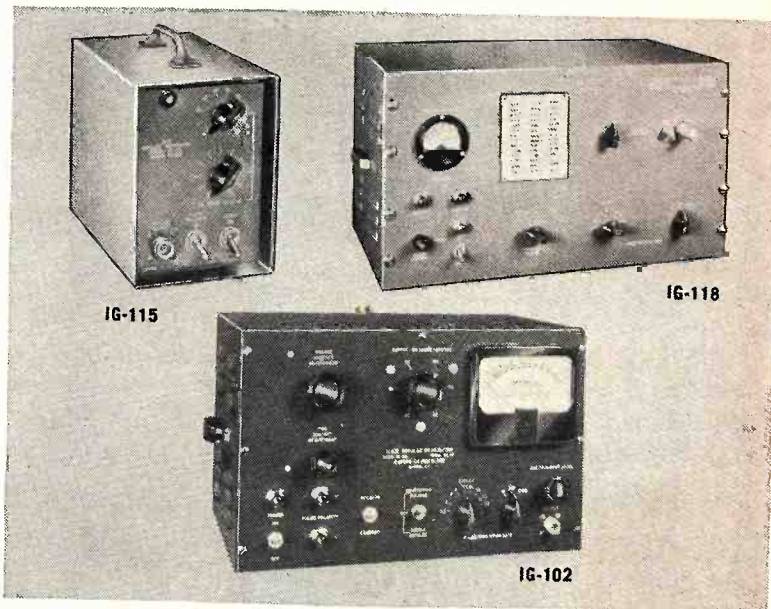
5% maximum, total, (to 400W).



**COAXIAL CRYSTAL MIXER, Model CM-107**

Broad Band, Fixed Tuned • 225 MC to 5600 MC in 8 models • Input and L.O. VSWR better than 2 to 1 • L.O. rejection at IF output better than 30 DB.

**CRYSTAL DETECTOR, Model DT-123**



**UHF IMPULSE GENERATORS, Models IG-102, IG-115, IG-118**

Model	Flat Spectrum ( $\pm 1/2$ DB)	Peak Output Level	Repetition Rate
IG-102	10 KC to 1000 MC	70,000 $\mu$ V/MC	2.5 to 2500 cycles
IG-115	10 KC to 1000 MC	100,000 $\mu$ V/MC	60 cycles
IG-118	100 MC to 10,000 MC	9,000 $\mu$ V/MC	2.5 to 2500 cycles

**POWER DIVIDERS, Model PD-90**

FREQUENCY RANGE: 800 to 10,000 MC in 5 models,



For complete engineering data, please send for our new Catalog No. 357

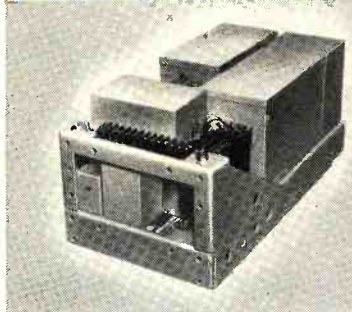
**EMPIRE DEVICES PRODUCTS CORPORATION**  
38-15 BELL BOULEVARD, BAYSIDE 61, NEW YORK  
Manufacturers of FIELD INTENSITY METERS • DISTORTION ANALYZERS • IMPULSE GENERATORS  
COAXIAL ATTENUATORS • CRYSTAL MIXERS





**POWER SERVO AMPLIFIERS**

Servos available for practically all standard 60 and 400 cps motors, from 1 watt up to 2000 watts. Completely self-contained. Can be supplied with means for stabilizing servo system performance for various parameters such as load inertias, gear ratios, etc.



**Application-tested  
MA Inc. Standard  
Products and  
Custom-engineered  
Equipment**

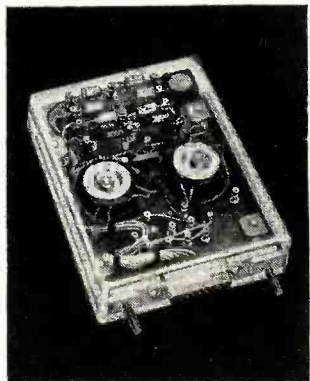
including magnetic servo amplifiers, variable speed drives, miniature amplifiers, analog computers for special applications, photo-electric controls, regulated power supplies and automatic control equipment. Call or write for bulletins or recommendations on your control or systems engineering problems.

**PRECISION AIRBORNE POWER SUPPLIES**

Originally developed by MA Inc. for the reference circuit of intercontinental guided missiles. Unique design employs magnetic amplifiers in combination with high reliability vacuum tubes, silicon diodes and a special constant temperature oven.

**HYDRAULIC VALVE AMPLIFIER**

Miniaturized, high performance magnetic amplifier for critical applications. High gain, fast response achieved in single stage by operating at a supply frequency of 5000 cps or 3600 cps. Designed for controlling hydraulic servo valves and other low power output devices.



**MINIATURE SERVO AMPLIFIER (TRANSI-MAG®)**

Compact design for missile and aircraft servo applications. Features high gain, fast response, drift-free characteristics. Completely self contained, requires no power supply, demodulation or pre-amplifier. Complete high performance servo loop obtained without additional amplification.

**EMA SPECIAL ANALOG COMPUTER**

For missile acquisition systems. Computes elevation and azimuth, amplifies data and positions theodolite via servo system to track missile continuously; computes rate of change of position and interpolates future position of missile to position theodolite. Includes rotating and magnetic amplifier regulated power supply.

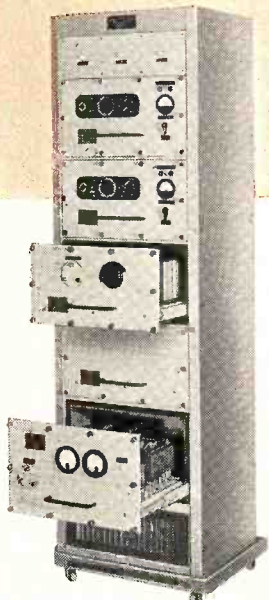
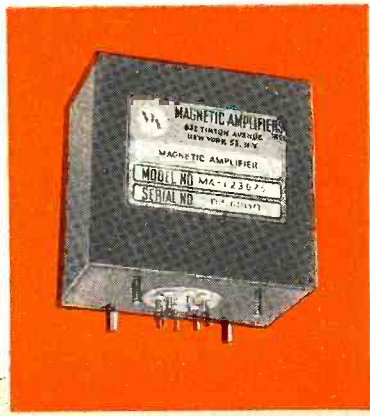


**TRANSISTOR AND POWER-TRANSISTOR CURVE TRACER**

Displays collector and transfer curves on cathode ray oscilloscope. Handles all types of transistors and power transistors. Curve tracer permits rapid determination of parameters. For selecting, matching and detecting anomalies and rejects.

**STATIC FREQUENCY MULTIPLIERS**

For the conversion of A.C. power at the commonly available frequencies to high frequency multipliers. Frequency conversion is accomplished by magnetic circuits without the use of vacuum tubes. Single or multi-stage units for operation from single phase or polyphase supply lines can be designed to fit specific applications.



**MAGNE-SPEED VARIABLE SPEED DRIVES**

Designed to provide high efficiency operation at low cost. Combine smooth stepless speed control with 50:1 speed range. Non-electronic, they require no warm-up or costly maintenance. Excellent regulation without tachometer; quick response to load changes.

STANDARD SIZES

JUNIOR	1/8 to 1/100 Hp.
SIZE I	1/4, 1/3 and 1/2 Hp.
SIZE II	3/4, 1 and 1 1/2 Hp.

**MAGNETIC AMPLIFIERS • INC**

632 TINTON AVENUE, NEW YORK 55, NEW YORK • Tel. CYpress 2-6610

West Coast Division

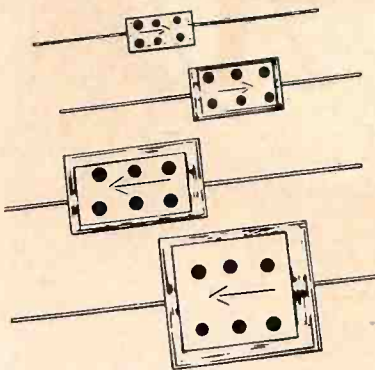
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# CORNING GLASS WORKS

Products for  
Radio, TV and  
Electronics . . .

## CAPACITORS



To MIL-C-11272A specs  
Fixed-glass . . . Rugged  
high-temperature reliability  
Extreme miniaturization

Dielectrically excellent glass and alternate layers of conductor fused by heat and pressure into a rugged monolithic form. Values cannot be altered except by complete mechanical destruction. TC is plus  $140 \pm 25 \text{ ppm}/^\circ\text{C}$ . from  $-55^\circ\text{C}$ . to  $+85^\circ\text{C}$ . Excellent retrace. TC variation between capacitors: under 15ppm. Negligible capacitance

drift. Moistureproof. Sizes CY10, CY15, CY20, CY30. Custom variations to your specifications. (Distributed by Erie Resistor Corp.)

Medium-power transmitting



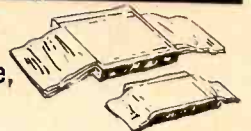
CY60, CY70. Small, light, strong. Ideal for mobile RF transmitters. Electrically replace mica types CM45—CM70, offer many advantages.

High-capacitance, canned\*



Characteristics and advantages of glass construction, to your specifications. Values and canning to your specifications.

Subminiature, tab-lead\*



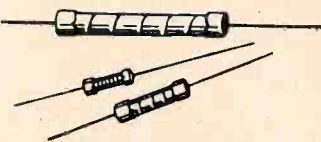
Up to 90% volume reductions possible when compared with wire lead types.

Extreme dependability plus temperature and moisture resistance in tiny-case sizes. To specification.

Special combination\*

Advantages and characteristics of glass construction and performance in an infinite variety of shapes, sizes, leads, for unusual assignments.

## RESISTORS



Type N . . . accurate  
Stable, economical

Critical accuracy and extreme stability, even under high temperature, high moisture, vibrating conditions. Range:  $\frac{1}{2}$ , 1, 2W. Operate to  $140^\circ\text{C}$ . ambient temperature with derating. Low noise level. Voltage coefficient less than .001% per volt average. Infinite load life. Average resistance change after 10,000 hours rated dissipation is less than 1.0%. Permanent resistance change after standard 5-second overload of 6.25 times rated power is under .75%. And Corning Type N's are low-cost. To MIL-R-10509B specs.

Low-power resistors . . .  
Highest resistance range of any low-power resistor

Small, noninductive and stable. *Low-priced!* Like all Corning resistors, the fired-in conductive film is tough, abrasion-resistant, requires no special handling. Resistance spiralled automatically under electronic control for interchangeability. Impervious to moisture. Range: LP3—3W., 200—20,000 ohms; LP4—4W., 200—40,000 ohms; LP5—5W., 200—45,000 ohms; LP7—7W., 200—36,000 ohms; LP10—10W., 200—70,000 ohms. Tolerance  $\pm 10\%$ . With derating, operate at ambient temperatures over  $120^\circ\text{C}$ . (Distributed by Erie Resistor Corp.)

Type S . . . high-temperature  
to MIL-R-11804B specs

Stable performance to  $200^\circ\text{C}$ . without encapsulation or hermetic sealing. Low-voltage coefficient, negligible inductive and capacitive effects. Difficult to measure noise level. Made to customer specifications rather than RTMA values. Size:  $\frac{1}{2}$ , 1 and 2W at  $120^\circ\text{C}$ . ambient.

Type R . . . high-power  
2% resistors—to 1 M $\Omega$

Range from 10 to 1,000,000 ohms, ratings from 7 to 115W., are noninductive. Well suited to sharp pulse work. Vertical or horizontal operation. Operate up to  $200^\circ\text{C}$ .; hot-spot temperature to  $235^\circ\text{C}$ . Meet MIL-R-11804B specifications.

Type H . . . high frequency  
Save space

For dummy antennas, circuit loading, damping and terminating. Also for circuits subject to steep surges and saw-tooth patterns. Stable, rugged, noninductive. Standard line ranges from 10—1,000,000 ohms and has ratings of 5—140W. Also to your own requirements.

Type WC5 . . . water-cooled HF . . .  
high-power TV, FM

Mechanical design permits direct mounting on 3" coax line end at RF ground potential. Extremely versatile, adaptable. Negligible skin effect. Range: 35—300 ohms with  $\pm 15\%$  standard; 10 and 5% available, extra.

## TRIMMER CAPACITORS — METALLIZED GLASS COMPONENTS

Direct-traverse  
and midget-rotary

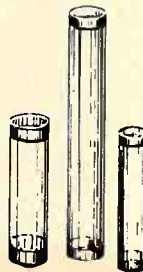


D.T.—For applications of extreme ruggedness plus thermal stability and smooth tuning characteristics. Has practically zero TC in the VHF range. Negligible capacity shift with widely variable ambient temperatures. With brass or invar core. Four standard ratings: 0.5 to 3.0 mmfd; 1.0 to 7.5 mmfd; 1.0 to 8.0 mmfd; 1.0 to 12.0 mmfd.

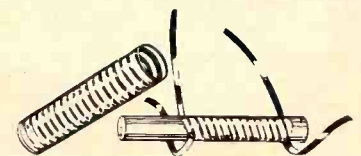
ROTARY—For outstanding performance and economy. Three capacity ranges at 50 mc. Four terminations; push-on mount with saddle-clip brass core; push-on mount with wire lead, brass core; push-on mount with solder spot, brass core; split-bushing mount with pan terminal and invar core. Also custom design and manufacture to your specifications. (Distributed by Erie Resistor Corp.)

Metallized glass  
enclosures . . . Keep  
moisture, molds,  
dirt out

Delicate components get rugged protection when they're inside these tubes. Hermetically-sealed resistors, rectifiers and capacitors. Give components the ability to withstand conditions they otherwise would not be able to. With metal end caps, tubes take thermal shock from  $275^\circ\text{C}$ . to ice water. Not affected by atmospheric change. Metallizing bond strength has been measured at 1500 to 2000 pounds per square inch. Transparent. Good electrical characteristics.



Metallized glass inductances  
Stable . . . High Q



Noted for their exceptionally high electrical stability and negligible drift characteristics, even under widely variable ambient temperatures. High Q is inherent. They can be furnished with uniform, variable, or double-pitch windings and for fixed-tuned, permeability-tuned inductance trimmer combinations. Mass produced on automatic machinery to close tolerances. You get consistent duplication.

\*Our engineering and design facilities are at your service on custom units.

You can get a growing number of products for electronics from Corning. Among them are:

- Fused silica . . . A basic new material with outstanding characteristics. 100% SiO<sub>2</sub>. For four general applications—ultrasonic, optical, ultraviolet transmission and chemical control.

- Ultrasonic delay lines . . . Rugged, accurate, reliable. Superior to mercury types. Not affected by vibration, shock. Not affected by cold.

- Fotoform and Fotoceram . . . Photosensitive glasses with interesting electronic possibilities. Printed circuit boards.

- Attenuator plates . . . Chrome and nichrome films now available in resistivities from 20 to 200 per square. To MIL-11052A specs.

Write, wire or phone Corning for catalog sheets, full information, prices.



CORNING GLASS WORKS • Electronic Components Sales Department • Corning, New York

*Corning means research in Glass*

-FOR EVERY TYPE OF

# electrical AND electronic APPLICATION

*WBD*

## Wilbur B. Driver *Precision* ALLOYS

### TOPHET A® (80 Nickel 20 Chromium)

Non-magnetic, high tensile strength, temperature coefficient of resistance approximately 85 PPM, used for resistors and potentiometers, high temperature applications. 650 ohms/CMF.

### TOPHET C® (60 Nickel 15 Chromium Balance Iron)

Faintly magnetic, high tensile strength, temperature coefficient of resistance approximately 130 PPM, used for power resistors, high temperature applications. 675 ohms/CMF.

### EVANOHM® (75 Nickel 20 Chromium 2.5 Aluminum 2.5 Copper)

Non-magnetic, highest tensile strength, temperature coefficient of resistance 20 PPM maximum, used for precision resistors and potentiometers below 200°C. The original 800 ohm alloy.

### BALCO® (70 Nickel 30 Iron)

An alloy with a high temperature coefficient of electrical resistance 4500 PPM (20° to 100°C.) 120 ohms/CMF.

### CUPRON® (Copper Nickel)

A non-magnetic alloy with a low temperature coefficient of electrical resistance. Recommended for instruments and radio resistors. 294 ohms/CMF.

### RODAR® (Nickel Cobalt Iron)

An alloy for sealing to hard glass for electronic and hermetic sealing applications.

### NILSTAIN® (Stainless Steel — 300 Series)

Popular types of stainless steel in wire, ribbon or strip.

## Filament Alloys

### TENSITE, SYLVALOY, COBANIC, and MODIFIED HILO

For directly heated cathodes; alloys have excellent emissive and physical properties.

### CATHODE ALLOYS

For indirectly heated cathodes. HIGH NICKEL ALLOYS, custom vacuum or air melted for active, passive and normal emissivity.

## Grid Wire

### MANGRID® (Grade D Nickel)

Most widely used lateral grid wire, also supplied silver plated.

### PERMAGRID (Permanickel)

For use in higher temperature applications than regular Mangrid, higher physical properties and hot strength.

### PERMOCARB and MAGNOCARB

(Precarbonized grid wire)  
Operates cooler because of black body effect,

eliminates spray coating, more evenly coated, replaces Moly in certain applications.

### CARBONIZED NICKEL Radiocarb,

### Policarb,® Duocarb®

Ideal for anode plate use, gives long life, excellent thermal emission (black body) free from hydrocarbon and sulphur.

### CUPROCHROME (1 Chrome 99 Copper)

Extensively used for grid side rod, high conductivity with relatively high strength.

## Custom and Special Purpose Alloys

In addition to the alloys listed, the Wilbur B. Driver Company maintains complete melting, hot rolling and cold working equipment for the production of custom alloys for specialized requirements.

Insulations Available — Enamel, formvar, liquid nylon, cotton, silk, nylon and fibre glass coverings.

May we discuss your specific applications? Please write or call —

**Wilbur B. Driver Co.**  
*Newark 4, New Jersey*

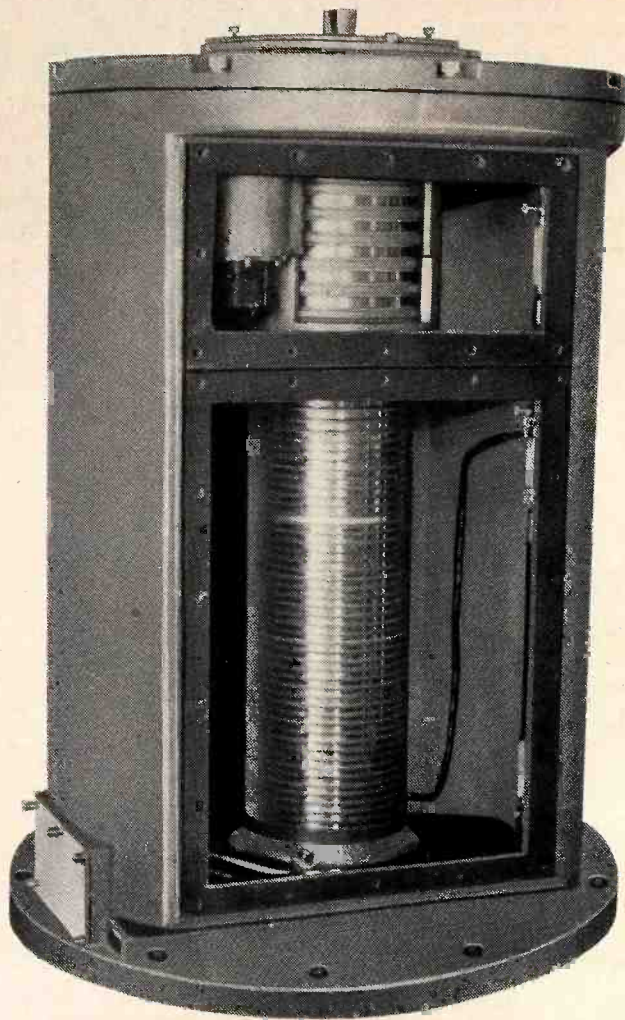
Sales Offices in Chicago\*, Boston, Cleveland\*, Toronto, Philadelphia\*, Louisville\*, Minneapolis, Los Angeles\*



\*Warehouse

IN CANADA: CANADIAN WILBUR B. DRIVER CO., LTD., 85 KING STREET, TORONTO 1

FOR OVER THIRTY-NINE YEARS MANUFACTURERS OF DEPENDABLE  
ELECTRONIC, ELECTRICAL, CHEMICAL AND MECHANICAL ALLOYS



### COMPLETE SLIP RING ASSEMBLY

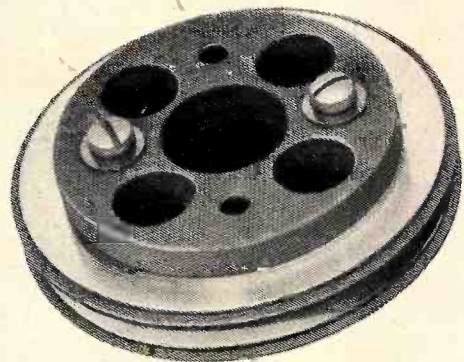
This special division of D. E. Makepeace is completely staffed with engineering specialists to design and manufacture all types of slip rings and rotating electro-mechanical equipment, for your particular requirements.

**Makepeace**

**SLIP  
RINGS**

ENGELHARD INDUSTRIES

# SLIP RINGS



### ADVANCED STAMPED SLIP RING DESIGN

We will design or manufacture to your requirements.

**D. E. MAKEPEACE COMPANY**  
Division of Union Plate  
and Wire Co.  
Attleboro, Mass.

Prime source for Slip Ring Assemblies, Brush Block Assemblies, Specialized Wave Guide and Tubing, Collector Rings and Brushes.



# Consult CHATHAM for all four

including tubes, aircraft conversion equipment, selenium rectifiers and radar components. Illustrated bulletins sent on request.

## 1 HIGH PERFORMANCE HYDROGEN THYRATRONS

Years of experience in the design and production of these special types have resulted in tubes that offer superior service in the generation of pulse voltages in the order of microseconds.

### CHATHAM TYPE 5949/1907



Hydrogen filled, zero bias thyratron with hydrogen reservoir for generation of peak pulse power up to 6.25 megawatts.

### CHATHAM TYPE VC-1258



Zero bias miniature thyratron for generation of peak pulse power to 10 KW. Available with 28 volt heater, ruggedized for extreme vibration.

### CHATHAM TYPE 5948/1754

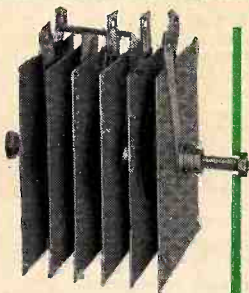


Hydrogen filled, zero bias thyratron with hydrogen reservoir for generation of peak pulse power up to 12.5 megawatts.

### CHATHAM TYPE VC-1257



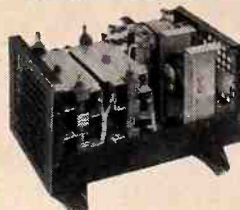
Hydrogen filled, zero bias thyratron with hydrogen reservoir for generation of pulse power up to 33 megawatts.



## 2 LIGHTWEIGHT CHATHAM "kotron" SELENIUM RECTIFIERS

Both electrically and mechanically, Chatham kotron Selenium Rectifiers offer important design advantages. Combining lighter weight with smallest efficient size, kotrons are built rugged to last longer. Improved design assures longer short circuit loads, twice the voltage surge of ordinary rectifiers.

## 3 ADVANCE DESIGNED AIRBORNE CONVERSION EQUIPMENT



Input - 195 to 210 volts, 3 phase, 400 cycles  
Output - 28 v. DC, 100 amps.  
Regulation - 25 to 31 volts  
Weight - under 17 lbs.

Type 28V100 Power Supply illustrated provides substantial weight savings, reduced size, greater reliability and improved electrical characteristics. Ruggedized throughout. Type 28V-100 exceeds MIL-P-7212 requirements.

## 4 CUSTOM-DESIGNED EQUIPMENT



High power Radar modulators built to government specifications.

CHATHAM specializes in the development, design and production of equipment built to customers' needs. Our engineers will supply estimates on receipt of your drawings and specifications.

**IF YOU HAVE A PROBLEM** — Chatham facilities are available for the solution of problems involving tubes and special equipment for industrial and military applications. Your inquiry will receive prompt attention.

# CHATHAM ELECTRONICS

LIVINGSTON, NEW JERSEY

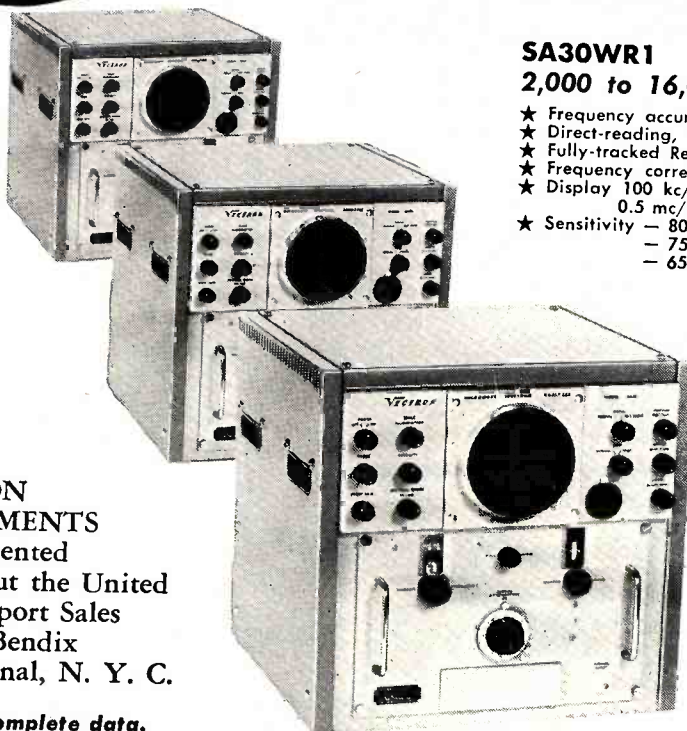


Division of Tung-Sol Electric, Inc.



# 3 NEW VECTRON MICROWAVE SPECTRUM ANALYZERS

To determine power and frequency distribution of pulsed and CW microwave signals.



VECTRON INSTRUMENTS are represented throughout the United States. Export Sales through Bendix International, N. Y. C.

Write for complete data.

## SA30WR1 2,000 to 16,000 mc/s

- ★ Frequency accuracy 0.5% or better
- ★ Direct-reading, calibrated Tuning Dial
- ★ Fully-tracked Repeller Voltage Control
- ★ Frequency corrected 50-db Input Attenuator
- ★ Display 100 kc/s to 10 mc/s per inch at 2,000 mc/s  
0.5 mc/s to 40 mc/s per inch at 16,000 mc/s
- ★ Sensitivity — 80 dbm at 2,000-4,000 kc/s  
— 75 dbm at 4,000-8,000 kc/s  
— 65 dbm at 8,000-16,000 kc/s

## SA30X5 8,500 mc/s to 9,660 mc/s

- ★ Frequency accuracy 0.05% or better
- ★ Direct Signal-Frequency-Reading Wavemeter
- ★ Fully-tracked Repeller Voltage Control
- ★ Precision 80 db RF Input Attenuator
- ★ Displays 100 kc/s to 10 mc/s per inch
- ★ Sensitivity — 80 dbm for usable signal

## SA30 with interchangeable RF heads 800 mc/s to 75 kmc/s

- NEW — Dual unit for standard rack mounting or portable 80-pound bench top package
- NEW — Simplified Control Panel with necessary operating controls conveniently available
- NEW — Frequency Difference Control for direct incremental measurements of 100 kc/s to 5 mc/s
- NEW — Direct Frequency Calibration without confusion with new Image Check feature
- NEW — Separate Brightness and Intensity Controls for displayed signal and baseline
- NEW — All aluminum construction for lighter weight and easier transport

## CONTRACT MANUFACTURING



### GROUND POSITION INDICATOR COMPUTER

Custom designed and manufactured by Vectron to solve navigational vector problems. Input information includes air m.p.h., compass heading, deviation, wind direction and velocity. Output is read directly as N-S and E-W components. Additional electro-mechanical circuits permit establishment of secondary flight pattern over target.

Vectron's precision manufacturing facilities are available to meet your needs for dependable contract, sub-contract or custom manufacture, with or without design engineering. Send us your next quotation request or ask for a copy of our contract manufacturing facilities brochure.

### PRODUCT DEVELOPMENT

Vectron's team of mechanical, electro-mechanical and electronic engineers will work from your prints or basic research, to develop and prototype your product.

### DESIGN FOR PRODUCTION

Vectron's engineering and production specialists can make necessary design improvements and modifications to assure efficient production, consistent with sound engineering and quality control.

### PRODUCTION

Vectron's complete facilities, skilled personnel, precision machine tools, careful production planning and thorough quality control with proper testing equipment assure the highest standards of fabrication and assembly.



### MINIATURIZED SPHERE RESOLVER



requires less than 5 in/oz input for 1 to 2 in/oz from the sine and cosine output shafts. It is 1½" square with a body block only 2½" long.

Write for complete data.

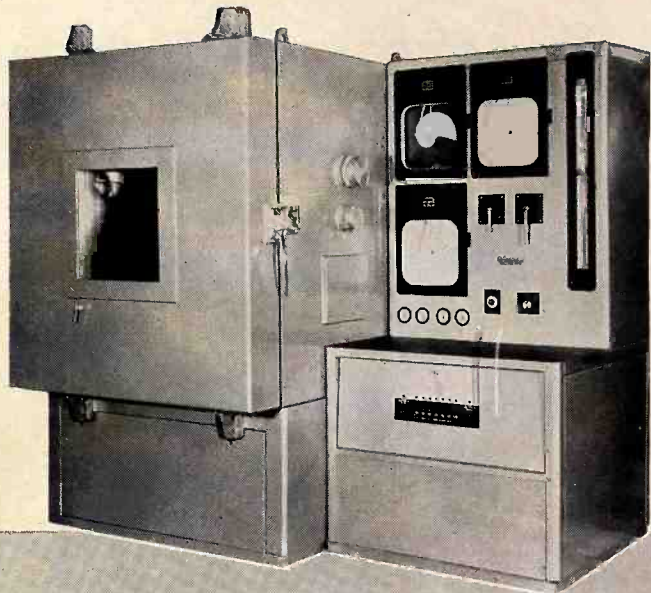
**VECTRON, inc.** 1609 TRAPELO ROAD  
Electronic and Electro-Mechanical Equipment WALTHAM 54, MASS.



# ENVIRONMENTAL TEST CHAMBERS

**Designed Especially For Your Qualification and Control Laboratory, to Save Engineering Time and Accelerate Test Programs**

Components of guided missiles, supersonic aircraft, and other products can be tested under reproducible conditions which permit accurate comparative evaluation data. Precision control of temperature, humidity, vibration. Standard and special design chambers in sizes from 2 cubic feet to walk-in rooms, with temperature ranges in excess of +500° F. and -150° F. Highest standards of engineering and manufacturing in the industry.



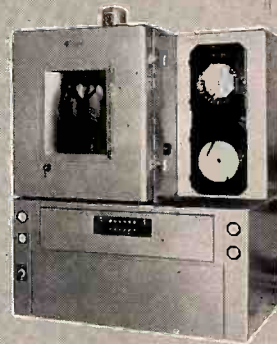
**3 x 3 x 4 Altitude Temperature — Humidity Chamber, +300° F. to -100° F., 20-98% humidity, 100,000-ft. altitude.**



**4 x 4 x 4 High-Low Temperature Chamber, +300° F. to -100° F., completely self-contained.**



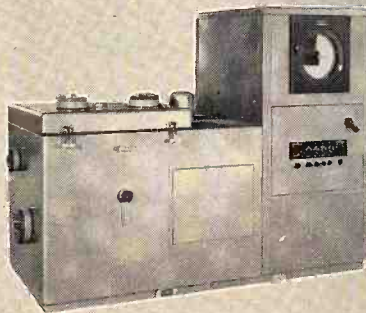
**Combination Temperature-Vibration Chamber, +500° F. to -100° F., 8, 27, and 64 cu. ft. sizes.**



**Program Controlled Temperature — Humidity Chamber, +250° F. to -100° F. temperature, 20-95% humidity.**



**Portable 4 cu. ft. Test Chamber, range +250° F. to -100° F.**

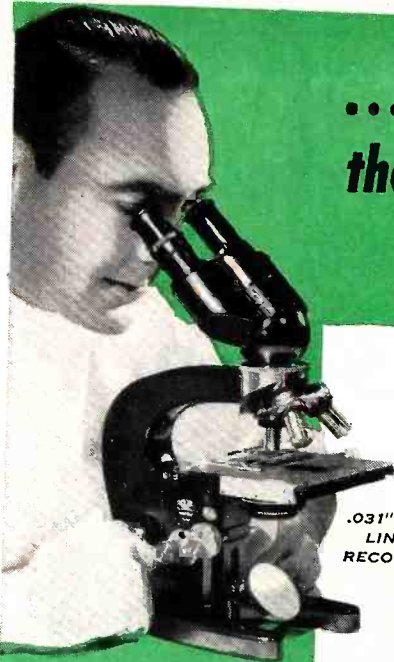


**High-Low Temperature Chamber, CB Series, +250° F. to -100° F.**

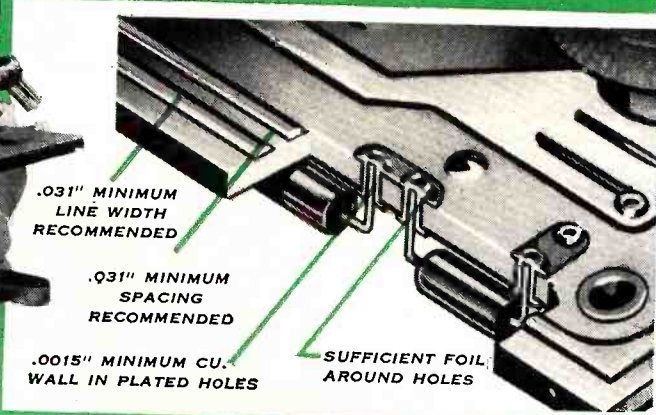


**CONRAD SQUARE, HOLLAND, MICH.**  
Subsidiary of Crampton Mfg. Co.

Write for Bulletins and Temperature-Altitude Conversion Chart



...in **PRINTED CIRCUITRY**  
there is no substitute for  
**RELIABILITY...!**



**AT PHOTOCIRCUITS CORPORATION**  
**WE ARE GEARED TO THE FIXED IDEA THAT**

**PROPER DESIGN + PRECISE CONTROL**

(We give you assistance **FREE**)

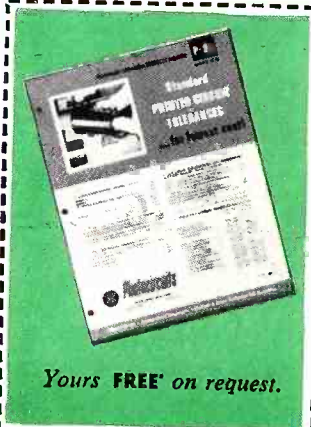
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**MEANS RELIABILITY**

(This we guarantee!)

SOME OF THE AREAS in which exacting control and in-process inspection are applied follow:

- 1) **Master Drawing through printing:**
  - (a) Best camera and photo composing equipment available to the industry.
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  - (d) All printing operations checked with glass masters for maximum accuracy.
- 2) **Plating and Etching**
  - (a) Control laboratory checks solutions daily.
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  - (d) Plated holes are sectioned and photo-micrographed to insure adequate plating thickness and continuity.



**Photocircuits**  
CORPORATION



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Dept. EBG, GLEN COVE, NEW YORK

Please send me your **NEW** Bulletin P-9b on "Standard Printed Circuit Tolerances."

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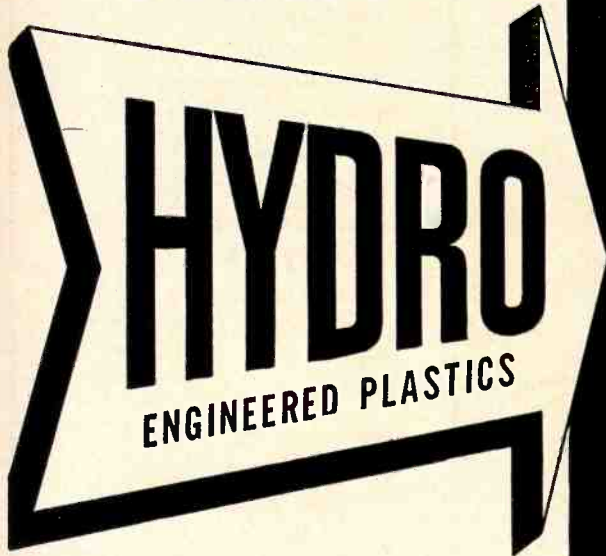
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# COIL FORMS



and other  
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COMPONENTS**  
comprising delicate  
**MOLDED-IN METAL INSERTS**

The use of "universal" molds of exclusive HYDRO design assures low-cost tooling and quick delivery of all types of coil forms. Precision tooling insures a flash-free product held to close tolerances. This service is particularly attractive for short runs where high mold costs can raise unit prices of component parts substantially. Similar savings are possible on many other electronic components. *May we quote on your requirements?*

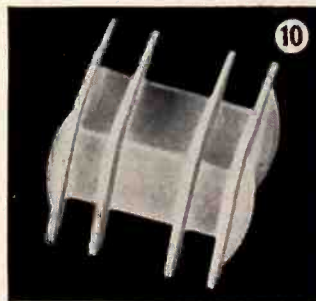
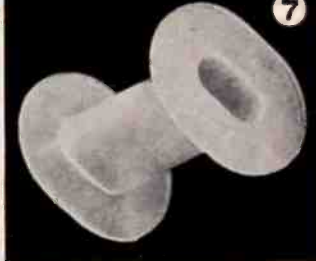
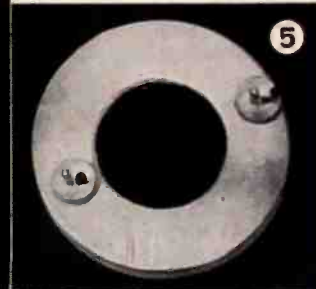
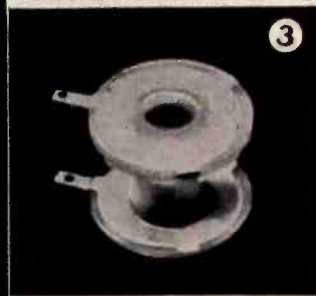
## HYDRO MOLDING COMPANY, INC.

*Engineering and Manufacturing in Plastics*  
PLATTSBURGH, NEW YORK

**KEY TO ILLUSTRATIONS**—1—2—3 Nylon bobbin with molded-in inserts . . . 4—5 Fiberglass bobbins with folded-in . . . 6—7—8—9 Nylon bobbins . . . 10—Multiple flange Nylon bobbins . . . 11—Kel-F slider with molded-in insert.

\* Trademarks of DuPont, M. W. Kellogg and Owens-Corning

**LOW COST  
FAST  
PRECISION  
MOLDING**  
of  
**NYLON\***  
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## ENGINEERED FACILITIES



**FOR HIGH RELIABILITY**

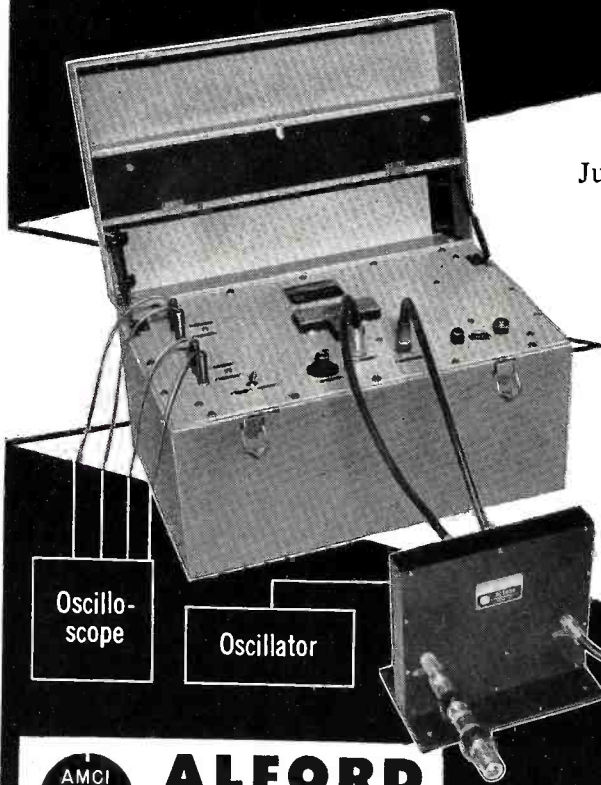
### RESISTOR PRODUCTION ONLY!

(Environmental production testing optional, but recommended)

- Hermetically Sealed Deposited Carbon Resistors
- Sealed Resistor Networks
- Encapsulated Precision Wire Wound Resistors

**MEPCO INC., MORRISTOWN, NEW JERSEY**

## NEW AMCI AUTOMATIC IMPEDANCE PLOTTER



### For Lab or Production Testing

Just turn the oscillator dial, manually or by a motorized sweep drive, and the impedance curve of load Z is traced on a regular or an expanded Smith chart.

Either an oscilloscope or a two-axis recorder can be used.

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descriptive  
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E 557

Oscillo-  
scope

Oscillator

Load "Z" to  
be measured



**ALFORD**

Manufacturing Co., Inc.  
299 ATLANTIC AVE., BOSTON, MASS.

Model 11-P..... 200 mc — 960 mc.  
Model 11-Q..... 30 mc — 400 mc.

INSTRUMENTS — ANTENNA SYSTEMS — COMPONENTS — AIR-NAVIGATION AIDS

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## FROM MILLIWATTS TO KILOWATTS

# HIGH VOLTAGE POWER SUPPLIES AND EQUIPMENT

We have sold quantities of these power supplies to laboratories, industrial concerns, the government and universities. Only the best available selected material goes into these units, so that you will have many years of dependable service. Only a few of our standard models are shown below. Quotations on special supplies cheerfully given.

## PRECISE MEASUREMENTS COMPANY

### HIGH VOLTAGE POWER SUPPLIES



A precision, well constructed high voltage supply for meter testing and calibration, electrostatic painting, breakdown tests, nuclear physics and wherever high potentials at low currents are needed. Output is well filtered direct current. Adjustable by means of a control on the front panel. Available with or without meter. Input voltage is 115 v., 60 cycles. Regulated models feature even easier adjustment of output voltage. Once you turn the knob to desired value, voltage then remains constant regardless of power line changes or load variations. Regulation is  $\pm 1\%$  or better over most of the control range. Closer regulation on special order.

Model	Maximum Voltage	Price	Price Regulated Model
6001 With Kilovolt Meter	1,000	\$75.00	
6000	2,500	60.00	
6000-A With Kilovolt Meter	2,500	80.00	\$120.00
6005	5,000	75.00	
6005-A With Kilovolt Meter	5,000	95.00	135.00
6010	10,000	85.00	
6010-A With Kilovolt Meter	10,000	105.00	145.00
6015	15,000	95.00	
6015-A With Kilovolt Meter	15,000	115.00	155.00
6025	25,000	115.00	
6025-A With Kilovolt Meter	25,000	155.00	205.00

MIRROR SCALE HIGHER ACCURACY METERS: Recommended where more exact settings or measurements are needed. Meter size has been increased to 6 inches for easier reading. Price \$35.00 additional on any meter equipped model.

### AC INSULATION AND BREAKDOWN TESTERS

Used in testing insulation where AC voltages are desired. Dual instruments are also available which provide choice of AC or DC output with simple toggle switch selection. Units include kilovoltmeter, current meter and automatic overload cutout circuits.

Model	Voltage	VA	AC	Price AC and DC
3000	0 to 3,000	75	\$150.00	\$ 250.00
3010	0 to 3,000	300	250.00	400.00
3050	0 to 3,000	1,500	500.00	650.00
3100	0 to 6,000	3,000	700.00	1,100.00

### INDUSTRIAL POWER SUPPLIES



Regulated Types Available

These industrial type power supplies are built for service and efficiency. All employ husky components that have been selected for their power handling capacity. Controls are arranged so that operation is greatly simplified and a number of safety features are built in for maximum protection of personnel and equipment. Polarity reversing models (as illustrated) can be had at additional cost.

Model	Voltage	Current	Price
F-500	0-500	3 AMP	\$800.00
F-6001	0-1000	2 AMP	975.00
F-6002	0-2000	1 AMP	985.00
F-6005-A1-H	0-5000	100 MA	550.00
F-6005-A1-5H	0-5000	500 MA	650.00
F-6005-A1-K	0-5000	1 AMP	1100.00
F-6010-A1	0-10,000	100 MA	800.00
F-6020-A05	0-20,000	50 MA	975.00
F-6050-T	0-50,000	1/2 MA	600.00
F-6100-T	0-100,000	1/2 MA	1100.00

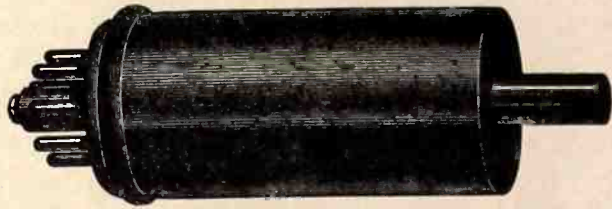
### 100 KV. KILOVOLT METER

- Read High Voltages Directly with Extra-High Input Impedance.
- Single Instrument Reads Both A.C. and D.C. Voltages!
- Superb Craftsmanship—Portable Oak Case.

Model	Range Kilovolts	Price D.C. Model	Price A.C./D.C. Model
4000	0-25/50	\$67.50	\$100.00
4000-A	0-100	80.00	125.00
4000-B	0-50/100	85.00	130.00
4000-C	0-10/50/100	95.00	160.00

Other Ranges to Order .....

### HIGH VOLTAGE CONVERTERS



Solves your High Voltage problem in the simplest possible way. Simply connect input to 1 1/2 or 3 V. battery (or low voltage A.C.) and obtain your high voltage output. Output voltage adjustable from zero to 6,000 Volts AC (or DC when rectified). Typical output is 1 Ma. at 130 Volts D.C., 200 Microamperes at 500 Volts and 100 Microamperes at 1,000 Volts, with 3 Volts input. Model 7 MVT as illustrated, plugs in like a radio tube. The Model 10 MVT is not encased.

Model	Primary	Secondary	Price
7 MVT	1 to 4 Volts	0 to 6,000 Volts AC Max.	\$12.50
10 MVT	1 to 4 Volts	0 to 6,000 Volts AC Max.	\$10.00

### TRANSFORMERS, HIGH VOLTAGE

For those who build their own power supplies. These units are small and compact and rated for constant service. Primary designed for 115 Volts 60 Cycle. Only standard models are listed, other voltages and currents available on order.

Model	Voltage	Model	Voltage
1 KVT	1 KV	10 KVT	10 KV
2 KVT	2 KV	15 KVT	15 KV
3 KVT	3 KV	25 KVT	25 KV
5 KVT	5 KV		

### PACKAGED POWER SUPPLIES

These conveniently packaged power units will be found ideal for applications requiring minimum size and weight. Features isolated high voltage terminals permitting either the positive or negative side to be grounded. Rectifier tubes are operated from separate filament transformers so that DC output voltage can be varied from zero to full rated value. Selenium rectifier types have extra cells to assure operation under high line voltage or light loading. All standard units have well filtered DC output. Power packs with AC output available on order.



Model	Output Voltage	Current	Model	Output Voltage	Current
05-KV-5MA	500 Volts DC	5 Ma.	20-KV-1MA	20 KV DC	1 Ma.
1-KV-5MA	1 KV DC	5 Ma.	20-KV-5MA	20 KV DC	5 Ma.
2-KV-5MA	2 KV DC	5 Ma.	30-KV-1MA	30 KV DC	1 Ma.
5-KV-1MA	5 KV DC	1 Ma.	30-KV-5MA	30 KV DC	5 Ma.
5-KV-5MA	5 KV DC	5 Ma.	50-KV-1MA	50 KV DC	1 Ma.
10-KV-1MA	10 KV DC	1 Ma.	50-KV-5MA	50 KV DC	5 Ma.
10-KV-5MA	10 KV DC	5 Ma.	75-KV-1MA	75 KV DC	1 Ma.
15-KV-1MA	15 KV DC	1 Ma.	100-KV-1MA	100 KV DC	1 Ma.
15-KV-5MA	15 KV DC	5 Ma.			

## PRECISE MEASUREMENTS COMPANY

MILLBROOK AVENUE

FLEMINGTON, NEW JERSEY

TEL. FLEMINGTON 900



# HYCON EASTERN, INC.

## CRYSTAL FILTERS

.. in the 10 Kc to 30 Mc range

Hycon Crystal Filters make possible *single conversions* in AM and FM receivers while retaining the important advantages of double and triple conversions. High selectivity at the first i.f. with greater stability and reliability are among these advantages.

The following table shows a partial list of *standard* Hycon Filters. New *standard* models are frequently being added. If a standard Hycon Filter should not meet your requirements, our engineering service can be made available to help solve your selectivity problems.

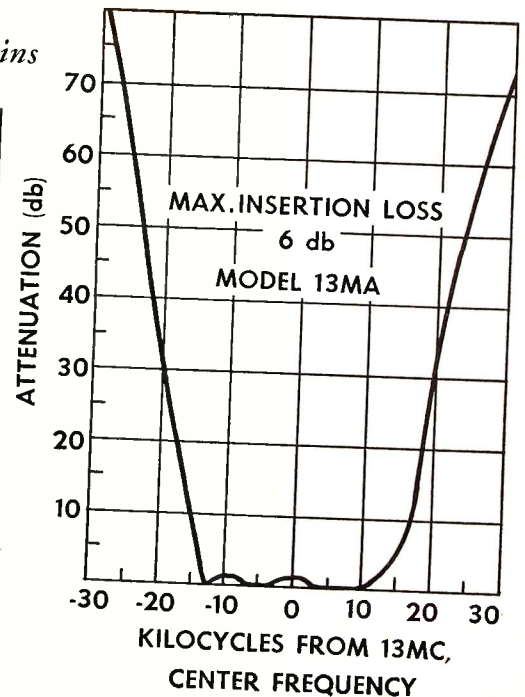
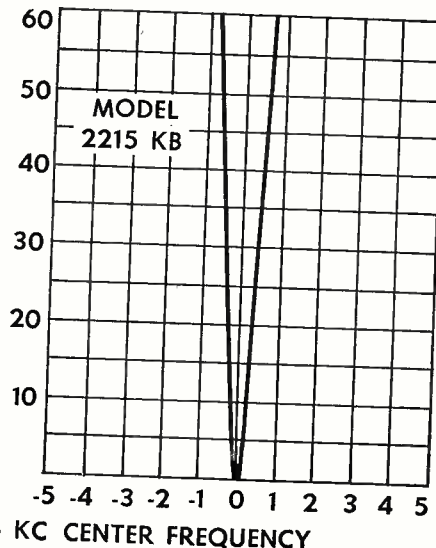
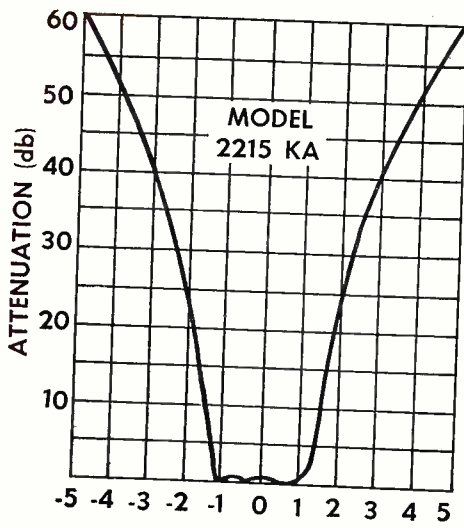


Model 13MA

Model No.	Frequency	Bandwidth	Insertion Loss	Shape Factor	Size
100 KPA	100 Kc	50 cps	3 db	4.0	3 1/16" L x 2 3/4" W x 2" H
2215 KA	2215 Kc	2800 cps	3 db	3.0	2 5/16" L x 1 5/16" W x 1 3/4" H
2215 KB	2215 Kc	250 cps	3 db	4.0	2 5/16" L x 1 5/16" W x 1 3/4" H
13 MA	13 Mc	30 Kc	6 db	1.8	3 5/16" L x 1" W x 1 1/2" H
13 MB	13 Mc	15 Kc	6 db	1.8	3 5/16" L x 1" W x 1 1/2" H
13 M-DA	13 Mc	50 Kc	—	—	2 3/8" L x 1" W x 1 1/2" H

- SMALL SIZE
- HIGH SELECTIVITY
- EXTREME ACCURACY
- LOW INSERTION LOSS
- EXTREME STABILITY WITH VARIATION IN TEMPERATURE
- HERMETICALLY SEALED

Write for Crystal Filter Bulletins



Call the Hycon Eastern Representative Nearest You

Hobstetter-Soenke  
Dayton, Ohio  
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Atlanta, Ga.  
TRinity 6-3020

Kay Sales Co.  
Kansas City, Mo.  
BAltimore 1-2800

**Rapid Access**  
**For Instrumentation Data**  
**Reduction Systems**

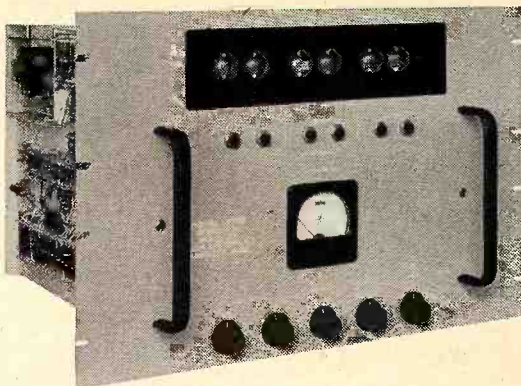
- Timing system operates over any combination of tape speeds.
- High speed search in either direction.
- Timing Information occupies only a part of the available bandwidth.
- Mounts in any RETMA standard 19" relay track.

## MAGNETIC TAPE SEARCH UNIT

... for tape search

## DIGITAL TIMING GENERATOR

... for tape indexing



**DIGITAL TIMING GENERATOR, MODEL 201** generates numerically coded timing signals which are recorded on the magnetic tape throughout the data recording periods, providing a precise digital index in terms of elapsed time.

**MODEL 206 A IS A MILITARIZED AIRBORNE VERSION OF MODEL 201.**



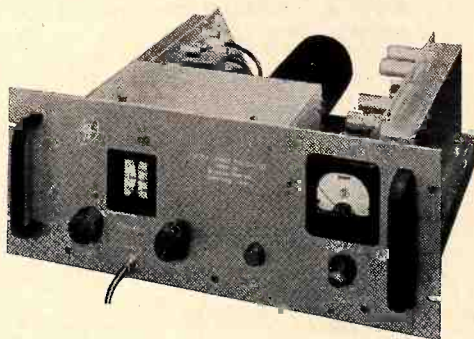
**MAGNETIC TAPE SEARCH UNIT, MODEL 202**, operates during data reduction periods. This instrument automatically locates and selects for controlled playback the tape data included between a "sequence start time" and a "sequence end time" specified by panel dial settings. The time index is visually displayed as illuminated digits.

*Write for Bulletin TSG*

## ULTRA STABLE OSCILLATOR

... One Megacycle Signal Source ... Stability: 1 part in  $10^9$  per day

Hycon Eastern's new Ultra Stable Oscillator is useful wherever precise time measurements or frequency control are required, as in reinsertion of carrier in suppressed carrier systems, telemetry, astronomical measurements, navigation systems, geophysics or other critical applications. MULTIPLIERS and DIVIDERS are available for other frequency values with corresponding stability.



- **FREQUENCY STABILITY:** Drift Rate less than 1 part in  $10^9$  per day after one month's operation.
- **CRYSTAL OVEN:** Stabilized to better than  $0.01^\circ\text{C}$ . by temperature-sensitive resistance bridge. Oven contains no moving parts.
- **DISSIPATION IN OSCILLATOR CRYSTAL:** Stabilized at a power level less than one microwatt.

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Southwestern Eng. & Equip Co.  
 Dallas, Texas  
 LAkeside 6-7433

Burt C. Porter Co.  
 Seattle, Washington  
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Hycon Electronics  
 Pasadena, California  
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"Bridging the Gap between Science and Technology ... in Electronics"

**HYCON EASTERN, INC.**

75 Cambridge Parkway

Cambridge 42, Massachusetts

Affiliated with HYCON MFG. COMPANY, Pasadena, California

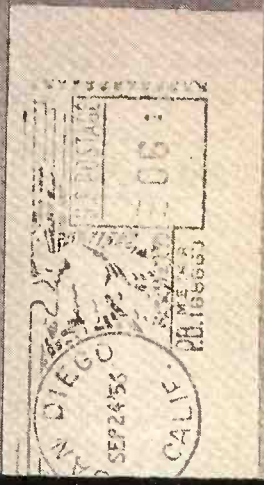




GENERAL OFFICES  
SAN DIEGO 12, CALIFORNIA

Avnet Electronic Supply Company  
34-46 N. Moore Street  
New York 13, New York

Attention: Mr. L. Avnet, President



thank  
you  
sir!

**Avnet**

**AVNET EASTERN SALES:**  
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BEekman 3-5780

**AVNET WESTERN SALES:**  
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From two 7 story warehouses right on the premises, AVNET distributes Bendix Connectors, Cannon Connectors, Sylvania Tubes & Transistors, Winchester, IPC, Bendix Special Purpose Tubes, Sprague Capacitors and Condensors, Westinghouse Aviation Bulbs, UG Connectors, JAN Switches and Circuit Breakers, Coaxial Cable, Fuses, JAN Resistors and Potentiometers, Amphenol Connectors, Cinch-Jones Plugs, Sockets, Strips. What a source of supply! Resident Govt. source inspection on the premises!

**CONVAIR**  
A DIVISION OF GENERAL DYNAMICS CORPORATION



SAN DIEGO 12, CALIFORNIA  
TELEPHONE: CYPRESS 6-6611

20 September, 1956

Avnet Electronic Supply Company  
34-36 N. Moore Street  
New York 13, New York

Attention: Mr. L. Avnet, President

Gentlemen:

In the past year, we here at Convair have devoted a great deal of attention to the performance of your company. We are very pleased to report that your performance has been excellent. The splendid cooperation and service extended to Convair in all your negotiations, by your Top Management Sales Personnel, is highly commendable.

Our normal production flow and scheduled delivery of airplanes is directly contingent upon our suppliers' promise to perform to his committed shipping schedules. You have not only maintained and fulfilled these promises, but have, on many occasions, accelerated your deliveries at our request. This letter is to express our sincere appreciation for your many extraordinary efforts and the fine business relationship we have enjoyed.

Very truly yours,

CONVAIR  
A Division of General Dynamics Corporation  
(San Diego)

*W. E. Gleason*  
W. E. Gleason  
Buying Supervisor

WEG/jmw

GENERAL OFFICES: SAN DIEGO, CALIFORNIA

## SIGNAL GENERATION EQUIPMENT



**MICROWAVE SIGNAL GENERATORS**  
Models MSG-1, 2, 3, 4, 4A  
950 to 11,500 mc

Model No.	Frequency Range
MSG-1	950 - 2400 mc
MSG-2	2150 - 4600 mc
MSG-3	4450 - 8000 mc
MSG-4	6950 - 10,800 mc
MSG-4A	6950 - 11,500 mc



**MICROWAVE SIGNAL GENERATOR**  
Model MSG-34  
4,200 to 11,000 mc



**MICROWAVE SIGNAL SOURCES**  
650 to 11,500 mc

MAXIMUM POWER AVAILABLE FROM POLARAD SIGNAL SOURCES IN THE RANGE OF 650 TO 10,750

FREQUENCY RANGE	MODEL SSR 650-1300MC	MODEL SSL 1050-2250MC	MODEL SSS 2140-4600MC	MODEL SSM 4450-8000MC	MODEL SSX 7850-10,750MC	MODEL SSXA 7850-11,500MC
AVAILABLE POWER RANGE (mw)	100 to 700	80 to 400	40 to 250	15 to 50	14 to 40	Available on Special Order



EHF SOURCE

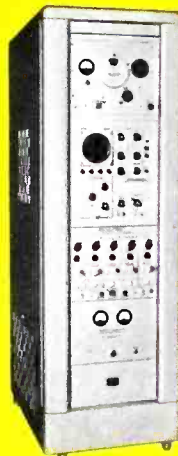


EHF GENERATOR

**EHF MICROWAVE GENERATORS AND SOURCES**  
9 plug-in units cover 18,000 to 50,000 mc

SIGNAL GENERATORS Basic Unit Model HU-2 Plug-In Tuning Unit Model No.	FREQUENCY RANGE	SIGNAL SOURCES Basic Unit Model HU-1 Plug-In Tuning Unit Model No.
G1822-1	18,000 — 22,000 mc	S1822-1
G2225-1	22,000 — 25,000 mc	S2225-1
G2427-1	24,700 — 27,500 mc	S2427-1
G2730-1	27,270 — 30,000 mc	S2730-1
G2933-1	29,270 — 33,520 mc	S2933-1
G3336-1	33,520 — 36,250 mc	S3336-1
G3540-1	35,100 — 39,700 mc	S3540-1
	37,100 — 42,600 mc	S3742-1
	41,700 — 50,000 mc	S4150-1

Model SG-1218, Signal Generator and Model SS-1218 Signal Source are available to cover the frequency range 12,400 to 17,500 mc



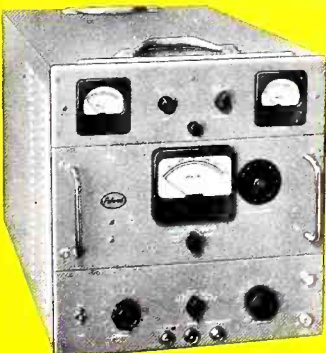
**CODE MODULATED MULTIPLE-PULSE MICROWAVE SIGNAL GENERATOR**  
Model B  
950 to 10,750 mc

4 Interchangeable Tuning Units

Frequency Range:  
BL-1 — 950 to 2400 mc  
BS-1 — 2150 to 4600 mc  
BC-1 — 4450 to 8000 mc  
BX-1 — 7850 to 10,750 mc

**MICROWAVE SWEEP GENERATOR**  
Model ESG

1,000 to 15,000 mc 7 Interchangeable Tuning Units



Basic Unit: Model E-B		
MODEL	FREQUENCY RANGE	POWER OUTPUT
Model E-L1	1000 to 2,000 mc	70 to 900 mw
Model E-L2	1600 to 3,200 mc	70 to 900 mw
Model E-S1	2000 to 4,000 mc	70 to 750 mw
Model E-C1	3600 to 7,200 mc	20 to 350 mw
Model E-C2	4800 to 9,600 mc	15 to 125 mw
Model E-X1	6500 to 11,000 mc	15 to 80 mw
Model E-X2	7500 to 15,000 mc	10 to 35 mw

## SPECTRUM ANALYZERS



**DIRECT READING SPECTRUM ANALYZER**  
Model TSA  
Bandwidth 10 to 44,000 mc  
5 Interchangeable Tuning Units

Model No.	Equipment
Model DU	Spectrum Display and Power Unit
Model STU-1	RF Tuning Unit 10-1,000 mc
Model STU-2A	RF Tuning Unit 910-4,550 mc
Model STU-3A	RF Tuning Unit 4,370-22,000 mc
Model STU-4	RF Tuning Unit 21,000-33,000 mc
Model STU-5	RF Tuning Unit 33,000-44,000 mc



**MULTI-PULSE SPECTRUM SELECTOR**  
Model SD-1

Permits spectrum analysis of individual microwave pulses in a pulse group.



**POLARAD ELECTRONICS CORPORATION**  
43-20 34th Street  
Long Island City 1, N. Y.  
EXeter 2-4500



# MICROWAVE • ELECTRONICS • COLOR TV

## MICROWAVE RECEIVERS



### EXTENDED RANGE MICROWAVE RECEIVER

Model R  
400 to 22,000 mc

7 Interchangeable Tuning Units

Basic Receiver: Model R-B  
Tuning Unit Frequency Ranges:

*Model RR-T .....	400- 1,000 mc
*Model RL-T .....	950- 2,040 mc
*Model RS-T .....	1,900- 4,340 mc
*Model RM-T .....	4,200- 7,740 mc
*Model RX-T .....	7,300-11,260 mc
*Model RKS-T .....	9,500-15,600 mc
*Model RKU-T .....	14,700-22,000 mc

\*U.S. Patent No. 2,774,243

### CALIBRATED MICROWAVE FIELD INTENSITY RECEIVER SYSTEM

Model FIM  
1,000 to 10,000 mc

Frequency Range:	1,000 to 10,000 mc
Tuning Unit	Frequency Range
*FIM-L	1,000 to 2,240 mc
*FIM-S	2,140 to 4,340 mc
*FIM-M	4,190 to 7,740 mc
*FIM-X	7,360 to 10,000 mc

\*U.S. Patent No. 2,774,243



POWER SUPPLY



MONITOR UNIT



ANTENNAS

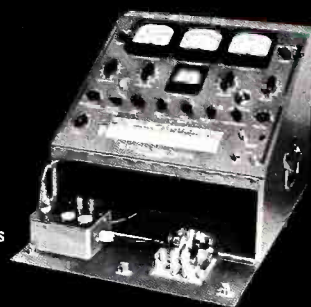


## GENERAL LABORATORY EQUIPMENT

### MICROWAVE TUBE TESTER

Model K-200

Tests all microwave tubes  
as easily as ordinary  
vacuum tubes.



### PULSE JITTER TESTER

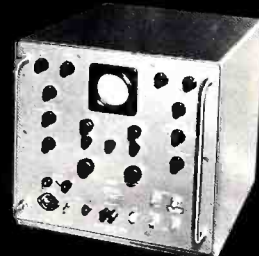
Model PJ-1

Measures

- (a) Pulse-to-pulse jitter
- (b) Pulse width jitter
- (c) Repetition rate jitter

Displays

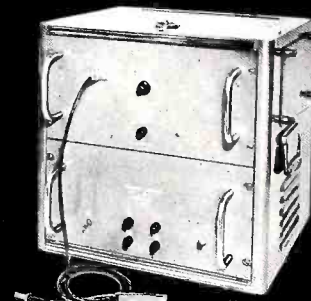
- (a) Jitter magnitude
- (b) Jitter waveform



### WIDE BAND VIDEO AMPLIFIER

Model VT

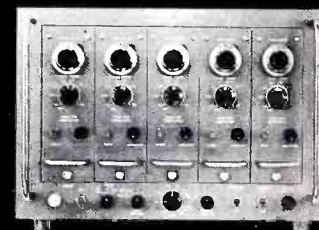
10 cps to 20 mc



### 5 PULSE CODED MULTI-PULSE GENERATOR

Model MP-1A

Generates 5 separate  
pulses each with inde-  
pendently variable width  
and delay for missiles,  
beacons, and other  
systems.



## MICROWAVE ACCESSORIES



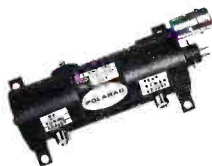
### MICROWAVE ATTENUATOR

Model SIJ

Covering

4,000 to 12,400 mc

... continuously variable,  
stub-tuned waveguide beyond  
cut off attenuator. For use  
in making microwave measure-  
ments.



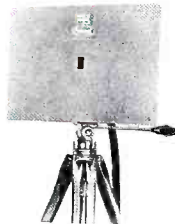
### SUB-MINIATURE S-BAND CAVITIES

Plate and Grid Pulse

Models Each Covering

2,750 to 3,000 mc

... only 3" long and 1" diameter. Useful where  
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power are essential. Fre-  
quency can be varied by  
simple tool adjustment.



### MICROWAVE TEST ANTENNAS

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1,000 to 26,000 mc

... rugged, portable. For  
field measurements, leak-  
age measurements and  
other laboratory uses.



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Model ZV1009

VELOCITRON

1,600 to 6,500 mc

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important part of every Polarad instrument.



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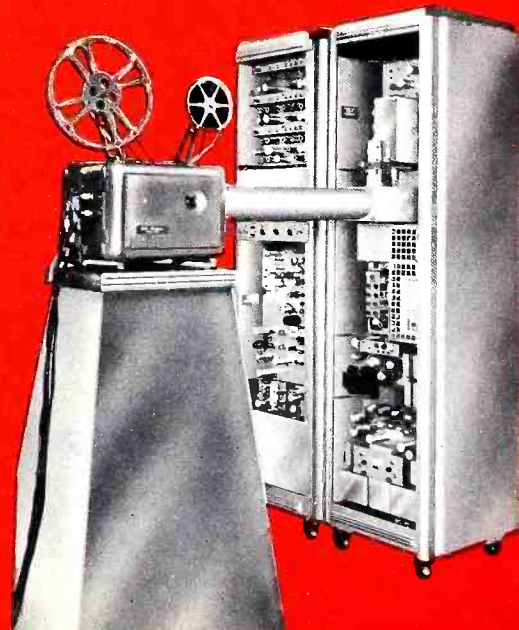
REPRESENTATIVES: Abington, Albany, Albuquerque, Atlanta, Baltimore, Boeing Field, Chicago, Cleveland, Dayton, Denver, Englewood, Fort Worth, Kansas City, Los Angeles, Portland, Rochester, St. Louis, San Francisco, Stamford, Syracuse, Washington, D. C., Westbury, Westwood, Wichita, Winston-Salem, Canada: Arnprior, Ontario Resident Representatives in Principal Foreign Cities

## TELEVISION EQUIPMENT

### FILM AND SLIDE SCANNER SYSTEM

Model CC-1 and Model PT-210

For telecasting 16mm color film and  
35mm color slide transparencies



**Choice.....**

**Not Chance** has made Torwico a  
leading supplier of magnetic components  
for the military and for industry.



Our technical staff is a select group of seasoned engineers with long and successful experience in research and design of the type of magnetic components we manufacture. Equally mature and skilled are our key production supervisors and employees. These capabilities combined with the latest and best in necessary equipment and plant facilities assure our customers of the highest product quality obtainable.

While busily engaged in contributing its share to the nations latest and most advanced defense weapons, Torwico continues to serve its ever growing list of satisfied customers who use its products in the many and varied industrial electronic applications.



**Magnetic Amplifiers    Tuned Circuits    High 'Q' Reactors    Chokes    400 CPS Power Transformers**



# JENNINGS VACUUM

## VACUUM FIXED CAPACITORS

FIG.	TYPE		CAPACITY MMFD	PEAK VOLTAGE KILOVOLTS	RMS AMPERES <sup>①</sup>		NOMINAL DIMENSIONS <sup>②</sup>		
	NICKEL	COPPER			NICKEL	COPPER	LENGTH	DIAMETER	
2 to 5 KV	L	JCSL	100, 250	3, 5		35	2 3/8	1 7/8	
	M	JSLF	250, 450	3, 5		30	1 3/4	1 7/8	
	B	JCSL	500, 750, 1000, 1500	3, 5		42	3 3/8	2 7/8	
	B	JCSL	2000	2, 3		42	4	2 7/8	
7.5 to 15 KV	M	JCSF	25, 40, 80, 120, 150	7.5, 10, 15		30	1 5/8	1 3/8	
	L	JCS2	10, 20, 25, 50, 75, 100, 150	7.5, 10, 15		20	3/8	1 3/8	
	B	JCS1	25, 50, 75, 100, 150	7.5, 10, 15		50	3 3/4	2 1/8	
	B	JCS	250, 400, 500	7.5, 10, 15		42	4	3 1/8	
	A	JCS	900, 1000	7.5, 10, 12		42	4 5/8	3 5/8	
	D	MC1	500, 750, 1000	10, 15		75	4 1/8	4 1/8	
	C	MC	500, 750, 1000	10, 15, 20	21	120	8 3/4	5	
	J	MM	MMC	1500, 2000	10, 15	35	125	9 1/4	6 1/8
	F	MMC1	2000	10, 15		125	5	6 1/8	
	E	MMC	5000	10, 15		125	13	9 1/4	
17 to 30 KV	K	Y	1, 2, 3, 4, 5	17	7		3 1/4	3 1/4	
	K	X	5, 10, 15, 20, 25	17	7		3 1/4	1 1/8	
	N	W	6, 12, 25, 50, 100	20, 25	10.5		4 5/8	2 1/4	
	I	VC	VCCA	6, 12, 25, 50, 75, 100, 150	20, 30		60	4 1/2	2 3/8
	I	VC	VCC	6, 12, 25, 50, 75, 100, 150	20, 30, 35	14	60	6 1/2	2 5/8
	I	VC	VCC	200, 250	20, 30	14	60	6 1/2	2 5/8
	M	JMF	50, 75, 100	20, 30		40	2 3/4	2 1/8	
	H	JC2	25, 50, 75, 100	20, 30		42	4	3 1/4	
	C	ML	MLC	500, 750, 1000	25, 30	21	125	9 1/4	5
	A	JHC	75	50, 60		42	4	3 1/2	
35 to 60 KV	G	JC3	20, 40, 50, 60	35, 45, 55, 60		140	8 1/4	3 1/2	
	G	JC4	75, 100, 125	35, 45, 55, 60		175	9 1/4	5	
	G	JC5	200	35, 45, 55, 60		225	11 1/4	7	
	J	MMH	MMHC	450	35, 45, 55	21	125	9 1/4	6 1/8
	J	MMH	MMHC	450	35, 45, 55	21	125	9 1/4	6 1/8
	E	MMH	MMHC	1000	35, 40, 45		125	13	9 1/4

The all copper construction of Vacuum Fixed Capacitors give high current ratings, long life and stability of operation.



## TYPES R & RH VACUUM SWITCHES

### VACUUM SWITCH RATINGS For RF and DC Transfer Switching

Jennings Type	R5C	R1	R1K	R2	R8	RH6	RH7
Test Voltage (300 kc dry)—peak kv	20, 30	40, 50	30, 40	50, 60	70, 85, 95	85, 100	85, 100
Operating Voltage—peak kv	15	30	20	40	30 to 85	85	85
Continuous Current (rms amp)—dc <sup>①</sup>	50	50, 100	100, 200	50, 100	100, 200	50, 200	50, 400
—300 kc	30	35	100	35	100	100	100
—10 mc	25	25	50	25	50	50	50
—30 mc		15	25	15	25	25	25
RF Interrupting Power—kilowatts	50	250	500	250	1000		

① DC continuous currents may be increased as shown by using special connectors.

### For DC Switching Under Load or Capacitor Discharging

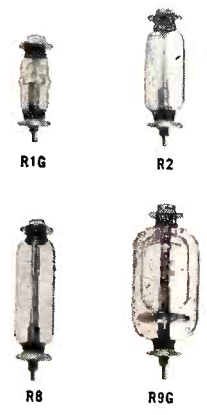
Jennings Type	R5C	R1G	R1J	R2G	R8G	R9G	RH4G	RH1G	RH7G
Test Voltage (60 cycles dry)—peak kv	20, 30	40, 50	30, 40	50, 60	50, 70	50, 70, 85	30, 40	35, 45	85, 100
Max. Operating Voltage—peak kv	15	20	20	30	50	60	10	20	70
Continuous Current—dc amp <sup>①</sup>	50	50, 100	50, 100	50, 100	100, 200	100, 200	50, 600	50, 400	50, 400
DC Interruption <sup>②</sup> —power in kw	5	25	50	25	50	100	250	200	250
—current in amp	5	25	50	25	50	100	250	200	250
Capacitor Discharge—decaying { initial amp to 30% in 1 millisecc or less } peak kv		500	1000	500	1000	1500	10,000	5000	5000
		30	25	40	50	60	20	30	70

① DC continuous currents may be increased as shown by using special connectors.  
② For DC interruption in continuous operation, neither power nor current rating should be exceeded.

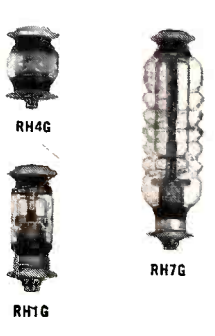
### For 60 Cycle Power Switching

Jennings Type	R1J	R2G	R8G	R9G	RH1G	RH4G
Operating Voltage Class—rms kv line to line } grounded Y capacitor load to 85% lag pf {	2.5	8.25	12	15.5	2.5	2.5
Withstand Voltage—rms kv (60 cycle, 1 min. dry test)	19	26	36	50	19	19
Impulse Voltage—peak kv (1 1/2x40 μs NEMA test)	60	75	95	110	60	40
Operating Current—rms amp at 0% lead (capacitor load) to 85% lag pf { Break only } Make & Break	100	60	100	200	100	600
	50	30	50	100	50	400
Interrupting Current (rms amp)—NEMA one time	1500	800	2000	2500	1500	2500
—NEMA ten times	1000	500	1500	1500	1000	1500
Short Time Surge Currents (rms amp)—NEMA 4 second	2000	500	2000	2500	2500	4000
—NEMA 10 cycle mom.	4000	1500	4000	5000	5000	10,000
Thermal Current (for 30° C. rise—rms amperes)	100	100	200	200	400	600

#### TYPE R VACUUM SWITCHES



#### TYPE RH VACUUM SWITCHES



### RELAYS USING VACUUM SWITCHES

Type R and RH Vacuum Switches are available from Jennings mounted as relays for indoor use. They may be mounted with contacts normally open or normally closed or two switches may be mounted in a single pole double throw arrangement. Either ac or dc solenoids may be used. Insulation between the switch and its actuating solenoid is provided by a 2 to 8 inch puller rod providing 40 to 100 kv insulation. CE grade phenolic laminate is recommended for dc or 60 cycle use; Grade G7 silicone glass laminate is recommended for radio frequency applications.

# CAPACITORS & RELAYS

**Jennings**  
- RADIO -  
VACUUM ELECTRONIC COMPONENTS

## VACUUM VARIABLE CAPACITORS

FIG.	TYPE		CAPACITY MMFD	PEAK VOLTAGE KILOVOLTS	RMS AMPERES <sup>①</sup>		NOMINAL DIMENSIONS <sup>②</sup>		
	NICKEL	COPPER			NICKEL	COPPER	LENGTH	DIAMETER	
2 to 5 KV	E	UCSL	4-250	3.5		30	4 1/2	2 1/4	
	B	USL	5-500	3.5		40	5 1/2	2 3/8	
	B	USLS	5-465 shorting	3.5		40	5 1/2	2 3/8	
	B	UCSL	5-500	3.5		30	5	2 1/4	
	A	UCSL	5-750, 7-1000	3.5		42	7 3/4	3 1/4	
	A	UCSL	20-2000	2.3		42	8 1/4	3 1/4	
7.5 to 15 KV	E	GCS	5-100	7.5, 10, 15		40	4 3/4	2 1/8	
	I	UCSV	8-110, 125-250	7.5, 10, 15		50	5 1/2	2 3/8	
	K	ATCS	10-150, 15-200	7.5, 10, 15		20	7	3 1/8	
	L	UCS	5-200, 10-300	7.5, 10, 15		42	8 3/4	2 3/8	
	L	UCS	10-400, 25-500	7.5, 10, 15		42	9	3 1/8	
	A	UCSF	5-250, 12-500	7.5, 10, 15		45	7 3/4	3 3/8	
	H	UCSX	25-700, 25-1000	7.5, 10, 15		45	9 7/8	3 3/4	
	M	UCSXF	12-1000, 15-1200	7.5, 10, 15		45	10	4 3/8	
	M	UCSXF	20-1500, 50-2000	7.5, 10, 12		45	10	5 1/8	
	10 to 20 KV	C	ES	2-8, 3-30	10, 15		20	4	1 3/8
K		TC	5-25		10.5	20	6 3/8	2 1/4	
K		AT	10-50, 15-75	20, 30	10.5	20	6 7/8	3 1/8	
F		UC	50-250	10, 15, 20	21	60	11 1/2	5	
D		UX	25-500	10, 15, 20	21	60	14	5	
M		UXCF	10-250, 20-500	10, 15, 20	60	60	9 7/8	4 3/8	
J		VMM	50-1000, 100-2000	10, 15	35	125	15 7/8	6 1/8	
G		VMMC	100-5000	7.5, 10, 15	60	125	19	9 1/4	
35 to 60 KV		I	UCSVH	8-35	25, 35		25	4 3/4	3
		F	UH	10-75, 75-150	35, 45, 55, 60	21	60	12	5
	D	UXH	25-150	35, 45, 55	21	60	14 5/8	5	
	H	UCSXH	10-200	35, 45		60	10	4 1/2	
	M	UCSXHF	25-450	35, 40		60	10 1/2	5 1/8	
	J	VMMHC	10-250, 25-450	35, 45, 55		125	16	8 3/8	
	N	VMMHCW	25-250, 50-400	35, 45, 55		500	17	9 3/8	
	G	VMMHC	60-1000	35, 40, 45		125	19 3/8	9 1/4	
	G	VMMHHC	25-200	120		125	20 1/4	9 1/4	

① Current ratings can usually be doubled with forced air cooling. Water cooled units are also available.  
② Nominal Dimensions are for the largest unit of each type.  
NOTE: A series of adjustable capacitors are available to cover the range of 8 to 1000 mmfd at 10 KV.

The Vacuum Variable Capacitors combine extreme high ratio of capacitance change with small physical size.



Type UCST  
7-1000 mmfd  
5 kv



Type UCSXF  
50-2000 mmfd  
12 kv



Type GCS  
5-100 mmfd  
15 kv

## VACUUM TRANSFER RELAYS



RA1



RD1



RE2



RE4

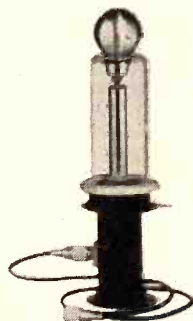


RM2

Jennings type . . . . .	RD1	RD2	RD3	RA1	RE2	RE3	RE4	RM2	RM4	RA4
Contact arrangement . . . . .	N/O	N/C	N/O	SPDT	SPDT	SPDT	2PDT	4PDT	4PDT	4PDT
Rated operating voltage . . . . .	10 kv	10 kv	25 kv	300 v	10 kv	2.5 kv	25 kv	12 kv	12 kv	300 v
Test voltage between terminals . . . . .	15 kv	15 kv	40 kv	1500 v	15 kv	3 kv	30 kv	18 kv	18 kv	1500 v
Test voltage terminals to ground . . . . .	12 kv	12 kv	40 kv	1500 v	15 kv	3 kv	30 kv	18 kv	18 kv	1500 v
Continuous rf current . . . . .	15 amp	15 amp	12 amp	25 amp	15 amp	15 amp	12 amp	15 amp	15 amp	25 amp
Contact resistance . . . . .	.01 ohms	.01 ohms	.01 ohms	.01 ohms	.02 ohms	.02 ohms	.015 ohms	.010 ohms	.015 ohms	.01 ohms
Contact capacitance . . . . .	.09 mmfd	.09 mmfd	.09 mmfd	17 mmfd	25 mmfd	25 mmfd	25 mmfd	.33 mmfd	.33 mmfd	17 mmfd

**DC ACTUATING COILS**  
Standard actuating coils are rated for operation at 26.5 vdc and draw 2 to 10 watts of power. Coils rated for operation at 110 vdc are also available for most types.

## HIGH VOLTAGE VACUUM RELAYS



**MODEL JP 325 HIGH VOLTAGE PROBE**  
VOLTAGE RATINGS: 40, 50, or 60 KV peak.  
VOLTAGE DIVISION RATIO: 325 to 1 to termination of 3 ft. of RG-58 A U cable.

**INPUT IMPEDANCE:**  
Resistance: above 10<sup>12</sup> ohms.  
Capacitance: 4 mmfd.

**FREQUENCY RESPONSE:** High frequency limited by that of measuring instrument. (Internal resonances are above 200 mc.) Low frequency response is 100 cps if operating into 10 megohm shunt resistance; 1000 cps if operating into 1 megohm shunt resistance.



**TYPE JCD 5 MMFD SERIES CAPACITOR** attaches to HV end of the VDF 2.8 divider in the J-1003 meter and the JP 325 probe doubling the division ratio and the voltage rating in each case. Decreases total loading capacity of meter or probe from 4 mmfd to 2 mmfd.  
Sold without corona sphere unless ordered.  
VOLTAGE RATING: 60 KV peak.

**MODEL J-1003 HIGH VOLTAGE VACUUM TUBE VOLTMETER** for use in pulse, rf, and 60 cycle circuits at voltages up to 100 KV.

**VOLTAGE RANGES** (peak volts full scale):  
Single Ended: 2.5, 5, 10, 25, 50 KV.  
Double Ended: 2.5, 5, 10, 25, 50, 100 KV.

(By using Type JCD Series capacitor, these ranges can be more than doubled.)

**OSCILLOSCOPE CONNECTION:** 300 to 1 division ratio.

**FREQUENCY RESPONSE:** 10 cycles to 20 megacycles at full rated voltage and up to 50 megacycles for lower voltages with low harmonic content.

**INPUT IMPEDANCE:** 10<sup>12</sup> ohms and 4 mmfd.

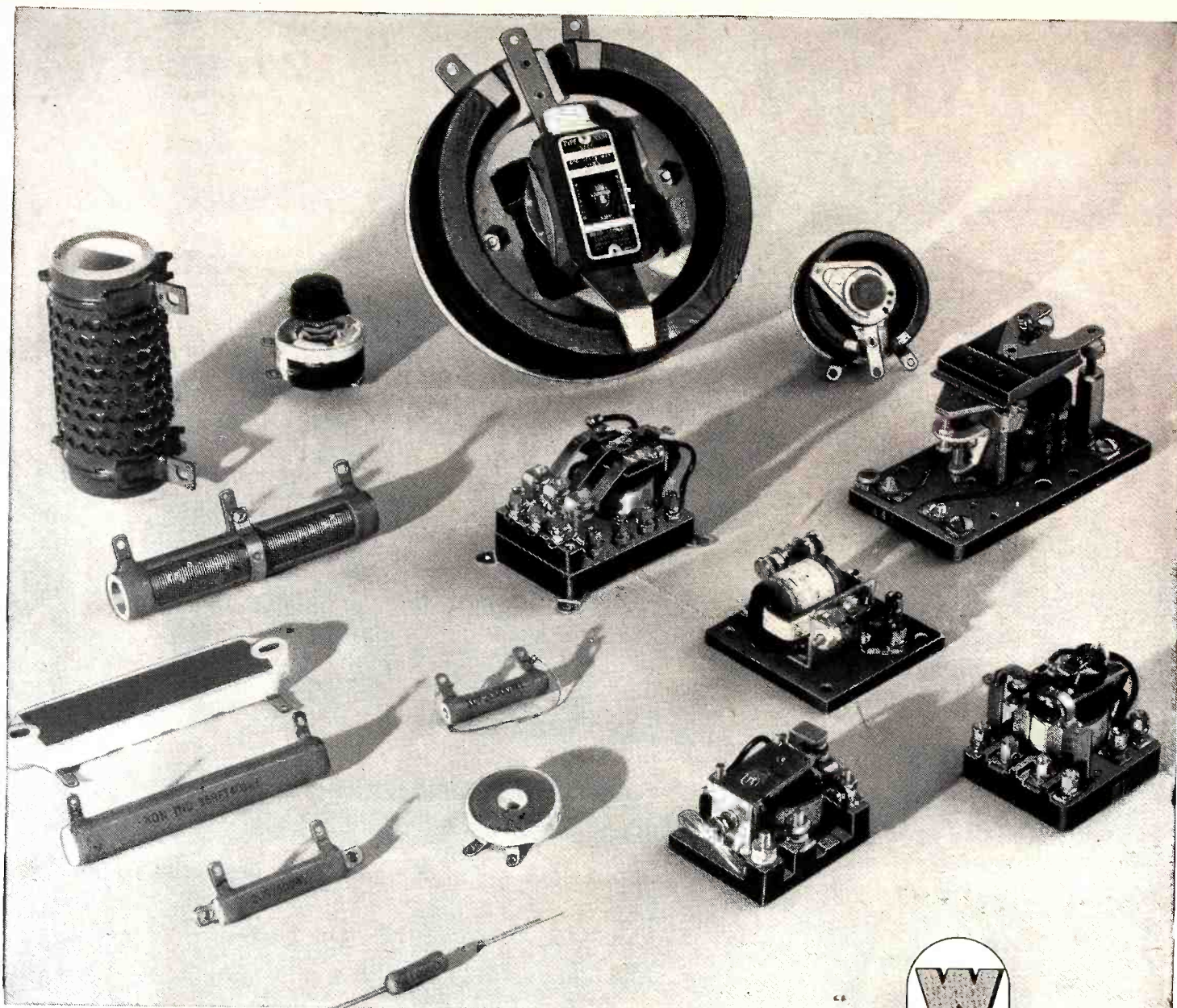
**CALIBRATION ACCURACY:** ± 3% of full scale.

**POWER SUPPLY:** 117 volt, 50, 60 cy.

**DIMENSIONS:** 16 1/4" x 11" x 9"



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RHEOSTATS



RELAYS



CONTROLS



DIMMERS

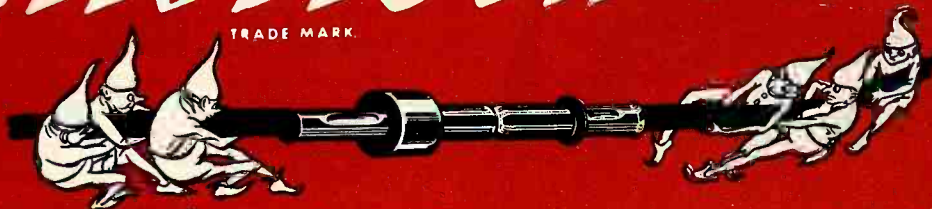
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# HUBBELL Interlock PLUGS

TRADE MARK

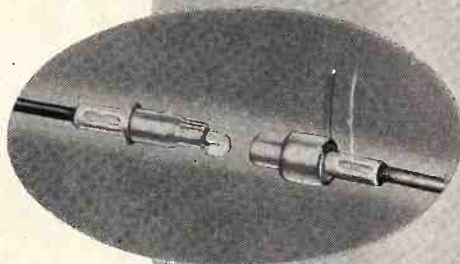


## Stay Locked IN ACTION!

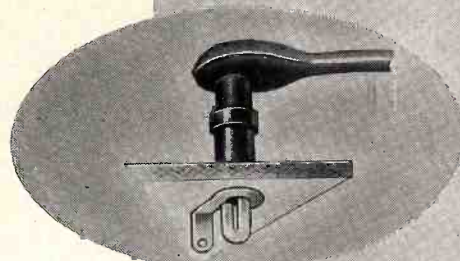
*Won't Disconnect Accidentally . . .*

*Yet Disconnect Quickly When Intended*

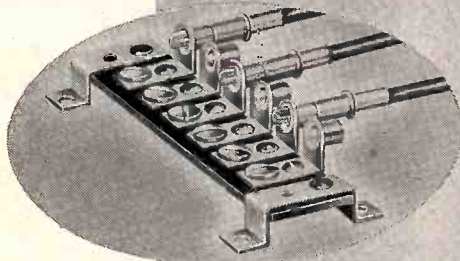
Today's engineers ask more of the connectors they use than simply that they make contact. Computers and modern, automatic machinery require *constant, positive* connections . . . aircraft wiring must be vibration proof and unaffected by temperature changes . . . printed circuits need sub-miniature connectors that will remain fixed. Hubbell *Interlock* Connectors are designed with all these features — and more! Whether they're used for connecting wire to wire, wires to panels, or wires to terminal strips, the combination of *Interlock* plugs and eyelets or plugs and jacks provides *automatic locking, quick disconnect* wiring that assures constant low contact resistance. Contact is maintained by a coil spring that adjusts for temperature and pressure changes and is part of the disconnect mechanism that permits fast rearrangement of circuitry and ease of maintenance.









Wire to Wire



Wire to Panel



Wire to Terminal Strip

 <p><b>TYPE "A" PLUGS, JACKS AND EYELETS</b> Nylon Insulated and Non-Insulated. Current Capacity: 10 amps. Wire Sizes: #14 to #18</p>	 <p><b>TYPE "B" PLUGS AND JACKS</b> Nylon Insulated and Non-Insulated. Current Capacity: 5 amps. Wire Sizes: #18 to #22</p>
 <p><b>TYPE "A" ANGLE PLUGS AND DOUBLE ENDED JUMPER CORDS</b> Current Capacity: 10 amps.</p>	 <p><b>TYPE "C" SUB-MINIATURE PLUGS AND EYELETS</b> Current Capacity: 1 amp. Wire Sizes: #20 to #22 or smaller</p>
 <p><b>TYPE "S" PLUGS AND JACKS</b> Nylon Insulated. Current Capacity: 15 amps. Wire Sizes: #14 to #18</p>	 <p><b>TYPES "A" AND "B" LAMINATED TERMINAL STRIPS AND TYPE "B" FLEXIBLE TERMINAL STRIPS</b></p>



## HARVEY HUBBELL, Inc.

Interlock Electronic Connector Dept.,

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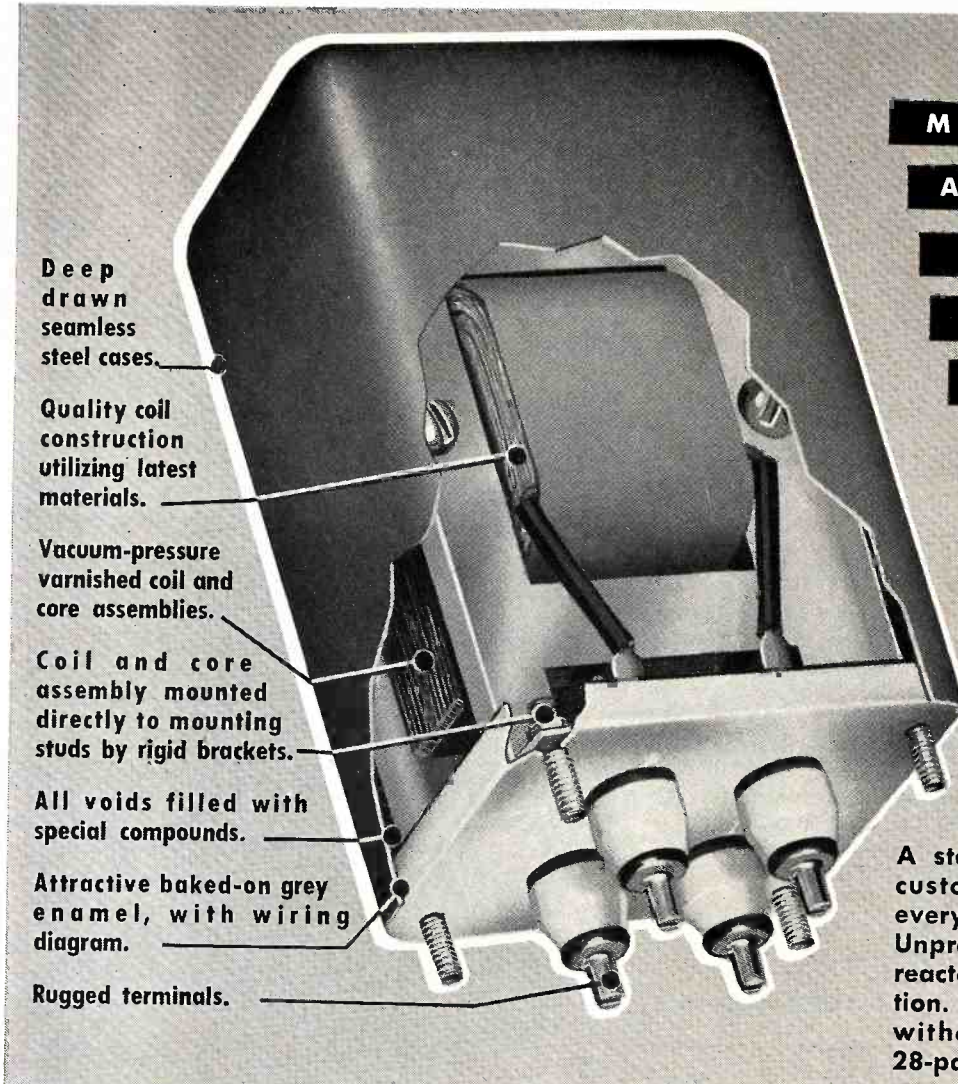
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**NO OBLIGATION**

## Varian Strip Chart Recorders

# POTENTIOMETER PERFORMANCE\* AT MODERATE COST



**Varian G-10** — Portable for laboratory or bench use where chart accessibility is of prime importance. Base price \$340.

**Varian G-11** — For panel, rack or portable use; designed for OEM, lab or field for long-term monitoring. Base price \$450.



The servo-balance potentiometer method has long been used in expensive recorders to achieve superior stability, sensitivity, ruggedness and high input impedance. Use of servo balancing systems assures full realization of these inherent advantages by providing ample power independent of the source being measured. Now Varian offers you recorders of moderate cost using this time-proven principle.

### VARIAN SPECIFICATIONS:

- Spans as low as 10 mv
- Limit of error 1%
- Maximum source resistance 50K ohms or higher
- Balancing times: 1 second or 2.5 seconds on G-10; 1 second on G-11

WRITE TODAY FOR COMPLETE SPECIFICATIONS

*Varian recorders are sold and serviced throughout the free world by representatives in principal cities.*



PALO ALTO 1, CALIFORNIA

Varian Associates manufactures Klystrons, Traveling Wave Tubes, Backward Wave Oscillators, Linear Accelerators, Microwave System Components, R. F. Spectrometers, Magnets, Magnetometers, Stalos, Power Amplifiers and Graphic Recorders and offers research and development services.

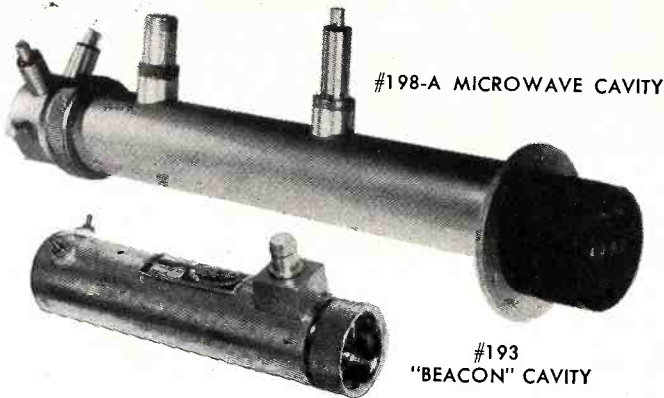
# AMERAC'S PRECISION MICROWAVE PRODUCTS

## MICROWAVE CAVITIES

Amerac, Incorporated manufactures a comprehensive line of co-axial line cavities, utilizing various standard tubes, for numerous microwave applications including aircraft, guided missile and beacon work.

### FEATURES

These cavities have such features as — single control tuning, fixed feedback, rugged anti-backlash tuning mechanism, accurate Root counter (optional), adjustable type "N" or "BNC" 50-ohm inductive loop coupling, convenient tube receptacle for quick replacement, long-duration R.F. output stability, operates on inexpensive power supply.

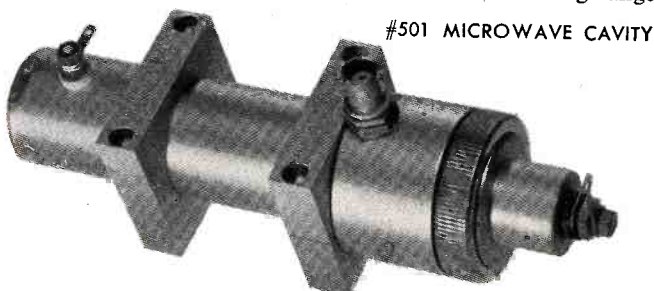


### SPECIFICATIONS

Model	Frequency Range	Type	Cavity Mode	Tube Type
192-A	2400—4000 MC	Pulse	3/4	2C36
192-AB	750—2000 MC	Pulse	1/4	2C36
192-B	750—2000 MC	CW	1/4	2C36
193-A	2400—4000 MC	Pulse	3/4	2C36
194	2300—3300 MC	CW	3/4	2C39B
194-A	2300—3300 MC	Pulse	3/4	2C39B
195	2000—3100 MC	CW	3/4	6442
195-A	2000—3100 MC	Pulse	3/4	6442
191-A	2400—3400 MC	Pulse	3/4	Pencil Triode
198-A	800—2050 MC	CW	1/4	6BM6
198-A	2050—4200 MC	CW	3/4	6BL6
198-A	800—2050 MC	Pulse	1/4	5837
198-A	2050—4200 MC	Pulse	3/4	5836

## FOR EXTREME ENVIRONMENTAL CONDITIONS

Engineered to operate under extreme conditions of shock, vibration, temperature and humidity, these cavities have been designed to withstand 2000 cycles at 15 G. 200 MC tuning range.



### SPECIFICATIONS

Model	Frequency Range	Type	Cavity Mode	Tube Type
#500	2000—3100 MC	CW	3/4	GL-6442
#501	2000—3100 MC	Pulse	3/4	GL-6442
#502	3100—3550 MC	CW	3/4	GL-6442
#503	3100—3550 MC	Pulse	3/4	GL-6442

## CO-AXIAL LINE WAVEMETERS

**FOR LABORATORY USE,** Amerac, Incorporated manufactures a precision wavemeter that is handsomely finished with golden anodized aluminum panel and hand-rubbed walnut cabinet. The panel is sloped for easy observation.



#229 "S" BAND WAVEMETER

These models feature high accuracy of measurement ( $\pm 0.02\%$ ), high frequency stability ( $10^\circ\text{C}$  to  $40^\circ\text{C}$ ), extreme mechanical stability, ease of operation, rugged components and tri-plated surfaces.

### GENERAL SPECIFICATIONS

Type "N" constant impedance input connector. BNC or UHF co-axial fitting for external video connection. Power handling capability: absorption — .5mw to 1 watt; transmission — 1mw to 1 watt. Peak power: up to 25 watts (transmission).

### INDIVIDUAL SPECIFICATIONS

Model	Frequency Range	Loaded Q	Width	Depth	Height	Net Weight
#228*	900—2400 MC	1000	15"	9 3/4"	7 3/4"	13 1/2 lbs.
#229	2300—4500 MC	1500	8"	6 1/2"	5"	4 3/4 lbs.
#230	3500—6000 MC	1500	8"	6 1/2"	5"	4 3/4 lbs.

\*Model 228 has a direct-reading frequency control dial.

**FOR FIELD USE,** Amerac, Incorporated manufactures two co-axial line wavemeters covering the "S" band, the Model 131 (Amerac's version of the popular military model TS-117) and the inexpensive, C&D Wavemeter Model 232.



#232 "C & D" WAVEMETER

Both models feature a rugged metal case, finished in gray, baked enamel; highly sensitive indication of resonance; rugged components; precision cavity assembly and anti-backlash device, for high accuracy.

### GENERAL SPECIFICATIONS

Input connections are two type "N" jacks. R.F. detector is a type 1N21B silicon diode. They have a ruggedized 50 micro-ampere indicating instrument for abusive field work and all silver-plated parts are Rhodium flashed to minimize corrosion.

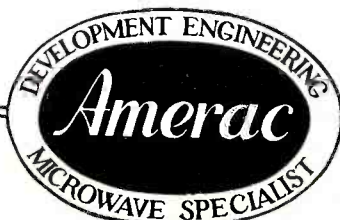
### INDIVIDUAL SPECIFICATIONS

Model	Frequency Range	Loaded Q	Length	Depth	Width	Net Weight
#131	2400—3400 MC	1000	6"	3 1/4"	5 1/2"	3 1/2 lbs.
#232	1800—3800 MC	1000	8"	2 1/4"	7 3/4"	2 1/2 lbs.



### Amer-Dial

For multi-turn devices. Direct reading to 1/1000th of a turn. Accurate to 1 part in 10,000. Readings up to 9999 with up to 100 turns. Unobstructed knurled dial. Regular and illuminated.



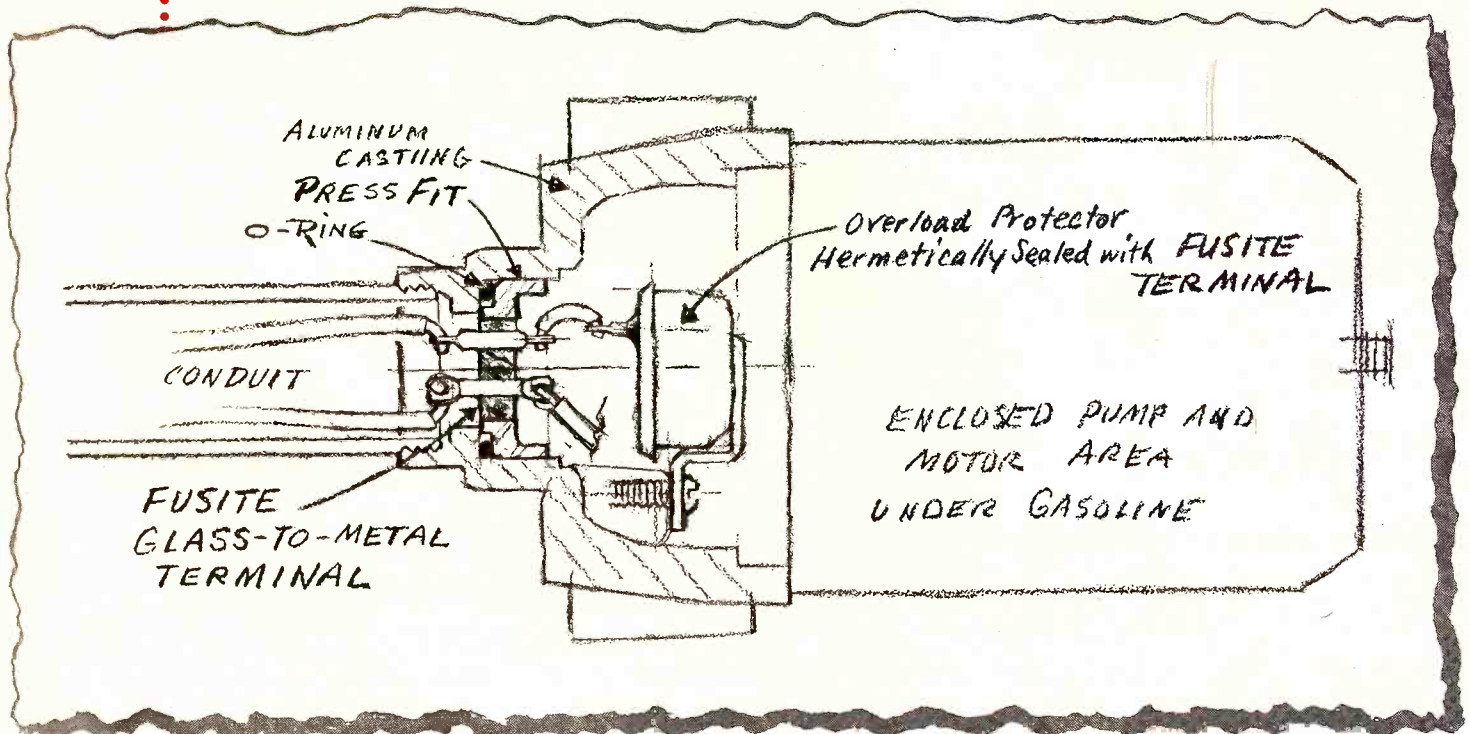
*Amerac,* INCORPORATED

116 TOPSFIELD ROAD • WENHAM, MASSACHUSETTS

# An Engineer "Doodled" and Solved an Explosive Problem with

## FUSITE TERMINALS

The problem was literally explosive. It was a pump and motor to operate safely submerged in gasoline. The electrical connections had to be made through a vapor-proof seal. Two simple and inexpensive Fusite glass-to-metal terminals did the job like this "doodle" shows.



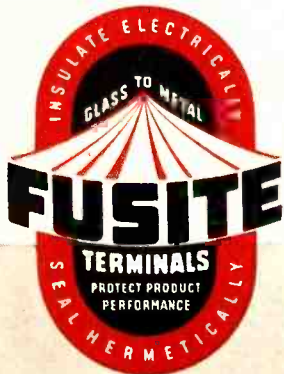
This can't be called a "typical" Fusite case history. In our long list of successful new applications, we have helped engineer, there are none we could call "typical".

So just keep Fusite Terminals in your

"noodle" the next time you "doodle" and pass your problems on to us.

We make hundreds of stock terminals of both multiple bead and solid glass types. We're prepared to design and make special terminals to your needs.

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# Cool That Cabinet — Save Sensitive Components

## GENERAL FEATURES

- Pressurizes Cabinet With Filtered Air
- Rubber Isolated Motors For Quieter Operation
- Widely Accepted for Use In Military Equipment
- Maximum Air Delivery For Efficient Filter Action

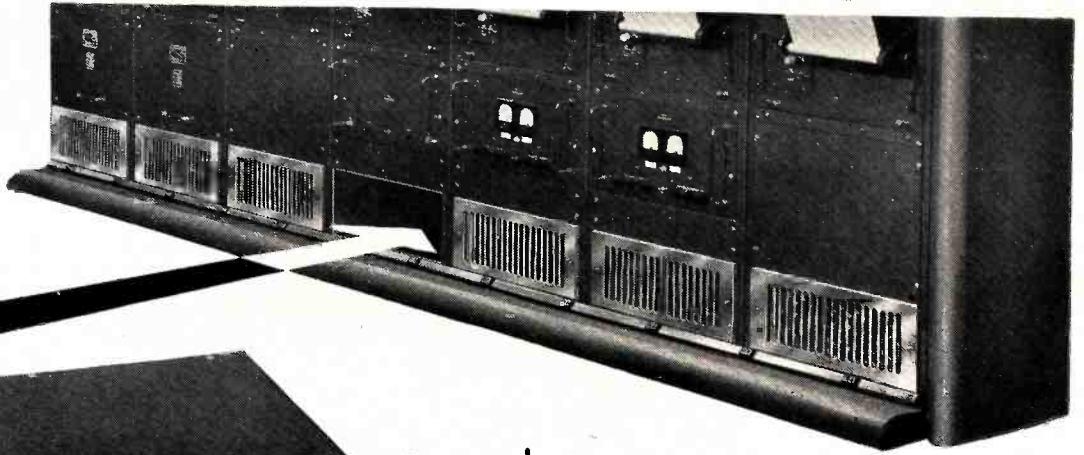
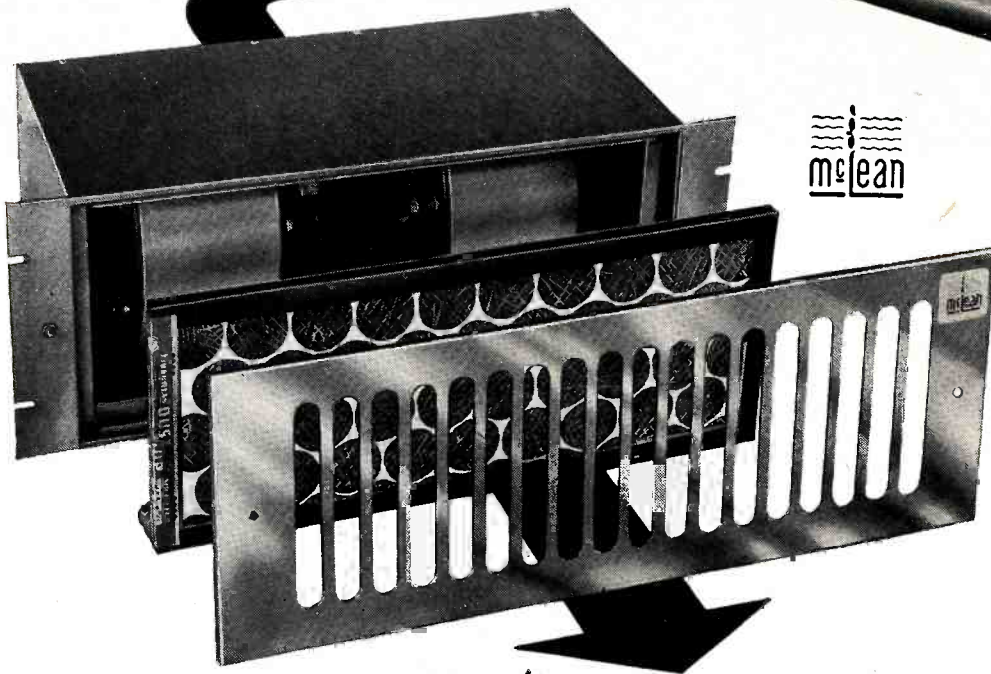


PHOTO COURTESY APPLIED SCIENCE CORP. OF PRINCETON



## ADDITIONAL FEATURES FOR BLOWER TYPE UNITS

- Provide Better Air Delivery Against Pressure
- Provide Quieter Operation Against Pressure
- Higher Air Velocity For Faster Cooling
- Air Flow Maintained With Dirty Filter
- Duct Connections Can Be Made If Desired

# use **McLEAN** *Cabinet Cooling* **FANS and BLOWERS\***

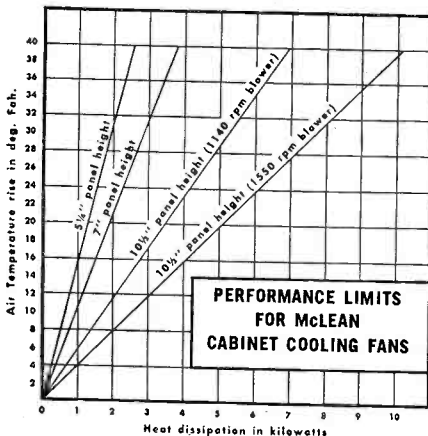
\*Pat. Applied For

RACK MOUNTED FOR EASY ASSEMBLY • FIT STANDARD 19" RACKS

THREE STANDARD MODULAR PANEL HEIGHTS COVER WIDE RANGE OF AIR DELIVERIES

Excessive or fluctuating temperatures in electronic racks make thousands of tubes die young . . . make crystals, transistors and sensitive electronic equipment perform erratically. System failure at critical times is disastrous . . . replacement costs are high. That is why leading manufacturers install McLean Fans and Blowers in Computers, Control Systems, Data Processing Systems,

etc. These small packaged units pressurize the cabinet with cool filtered air, keeping dust out. They are complete in one unit and ready for use. Standard RETMA notching allows mounting on rack . . . no cutting or fitting is necessary. All units contain an easily replaceable filter. Smart stainless steel grilles add beauty and eliminate the necessity of matching cabinet finishes.



## SPECIFICATIONS

PANEL HEIGHT	MODEL	DEPTH	CFM	REMARKS	TYPE
5 1/4"	2A300	7 1/2"	80	Standard Rack Mounting For Trim Strip Racks Basic Model For Special Clearance Inside Height 7"	Blower Blower Blower Blower
	2E300	7 1/2"	80		
	2B300	7 1/2"	150		
	3E40	5 7/8"	190		
	2P408	11 1/8"	300		
7"	2E55	8 1/4"	250	Basic Model No Projecting Outlets Vertical Discharge 400 cps Model	Propeller Blower Blower Blower Propeller
	2E408	10"	300		
	2A408	8 1/4"	300		
	2E408V	8 3/4"	300		
	2E55H	8 1/4"	310		
10 1/2"	2E80	8 1/8"	500	Basic Model Slow Speed Model 22" Rack Width Basic Model	Propeller Blower Blower Blower
	2B610	13 1/4"	550		
	2A610	13 1/4"	800		
	2E610	13 1/4"	800		

MODIFICATIONS OF ABOVE MODELS CAN BE MADE TO 24" OR SPECIAL WIDTH RACKS TO ORDER

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Bogart's experience in the development and production of microwave equipment is your guarantee of precision, economy and performance. Write for facilities brochure today. Our local representative will call on you.



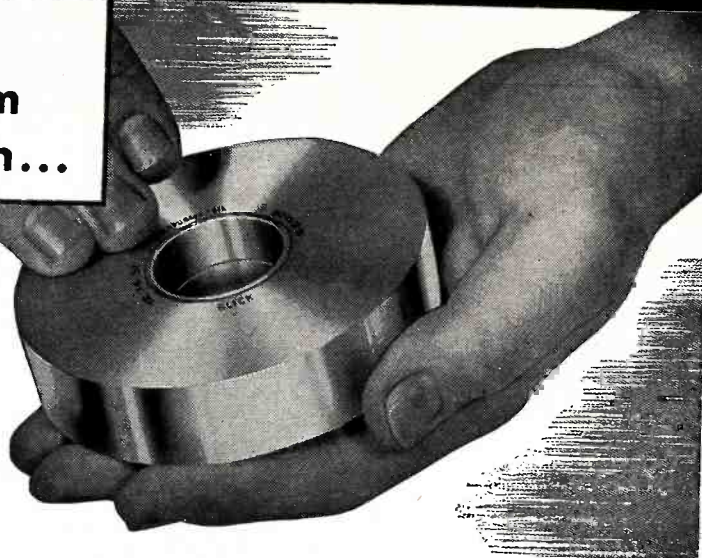
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 serving the electronics industry since 1942

design • development • production

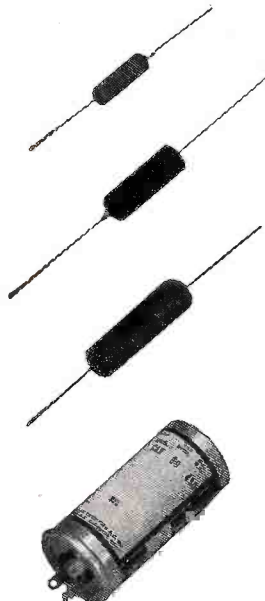
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Gage in Inches	Yield in Sq. In. Per Pound	Gage in Inches	Yield in Sq. In. Per Pound
.00017	60,000	.00080	12,800
.0002	51,000	.00090	11,350
.00023	44,600	.0010	10,250
.00025	41,000	.0015	6,800
.00030	34,000	.0020	5,100
.00035	29,200	.0025	4,100
.00040	25,600	.0030	3,400
.00045	22,700	.0035	2,930
.00050	20,500	.0040	2,550
.00065	15,700	.0050	2,050
.00070	14,600		

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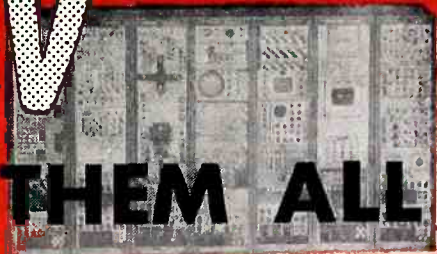
# COLOR TV

**ONLY**

**TELECHROME**  
INCORPORATED

**MAKES**

**THEM ALL**



**COMPLETE FACILITIES FOR TV STATIONS, MANUFACTURERS & LABORATORIES**

Finest color film chains, colorplexing, transmitting, analyzing, monitoring, testing equipment.



**617-BR AUTOMATIC BALANCE CONTROL FOR ALL COLORPLEXERS**

(Regardless of Manufacture)

An ingenious circuit locks the entire encoding equipment in balance within 20 seconds after being turned on. Thereafter balance is held under even the most difficult operating conditions.



**1003-A VIDEO TRANSMISSION TEST SIGNAL GENERATOR**

Portable

Completely self-contained, portable. Produces multi-frequency burst, stairstep, modulated stairstep, white window, composite synch. Regulated power supply. 12 1/4" standard rack mounting or in carrying case.



**700-A 3V COLOR FILM CHAIN**

Finest in quality, lowest in price. 3V provides greatest latitude in selection of color films. Designed specifically for broadcast application, requires little space. Multiplexes 35 or 16mm film, slides, opaques.



**1073-A SINE-SQUARED SQUARE WAVE GENERATOR**

Newest test unit produces new type of wave form for testing any part or all of a TV or pulse system for amplitude and phase characteristics. "Go-No-Go" indication simplicity.



**1601-BK CHROMASCOPE**

New secondary phase standard for accurate reading to .01°

Signal Certification Equipment. Accurately measures the performance alignment, and phase errors of color TV equipment. Presents on a cathode ray screen a continuous polar plot of the phase and amplitudes of all colors in a composite color video signal. Capable of a .005° accuracy with 1604-A2 phase magnifier.

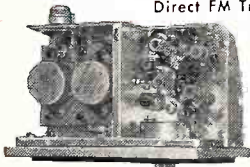


**1604-A2 PHASE MAGNIFIER**

Expanded phase indicator of a signal for measurements of differential phase to .3° or better accuracy of chroma frequencies.

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Direct FM Transmitters Crystal controlled 215-235 megacycles. 125kc deviation.



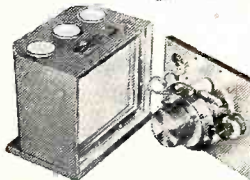
Model 1462  
6" x 4 1/4" x 3 3/4"  
50 to 80 Watts



Model 1463  
5 1/2" x 3 1/8" x 4"  
15 to 30 Watts



Model 1472  
4" x 1.5" x 2.7"  
2 Watts



Model 1460  
5" x 4 3/4" x 3 15/16"  
RF Amplifier  
15 to 30 Watts



Model 800—4.5" x 1.3" x 1.4"

**SUB-CARRIER OSCILLATOR.** Deviation stability  $\pm 1\%$  of band width. Deviation linearity less than 1% of band width under all conditions measured from a straight line drawn between end points.



**636-B CHROMALYZER**

Portable Precision Color Bar Generator for checking color broadcast studio and transmission facilities, receivers and monitors. Can be tied into a system. Provides complete composite color signals at 100 or 75% chroma.



**1603-AR PHASE SLOPE (ENVELOPE DELAY) CURVE TRACER**

Instantaneous scope of meter reading of the envelope delay and amplitude characteristics of any network, video amplifier, or system. Precision-time saving. Has separate transmitter and receiver units which allow one way or loop measurements.

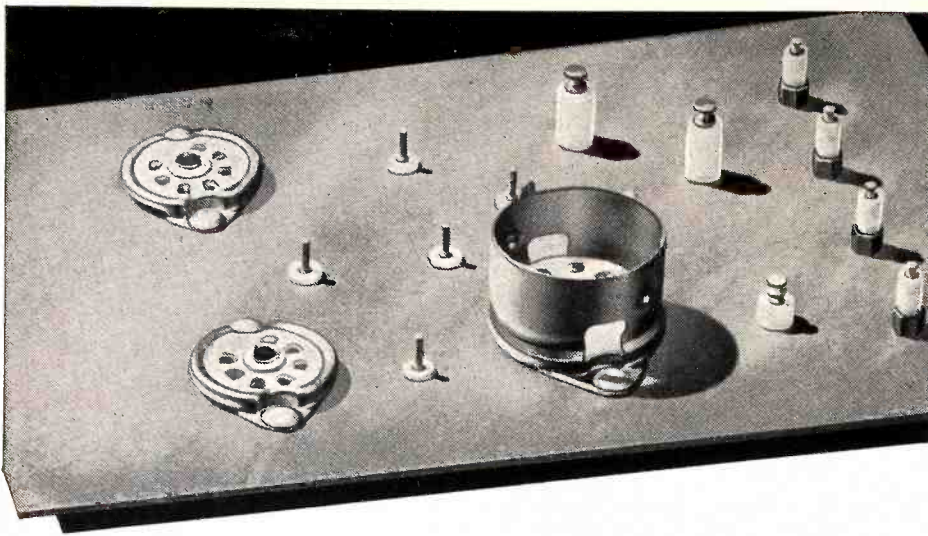
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- ▶ **INSULATORS:** Stand-off and Feed-Through. Compression mounting and metal base types. Color coded.
- ▶ **CONNECTORS:** Multiple-pin and single-pin test-point types. Color coded.
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- ▶ **ELECTRICAL SPAGHETTI:** Color-coded Teflon. Standard and thin wall types. Also surface-treated for adhesion to potting compounds.

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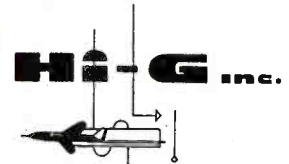
*Fluorocarbon Products Inc.*



**HG-E2**

Sub-miniature . . . hermetically sealed . . . space saving, this HG-E2 relay measures 1" square by 3/8" . . . meets MIL-R-5757C. Designed for operating temperatures up to 125°C. with long-life characteristics at rated contact loads of 2 amps at 28 Vdc or 115 Vac. Coil resistance ranges cf 50 to 10,000 ohms. Hook terminals or straight pins for plug-in and printed circuit applications are standard. Available in Form A, B, or C contact arrangement with maximum of two poles . . . for AC operation with internally mounted silicone rectifiers.

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- Catalog "G"—Barnstead Water Stills
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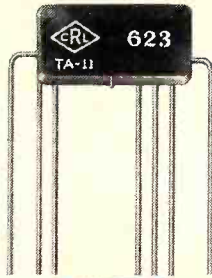
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Single-stage  
transistor-amplifier

Complete high-gain, low-power audio-amplifiers for pocket-size radios and recorders, hearing aids, microphones, test equipment, computers, and other equipment.

Centralab's new, revolutionary 4-stage TA-11 transistor-amplifier is the smallest unit of its kind. It includes 4 special transistors, 5 capacitors, 12 resistors, plus wiring.

Up to 75 db. gain at 1 kc. Input impedance 1000 ohms nominal. Operates from 1.3 v mercury cell or flashlight battery. Frequency characteristics, 250 to 20,000 c.p.s.  $\pm 5$  db., adjustable to special requirements. Capacity up to 1 mf.

Also choice of TA-6 and TA-7 single-stage Transpecs\* to meet other sub-miniature design requirements. \*Trademark.

Write for Bulletin 42-235.



## VARIABLE RESISTORS

1/2-w. standard — For radio, TV. Single, twin, or dual-concentric. 15/16" diam. 250 ohms to 10 meg.

1/10-w. sub-miniature — For hearing aids, communications, computers. 5/8" diam. 500 ohms to 10 meg.

1/4-w. sub-miniature — For instruments and military. 43/64" diam. 10,000 ohms to 1 meg. — linear taper.

Write for Group A bulletins.



Miniature



Radio and TV



Wire-Wound

## ELECTRONIC SWITCHES

Rotary — 15/16" to 1-5/8" diam. Phenolic or Steatite insulation. Single or multiple sections.

Medium-duty power — For transmitter, industrial control, laboratory testing, military, commercial. 2-13/16" diam. 7-1/2 amp. rating at 110 v. 25,000 cycles minimum.

Specialized — Lever, slide, tone, tuner sections, others.

Write for Group B bulletins.



Miniature  
Rotary Switches



Rotary-Action  
Flat Switches



Rotary  
Power Switches



Lever-Action  
Switches



Ham-Type  
Switches

## CERAMIC CAPACITORS

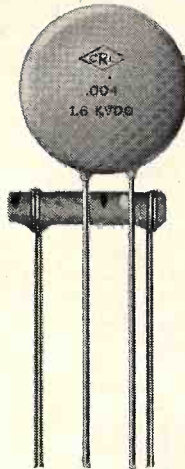
TC-BC — Discs, tubulars. 150 v to 6,000 v.d.c.w. 1 mmf. — 0.1 mf. TC available + 100 to -5250.

High voltage — high accuracy — High-voltage types, up to 30,000 v.d.c.w. High-accuracy types,  $\pm 1\%$  tolerance, 500 v.d.c.w., up to 2,500 mmf.

Trimmer — Tubular or flat. Meet JAN-C-81 specifications. 1 mmf. to 400 mmf., 500 v.d.c.w.

Specialties — Feed-thru, stand-off, button-shape, potted, other capacitors.

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Tubular



Disc



High-Voltage



Trimmer



Specialties

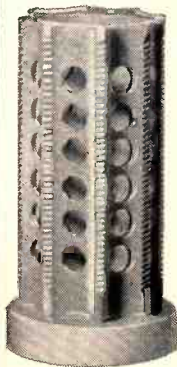
## ENGINEERED CERAMICS

Grade L-5A Steatite . . . High Alumina, 85% and 95% bodies . . . Grade L-2A Cordierite . . .

Grade L-2 Electrical Porcelain . . . Grade L-4A Zircon Porcelain.

High dielectric and compressive strength, high heat resistance. Impervious to common acids. Can be metallized to close tolerances. Used increasingly to replace metals, plastics, low-grade porcelains.

Write for Group E bulletins.



Extruded Parts



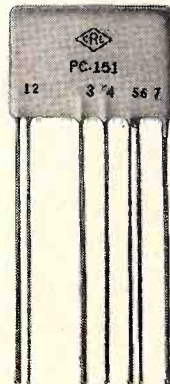
Pressed Parts

## PACKAGED ELECTRONIC CIRCUITS

Complete radio-TV circuits, amplifiers, oscillators, detector networks, resistor networks—including capacitors, resistors, wiring, and inductance manufactured to your specific performance limits.

1/2-w. resistors meet applicable MIL-R-11 specifications. 50 ohms to 50 meg. Capacitors up to .01 mmf.

Write for Group D bulletins.



Complete  
Amplifiers



Radio and  
TV Circuits

# Centralab

A DIVISION OF GLOBE-UNION INC.  
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G-2758

# What's New in Caps \*



## \* PI-CAPS® HIGH VOLTAGE... LOW TOLERANCES

PAS type PI-CAPS are very desirable for high voltage use because of high capacity per volume at high voltage. Heavy wall Pyrex glass serves as insulator, saving space in a very light weight and compact high voltage capacitor. Ideal for AUDIO COUPLING, ARC SUPPRESSION, POWER SUPPLIES, AUDIO BYPASS, ENERGY STORAGE, TV CIRCUITS, COMPUTERS, GEIGER COUNTERS, etc. PAS tolerances can be as low as 1%.



CAM type in standard Type 70 cans. Small size for high voltage applications. Combines high volts per mil rating and a high dielectric constant.

Call on us for all your film capacitor requirements.  
POLYETHYLENE, ACETATE,  
POLYSTYRENE, and MYLAR®  
capacitors.

® DU PONT TRADE MARK



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CONDENSER  
CORPORATION**

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CHICAGO 47, ILLINOIS

KING-MOON COMPANY  
15044 VENTURA BLVD.  
SHERMAN OAKS, CALIF.

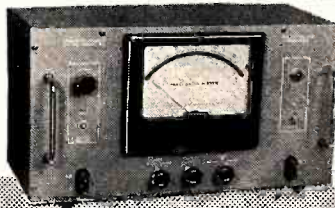
M CLIFFORD AGRESS  
891 FULTON STREET  
VALLEY STREAM, N. Y.

Z. S. MEYERS, 4538 MAIN ST, KANSAS CITY 11, MO.

## PHASE METERS, DELAY LINES COUNTERS by **ADVANCE**



**PHASE MEASURING  
INSTRUMENTS**  
500 MC to .00001 CPS  
Accuracy 0.1°



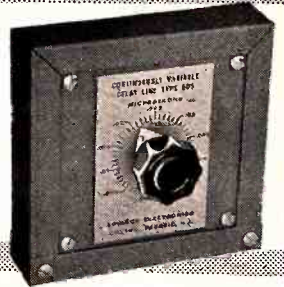
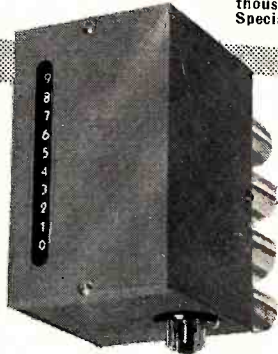
Type 405 Series: Type 405L, from 1 cps to 20 kc; Type 405, from 8 cps to 100 kc; Type 405H, from 8 cps to 500 kc.

Type 205 & 205A: From 100 kc to 15 mc.

Type 202: From 10 cps to 500 mc.

### DELAY LINES — CONTINUOUSLY VARIABLE STEP VARIABLE AND FIXED

Continuously Variable Delay Lines: Resolution time less than 1/2 millimicrosecond. Type 500 Series—delay over 1 microsecond; Type 600 Series—delay over 100 microseconds; Type 800 Series—delay over 1000 microseconds. Step Variable Delay Lines with equal input and output impedance available; total time delay over 25 microseconds, with bandwidth over 10 mc. Fixed Delay Lines with time delay from fractional microsecond to over 1000 microseconds; impedance from 50 ohms up to several thousand ohms. Special Delay Lines to meet JAN specifications.



### COUNTERS

Decimal Counters with counting rate over one million counts per second. Time Interval Counters, Frequency Counters, Phase Angle Counters and Universal Counters; special counters for application in various industries.

Write for complete catalog.



**ADVANCE** Electronics Lab., Inc.  
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## TI-CO WIRE STRIPPER



The TI-CO Wire Stripper completely strips single or multiple leads of fine magnet wire in sizes No. 18 to No. 48; removes all types of insulation, formvar, nyliclad, glass, etc., without damage to wire; exceptionally fast, clean stripping with minimum rejects. Speeds up production; guarded machine, safe for operator. Wire diameter kept to within .0002". Machine compact, portable and relatively quiet; rugged; stands up under steady use; precision ball bearings throughout. General-purpose brushes are of fiberglas. Machine can be adapted to strip any coil form, or to strip wire outside 18-48 range. Efficient built-in vacuum dust collector.

Fiberglas brushes to fit all equipment  
For additional information write or phone:

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PHOENIX, NEW YORK

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PROVIDES MAXIMUM SHIELDING EFFECTIVENESS  
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WITH *Tenney* ENVIRONMENTAL TEST EQUIPMENT . . .  
**you are there**



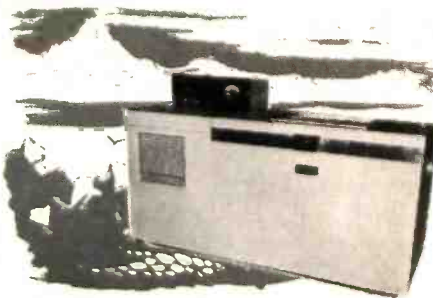
... at altitudes of 100,000 ft.  
 and temperatures of minus 100° F!



... at programmed relative humidity  
 from 20 to 100%!



... at minus 120° F or plus 500° F!



... at minus 150° F!



... in a violent explosion!

Tenney Environmental Test Equipment simulates these and many other climatic conditions. The largest engineering staff in the industry insures advanced-design, performance-proven test chambers to meet the most exacting specifications.

Special counseling service in custom-made installations or for modifying present installations is now available from Tenney Engineering. A separate engineering section has been set up to design and construct "custom" chambers for difficult or unique services and installations.

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Economical  
 Low-Cost  
**TENNEY-MITE Chamber**  
 -40° F, -100° F, -120° F  
 Heat to 240° F (optional)



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DEPT. EB-6

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 Plants: Union, N. J. and Baltimore, Md.

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ENGINEERS AND MANUFACTURERS OF REFRIGERATION AND ENVIRONMENTAL TEST EQUIPMENT

$$I = \frac{E}{\sqrt{R^2 + (\omega L - \frac{1}{\omega C})^2}}$$

# FORMULA for LONG LIFE

THE KEY COMPONENT

$$Z = \sqrt{R^2 + (\omega L - \frac{1}{\omega C})^2}$$

$$f = \frac{1}{2\pi\sqrt{LC}}$$

ACTUAL SIZE

## El-Menco Dur-Mica CAPACITORS

Rugged Endurance up to 18 years!

A series of the toughest trials prove El-Menco Dur-Mica DM15, DM20 and DM30 capacitors outlast all others under accelerated conditions of 1½ times rated voltage at ambient temperature of 125° centigrade. Can be used at higher operating temperatures with slight voltage derating. Longer life and greater stability made possible by specially treated phenolic casing.

7/16 Thick — 1-7/8 Long  
29/32 Hr.



DM 42  
Up to 65,000 mmf  
at 300 WVDC  
Up to 40,000 mmf  
at 500 WVDC

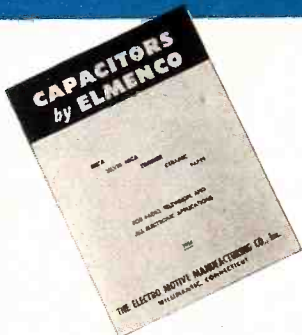


El-Menco Dur-Mica Capacitors meet all humidity, temperature and electronic requirements, including military specifications.

WITH NEW CRIMPED LEADS.



Improved parallel leads for greater rigidity and faster assembly. These parallel leads simplify use on miniature printed circuit boards in television, guided missiles, hearing aids, electronic brains, air conditioning and other government and civilian applications.



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1. LONGER LIFE
2. POTENT POWER
3. SMALLER SIZE
4. EXCELLENT STABILITY — SILVERED MICA
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Take Your Own Word For It by making your own test of El-Menco Capacitors. Write for Free Samples and Catalog.

**El-Menco**  
Capacitors

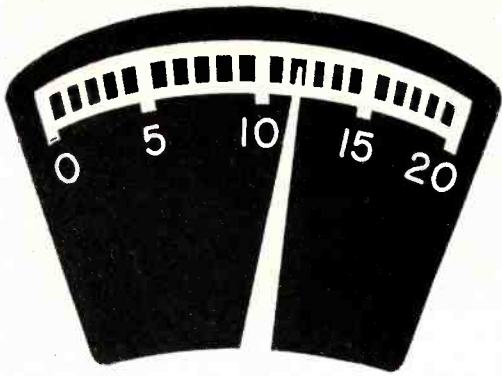
### THE ELECTRO MOTIVE MFG. CO., INC.

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- tubular paper
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For high accuracy in low-torque instruments and mechanisms, the jewel bearings you use must have the lowest possible coefficient of friction. To assure you of built-in accuracy, Bird's sapphire and borosilicate glass precision bearings are manufactured to the most exacting tolerances under the most rigid quality-control methods. Proof of their world-wide acceptance is a well known fact. Bird jewels are being used in the world's most famous electrical, aircraft, and timing instruments; and in all types of recorders and fine indicating apparatus:

Bird jewel precision bearings are used in precision:

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- ▶ WEATHER RECORDERS
- ▶ AMMETERS
- ▶ VOLTMETERS
- ▶ WATTMETERS
- ▶ COMPASSES
- ▶ DIAL GAUGES
- ▶ TIMERS
- ▶ TEST & RECORDING INSTRUMENTS
- ▶ MARINE INSTRUMENTS

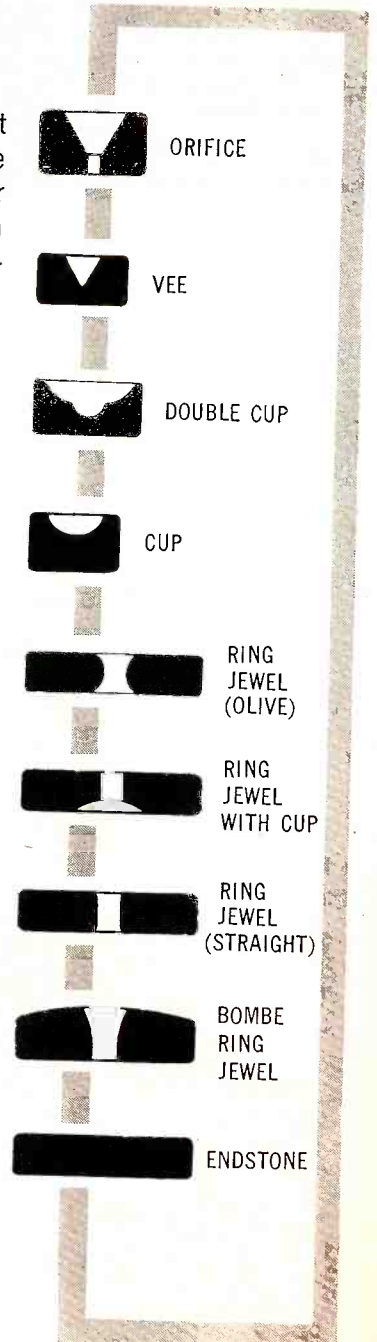
For SHOCK and VIBRATION PROTECTION of movements under the severest conditions, Bird jewel bearings are available with silicon rubber or spring mounts — the 'variable cushioning' design. Special mounting techniques developed by Bird provide assemblies, set-in screws, or bushings of any styles — ready for immediate installations. Actual tests prove that the following low-cost advantages can be incorporated into your product:

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- Mountings of any style.
- Controlled jewel movement.
- Elimination of rejects due to faulty adjustments.

Bird jewel bearings are available in a wide variety of standard sizes, mounted or set in bushing or screw type assemblies. Other designs to customer specifications.

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- UNDERWATER SOUND EQUIPMENT



## Gulton Industries, Inc.

METUCHEN, N. J.

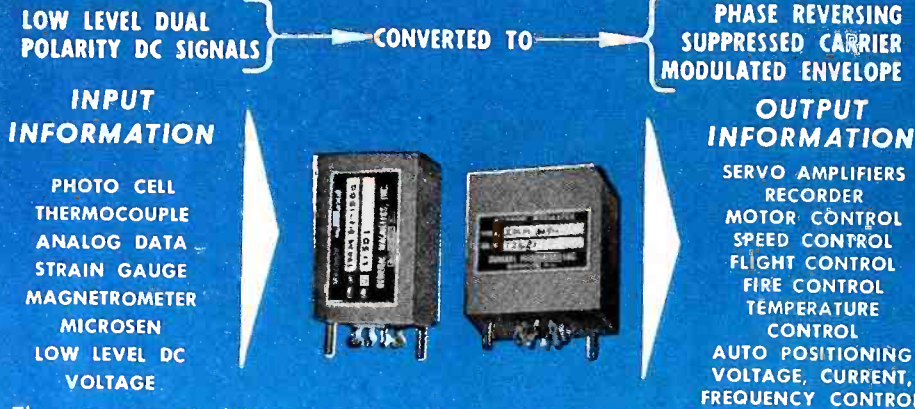
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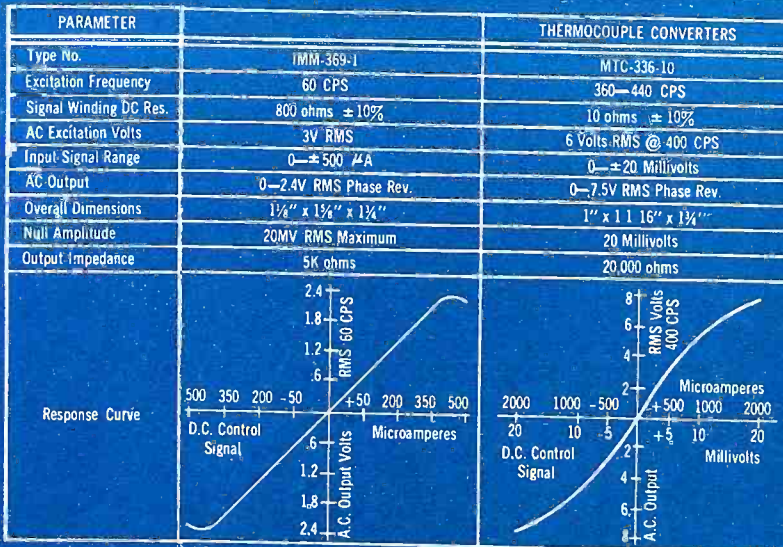
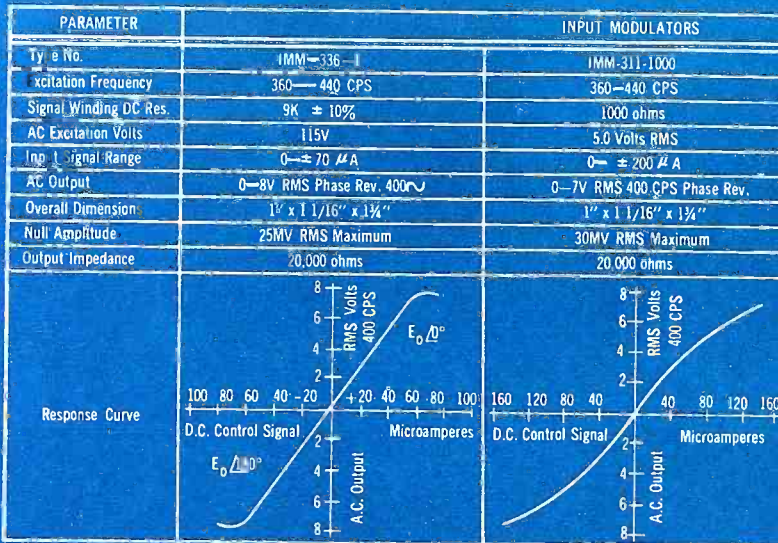


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A Converter With High Shock and Vibration Resistance and Practically Unlimited Life. Operation in Ambient Temperatures From  $-70^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$



The magnetic Modulator is designed to convert low level dual polarity DC signals into AC signals of corresponding amplitude and phase sense. We specialize in control systems and MAGNETIC AMPLIFIER components for automatic flight, fire control, analog computers, guided missiles, nuclear applications, antennas and gun turrets, commercial power amplifiers, and control systems.



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# BRC ELECTRONIC TEST and MEASURING INSTRUMENTS



Q METER TYPE 190-A



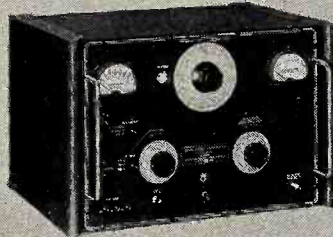
Q METER TYPE 260-A



RX METER TYPE 250-A



SWEEP SIGNAL GENERATOR  
TYPE 240-A



FM-AM SIGNAL GENERATOR  
TYPE 202-E



RF VOLTAGE STANDARD  
TYPE 245-A



UNIVERTER TYPE 207-E



FILM GAUGE TYPE 255-A

## Q METERS

Type	Freq. Range	Q Range	Tuning Capacity Range	Q Accuracy	Price
260-A	50 kc to 50 mc	10 to 625	30-450 mmf	5% to 30 mc	\$775.
190-A	20 mc to 260 mc	5 to 1200	7.5 to 100 mmf	7% to 100 mc	\$760.

## FM-AM SIGNAL GENERATORS

Type	Freq. Range	Output Range	Modulation		Application	Price
			FM	AM		
202-E	54-216 mc	0.1 to 200,000 $\mu$ v	0-240 kc	0-50%	General	\$1090.
202-F	175-250 mc	0.1 to 200,000 $\mu$ v	0-240 kc	0-100%	Telemetry	\$1075.

## SWEEP SIGNAL GENERATOR

Type	Freq. Range	Output Range	Modulation		Markers	Price
			FM	AM		
240-A	4.5 to 120 mc	1.0 to 300,000 $\mu$ v CW 1.0 to 100,000 $\mu$ v	$\pm 1\%$ to $\pm 30\%$ Center Freq.	30%	Crystal & Pip.	\$1585.

## OMNI-RANGE SIGNAL GENERATOR (Crystal Monitored)

Type	Freq. Range	Output Range	Modulation	Application	Price
211-A	88-140 mc	0.1 to 200,000 $\mu$ v	0-100% am	Omni-Range Rcvrs.	\$1800.

## GLIDE SLOPE SIGNAL GENERATOR

Type	Freq. Range	Output Range	Modulation	Application	Price
232-A	329-335 mc	1.0 to 200,000 $\mu$ v	0-100% am	Glide Slope Rcvrs.	\$1700.

## WIDE BAND IMPEDANCE MEASURING EQUIPMENT—RX Meter

Type	Freq. Range	R Range	C Range	L Range	Price
250-A	0.5 to 250 mc	15 to 100,000 ohms	0-20 $\mu$ f	0.001 $\mu$ h-100 mh	\$1320.

## RF VOLTAGE STANDARD

Type	Freq. Range	Calibrated Out.	Output Impedance	Application	Price
245-A	0.1 to 1,000 mc	0.5, 1.0, 2.0 $\mu$ v	50 ohms	Calibrates Signal Generators	\$360.

## UNIVERTERS

Type	Freq. Range	Output Range	Modulation		Accessory to	Price
			FM	AM		
207-E	0.1 to 55 mc	0.1 to 100,000 $\mu$ v	0-240 kc	0-50%	202-E	\$390.
207-F	0.1 to 55 mc	0.1 to 100,000 $\mu$ v	0-240 kc	0-50%	202-F	\$380.
203-B	0.1 to 25 mc	1.0 to 100,000 $\mu$ v	1.5 to 30 mc	30%	240 A	\$380.

## FILM GAUGE

Type	Measures	Thicknesses	Price
255-A	Non-magnetic Metals	0.000004" to 0.0002"	\$450.

### RX METER:

Wide Frequency Band RF Bridge

### Q METERS:

Low, Medium, High and Very High Frequencies

### UNIVERTERS:

Low, Medium and High Frequency Converters

### SIGNAL GENERATORS:

Frequency and Amplitude Modulated for Aircraft Navigation, Mobile and TV Receivers, Precision broad band sweeps with markers

### SIGNAL GENERATOR

### CALIBRATORS:

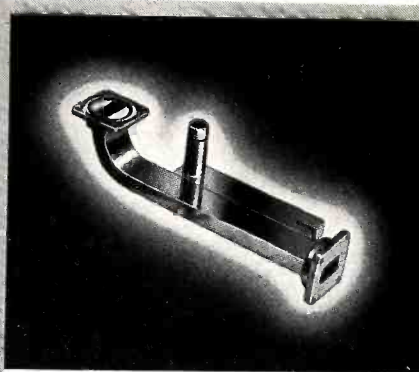
RF Voltage Standard in the low microvolt range over a wide frequency range

### FILM GAUGE:

Measures metal film and plating thicknesses



Boonton, New Jersey



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- Attenuators and terminations
- Crystal mounts and mixers
- Filters
- Directional couplers
- Power dividers
- Adjustable shorts
- Dummy loads and antennas
- Wavemeters

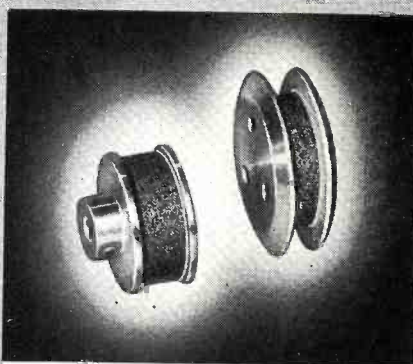
### UNIWAVE'S SPECIALIZED FACILITIES

UNIWAVE has engineering and manufacturing facilities particularly suited to the production of special microwave and coaxial components. In both personnel and equipment UNIWAVE is attuned to the precision and consistent quality requirements of these components.

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- With or without precision ball bearings.
- For all widths of tape, paper and wire.
- Finishes ranging from polished chrome to beautiful anodized colors.
- Will meet government and commercial inspection standards.

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Valuable tape recordings safely stored to remain clear and distinct, avoiding crackling and other distortions. Shielding strength continues undiminished indefinitely without periodic renewal or other servicing because Fernetec Co-Netic does not retain residual magnetism. Shielding qualities cannot be lessened by shock, vibration or other disturbances during handling or usage. Sturdy containers available in many convenient round or rectangular shapes.

Protect master tapes which run automatic machinery, guided missile flight recordings, radio & TV commercial and program tapes, hi fi and historical tapes, delicate instruments during transport, etc. Write today for details.

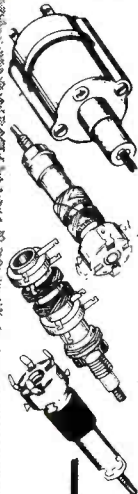
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Where specifications are not supplied, take advantage of North Hills' efficient and courteous design service.

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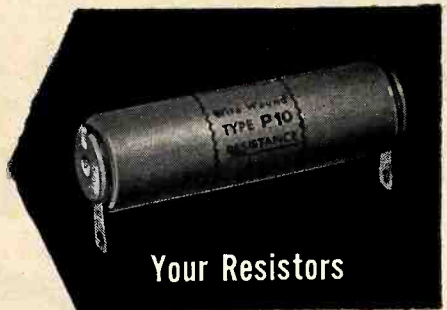
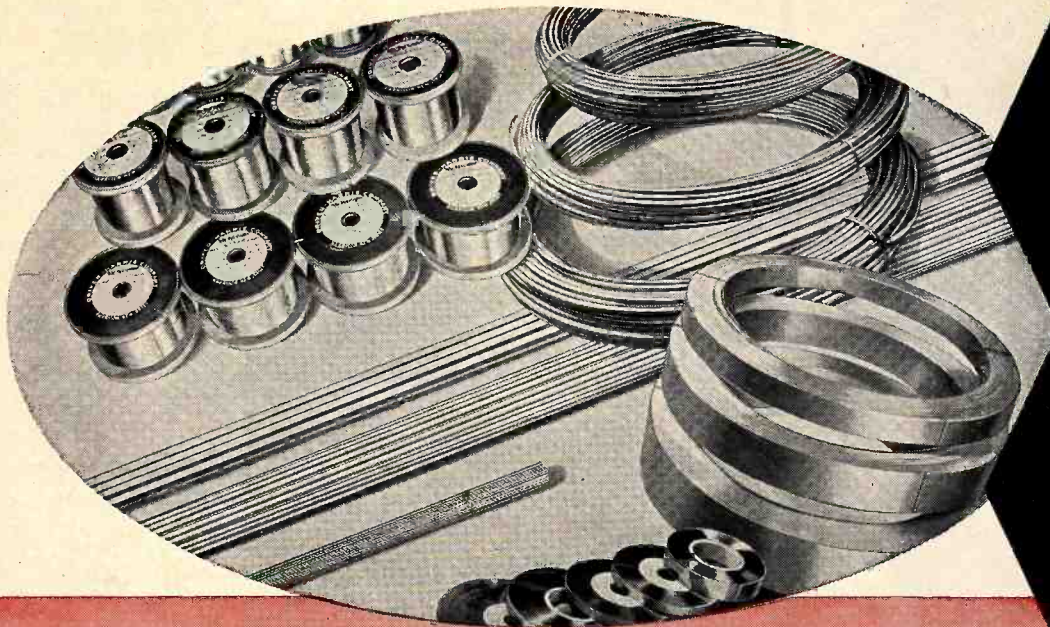
Direct Mail is a necessary supplement to a well rounded Business Paper advertising program.

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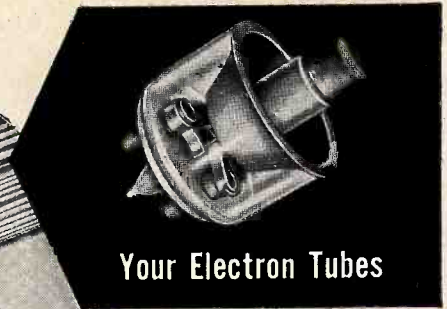
600,000 of the top buying influences in the fields covered by the McGraw-Hill publications make up our 150 mailing lists. Pick YOUR prospects out of our Industrial Direct Mail catalogue.

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# These DRIVER-HARRIS alloys do most to improve the quality of



Your Resistors



Your Electron Tubes



Your Glass-to-metal Seals

## DRIVER-HARRIS RESISTANCE WIRE ALLOYS

**NICHROME\* V** (Nickel-Chrome) Essential for resistor elements in the higher temperature applications such as electric furnaces, electric ranges, radiant heaters, etc.

**KARMA\*** (Nickel-Chrome-Aluminum-Iron) Permits the manufacture of miniaturized wire wound precision resistors of best temperature coefficient of resistance at low cost per ohm; also resistance standards.

**NICHROME\*** (Nickel-Chrome-Iron) The internationally accepted material for heating devices operating up to 1700°; also industrial applications for rheostats and resistance units.

**CHROMAX\*** (Nickel-Chrome-Iron) A lower cost alloy for electrical heating under conditions less critical than those satisfied by Nichrome.

**ADVANCE\*** (Copper-Nickel Series including MIDOHM\*, 95 ALLOY, LOHM\*, 30 ALLOY) Possess a number of properties which make them useful for winding heavy duty industrial rheostats, precision resistors, thermocouples, and thermocouple leads. Specific resistance range of this series is from 294 to 30 ohms/cm.

**MANGANIN** (Manganese Copper) Most stable resistance wire known at ambient temperature. Indispensable

for resistors used in many types of precision direct current apparatus such as Wheatstone Bridges, National Bureau of Standards type resistance standards, etc.

**HYTEMCO\*** (Nickel-Iron) Combines high temperature coefficient of resistance with high specific resistance; ideal for winding compensating or ballast resistors.

## DRIVER-HARRIS GLASS SEALING ALLOYS

**THERLO\*** (Nickel-Cobalt-Iron). For sealing glasses such as Corning 7052 and 7040.

**142 ALLOY** (Nickel-Iron). For sealing glasses such as Corning 776, also 8160.

**152 ALLOY** Contains 50% nickel. It provides a slightly higher coefficient of expansion than 142 Alloy and seals successfully with 0120 glass.

**146 ALLOY** Contains 46% nickel. It offers special expansion properties, permits seals with ceramic coated resistors.

## DRIVER-HARRIS ELECTRON TUBE ALLOYS

The Driver-Harris Company, since the inception of radio, has been making alloys for this field, supplying the industry with alloys for support wires, plates, grids, cathodes, and lead-throughs.

All Alloys are available in:

**WIRE**  
(Sizes as fine as .0005" dia.)

**ROD  
RIBBON  
STRIP**  
(Foil as thin as .00045" dia.)

Insulations:

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COTTON  
SILK  
NYLON  
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Every Driver-Harris alloy is made to the most precise metallurgical checks and controls known to the industry. And each of these highly specialized alloys is custom-made . . . produced exactly to the specifications of our customers.

Send us your specifications. If your needs are in any way unusual, and cannot be met by one of our current 132 alloys, our engineers will be happy to start tomorrow to devise a new one, custom-made for you. Just tell us exactly what you wish to accomplish.

\*T.M. Reg. U.S. Pat. Off.



# Driver-Harris\* Company

HARRISON, NEW JERSEY

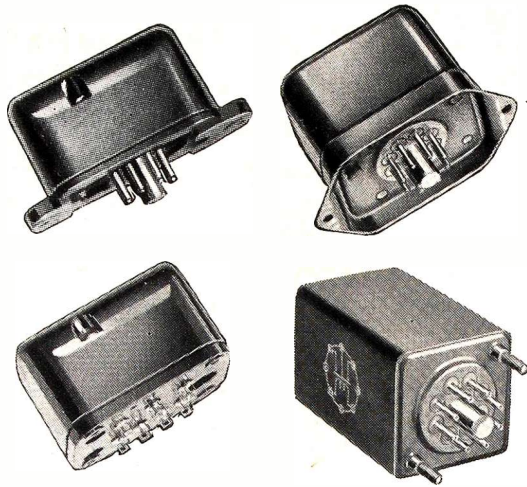
BRANCHES: Chicago, Detroit, Cleveland, Louisville

Distributor: ANGUS-CAMPBELL, INC., Los Angeles, San Francisco • In Canada: The B. GREENING WIRE COMPANY, Ltd., Hamilton, Ontario

MAKERS OF THE MOST COMPLETE LINE OF ALLOYS FOR THE ELECTRICAL, ELECTRONIC, AND HEAT-TREATING INDUSTRIES

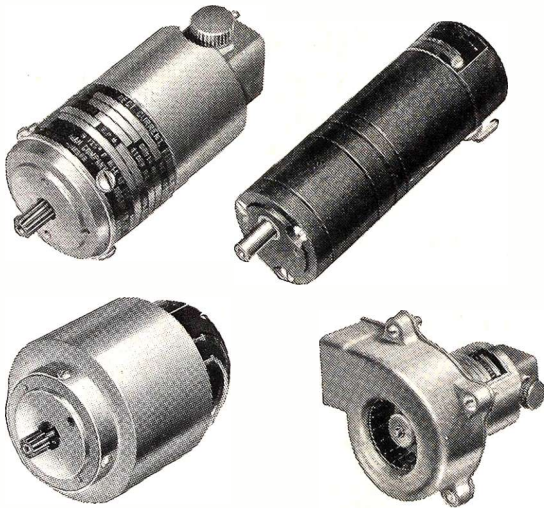


# Ultra-Sensitive Relays, D-C Motors...A-C Motors



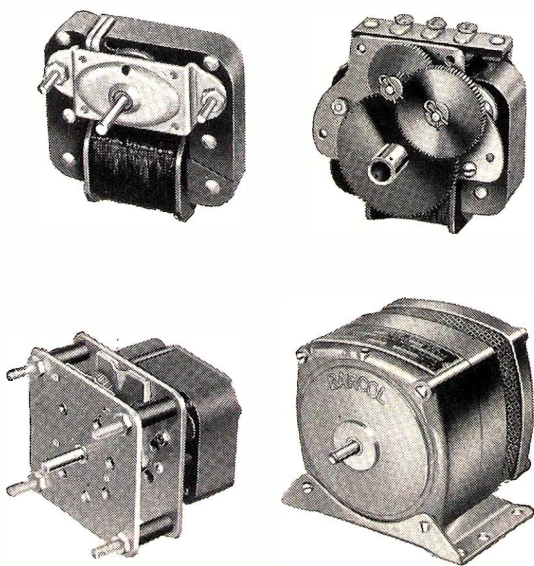
## polarized ultra-sensitive relays

Operating on input powers of 40 to 1000 microwatts, the Barber-Colman Micropositioner, a polarized d-c relay, is ideal for use as a differential relay in electronic plate circuits, a null detector in resistance bridge circuits, and an amplifier in photo-electric circuits. Can be operated in excess of 100 cps. This ultra-sensitive relay is widely used in many control applications — in nucleonics, communications, instrumentation, process control, railway signal transmission, and aircraft control and remote positioning. Various types: Octal plug-in; solder lug; hermetically sealed; screw terminal.



## compact, powerful d-c motors...up to 1/10 hp.

Looking for a d-c fractional hp motor of unusually high quality, high dependability? Specify Barber-Colman, the *versatile* line of small motors in both permanent magnet and split series types . . . in various mountings and speeds, and outputs up to 1/10 hp. Ideally suited to power electro-mechanical actuators, switches, blowers, and programming devices. Also excellent for use as tachometer generators. Barber-Colman small d-c motors are also available with lightweight radio noise filters to meet radio interference requirements of USAF. Whatever your problem involving d-c motors, consult Barber-Colman Company for an expert solution.



## high torque shaded pole a-c motors . . . up to 1/20 hp.

Barber-Colman shaded pole induction motors are available in unidirectional, reversible, and synchronous types up to 1/20 horsepower with or without reduction gearing. Unidirectional motors are designed for long life and dependable service driving cooling fans and blowers for electronic equipment and powering office machines and other industrial equipment. Reversible motors are ideal for follow-up and positioning mechanisms and are easily adapted for control by electronic circuits. Synchronous motors combine accurate timing and high torque with small dimensions and light weight. Geared-head motors are available with hundreds of reductions, open or enclosed, to fit a wide range of applications. Barber-Colman engineers will be glad to help select the right motor for your application.

**BARBER-COLMAN COMPANY**

DEPT. R, 1659 ROCK STREET ROCKFORD, ILLINOIS



# ILLINOIS CAPACITORS

KNOWN THE WORLD OVER FOR

## Time Tested Quality

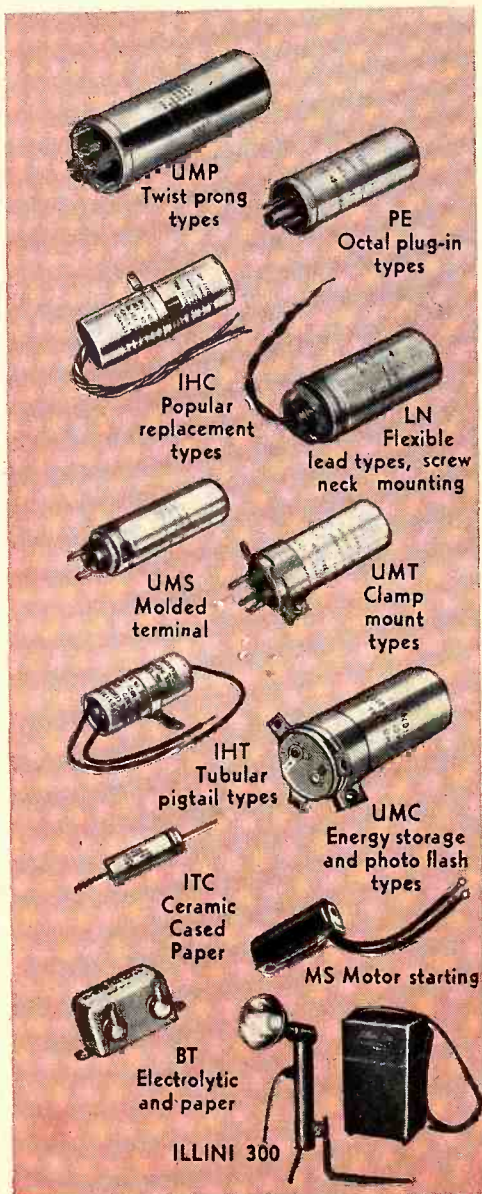
For over 20 years ILLINOIS CONDENSER COMPANY has been foremost in the development of ever greater dependability and longer life in all types of capacitors. Listed below are only a few of the more popular — and most recently developed ILLINOIS types.

**NEW!**

### TYPE SMT SUB-MINIATURE ELECTROLYTICS



Newly developed sub-miniature electrolytics with hermetic seals. Especially designed for printed circuits, portable equipment, transistor equipment and any application where size and weight must be kept at an absolute minimum. Capacity ranges from .5 to 100 MFD and from 3 to 50 WVDC.



#### TYPE UMP

Standardized twist-prong type. Patented molded terminal construction for efficient, stable operation under extreme temperature ranges. Capacity ranges from 10 to 3,000 MFD and from 6 to 525 WVDC.

#### TYPE PE

Hermetically sealed plug-in octal base type. Especially useful in fixed or mobile communications equipment. Operating temperature range -40°C to +85°C. Available in wide ranges of capacities and voltages.

#### TYPE IHC

Popular multiple section types with flexible leads, insulating sleeves and mounting straps. Equally adaptable for original equipment or replacement purposes. Available in capacities from 10 to 250 MFD at 25 to 500 WVDC.

#### TYPE LN

Extruded aluminum can type with screw neck mounting and flexible leads. Capacity ranges from 8 to 80 MFD and from 450 to 600 WVDC.

#### TYPE UMS

Hermetically sealed inverted can type with screw neck mounting and molded-in terminals. Wide ranges of capacities and voltage ratings. Meets all government specs.

#### TYPE UMT

Inverted can type with clamp mounting. Hermetically sealed, shock resistant with new molded terminal construction. Ideal for use in highest quality equipment. Meets all government specs. Wide capacity and voltage ranges.

#### TYPE IHT

Popular tubular aluminum can, pigtail type electrolytic. Internal riveted construction. In capacity ranges of 1 to 2,000 MFD and from 6 to 600 WVDC. Also available with solder lug terminals. Supplied with insulating sleeves.

#### TYPE UMC

Low leakage-high capacity electrolytic for power filter packs, voltage stabilization, energy storage and photo flash. Capacity ranges up to 10,000 MFD to 50 V. and 1000 MFD at 450 V.

#### TYPES IMT and SMT

Newly developed "miniature" and sub-miniature electrolytics with hermetic seals. Especially designed for printed circuits, portable equipment, transistor equipment and any application where size and weight must be kept at an absolute minimum. Capacity ranges from .5 to 100 MFD and from 3 to 50 WVDC. Ceramic case and aluminum case types.

#### TYPE MS

Motor starting capacitors available in bakelite and aluminum cases. Long wire leads with terminals. Capacities to 5,000 MFD at 115, 220 and 320 VAC.

#### TYPE BT

Hermetically sealed bathtub type especially designed to withstand vibration and shock. Available in electrolytic and paper capacitor types for government and commercial use.

#### ILLINI 300 ELECTRONIC FLASH KIT

A new high intensity, low voltage electronic photoflash kit featuring latest advances in tube, capacitor and reflector design. 100 watt second output. Uses standard type batteries. Easily assembled, rugged, reliable and economical to operate. AC Power Pack also available.

ILLINOIS, THE CAPACITOR LINE OF TIME TESTED QUALITY

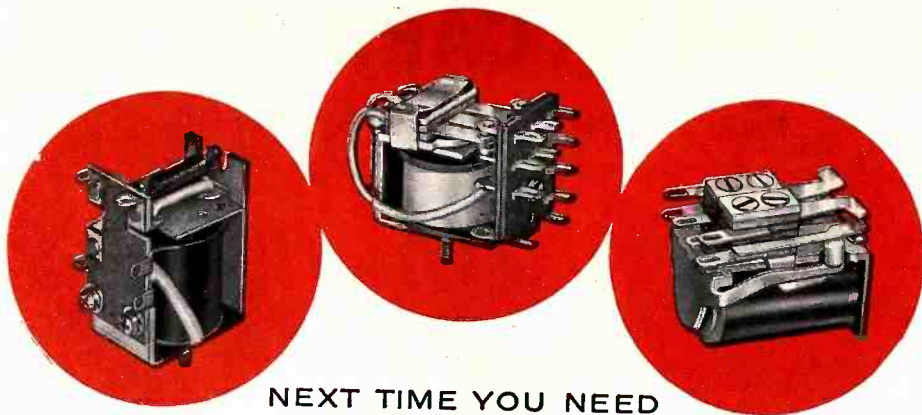
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1616 N. THROOP ST. • CHICAGO 22, ILLINOIS

Export Dept., 15 Moore St., New York 4, N.Y. Cable "MINTHORNE"



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You'll be glad you did.



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From the best equipped Radio Interference Laboratories in the world—staffed with the most experienced Radio Interference Engineers, tomorrow's electric and electronic components and systems are made "Radio Interference Free" today.

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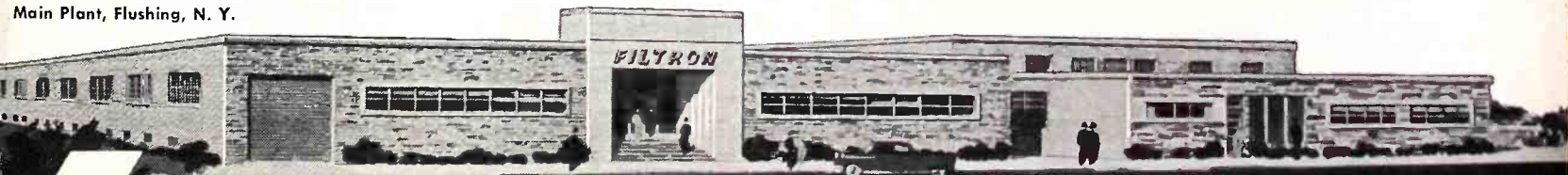
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8 Sky Sweeper Self-Aiming Anti-Aircraft Gun

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**FILTRON CO., INC., FLUSHING, LONG ISLAND, NEW YORK  
PLANTS IN FLUSHING, NEW YORK, AND LOS ANGELES, CALIFORNIA**



Sarkes  
Tarzian

# SILICON and SELENIUM Rectifiers

Sarkes Tarzian area type silicon rectifiers are made by a special process that provides optimum forward to reverse ratios and long useful life. Current ratings for half wave application range from 500 milliamperes dc to 15 amperes dc and voltage ratings per unit range from 50 to 400 volts peak inverse. Small size coupled with high efficiency and allowable high ambient temperatures make silicon rectifiers the practical component for most applications that require dc power. Our staff of competent power conversion engineers is ready to consider your application for prompt recommendations. Write, wire or phone.

**Type M** silicon rectifiers are rated at 500 milliamperes dc with peak inverse voltage ratings of 100 to 400 volts. Connection is made by means of end ferrules that fit standard fuse clips. Low cost holders are available.

**Type N**—Four basic terminal arrangements are available in the N series of silicon rectifiers. (1) Axial leads, (2) Axial stud and lead, (3) Axial stud and lug, (4) Axial studs. The convection cooled current rating is 500 milliamperes and the conduction cooled rating is 1 ampere provided an adequate heat sink is used. Voltage ratings range from 50 to 400 volts peak inverse.

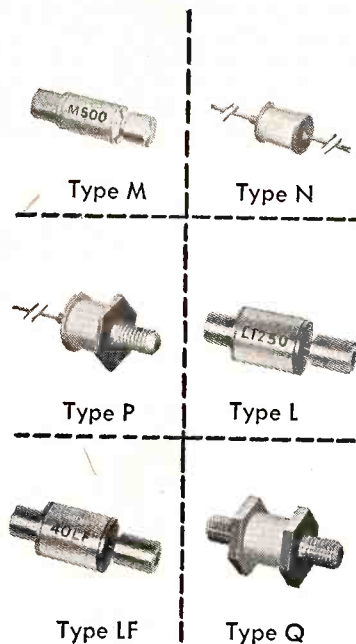
**Type P**—The P series of silicon rectifiers includes the same end terminal designs as the N series. The dc current ratings, however, are 1.5 amperes with convection cooling and 5 amperes when a heat sink is used. Voltage ratings range from 50 to 400 volts peak inverse.

**Type L** silicon rectifiers are rated at 1.5 amps in half wave circuits with peak inverse voltage ratings of 100 to 400 volts. Mounting is by means of ferrules that fit standard fuse clips. Low cost holders are available.

Write for complete information

**Type LF**—Use of a special heat sink arrangement and hardware allows a current rating of 5 amperes dc from the Type L rectifier. Precautions must be taken, however, to provide adequate cooling area to limit case temperature. Voltage ratings range from 100 to 400 volts peak inverse.

**Type Q**—The Q series of rectifiers is provided with axial studs only, however, it is possible to attach special end terminals. The current rating is 7.5 amperes in convection cooled applications and 15 amperes when a heat sink is used. Peak inverse voltage ratings range from 50 to 300 volts.



SILICON

## A Rectifier for Every Application

A wide selection of Selenium Rectifier designs is offered to the design engineer by the Sarkes Tarzian line. It is possible to provide ratings of a few milliamperes to thousands of amperes and from a few volts to thousands of volts by using series, parallel and series-parallel arrangements. Whatever your power conversion problem write for specific recommendations for your application.

**Standard and High Temperature**—Sarkes Tarzian standard and high temperature selenium rectifiers offer the design engineer a variety of combinations. The standard line includes fourteen basic cell sizes and the high temperature line includes nine cell sizes. Maximum permissible cell temperature on high temperature types is 150°C.

**Radio-Television Types**—Radio and Television type selenium rectifiers are mass produced under tight quality control standards. The resultant good availability, good quality and low price have made these types popular in a variety of electronic equipments.

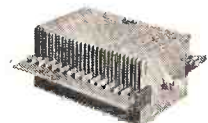
**Embedments**—Embedments provide a small unit at relatively low cost when extreme environmental or shock conditions are anticipated. Six basic cell sizes are available to assemble various combinations.

**High Voltage**—Series stacking of cells in glass or phenolic enclosures increases voltage ratings and half wave units are available with ratings as high as 7500 volts peak inverse with current ratings as high as 25 milliamperes. Axial leads or ferrules are available for connection.

Remember—whatever your problem on power conversion,  
let Sarkes Tarzian applications engineers provide you with the practical answer.

Send for your copies of the Selenium and Silicon rectifier handbooks.

Standard  
and High  
Temperature



Radio-  
Television

Embedments



High  
Voltage

SELENIUM

**Sarkes Tarzian, Inc. RECTIFIER DIVISION**  
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4.3 lbs - 500 Units

$\$76.57 \text{ Cost}$   
 $\frac{4.3 \text{ lbs}}{3.30} = 13.03$   
 $13.03 \times 4.3 \text{ lbs} = 56.03$

$\$3.30$   
 $\frac{3.30}{2.83} = 1.166$   
 $1.166 \times 4.3 \text{ lbs} = 5.01$

$\$2.83$   
 $\frac{2.83}{3.30} = 0.857$   
 $0.857 \times 4.3 \text{ lbs} = 3.68$

$\$3.30 - \$2.83 = \$0.47$   
 $\frac{\$0.47}{\$3.30} = 14.24\% \text{ less}$

$\$78.57$   
 $\frac{3.6 \text{ lb}}{4.7142} = 0.763$   
 $0.763 \times 2.83 = 2.159$   
 $2.159 \times 2.83 = 6.11$

**Just no other way  
to figure it —  
KESTER SOLDER  
costs less  
to use!**

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Installed World-Wide for  
Greater Wiring Dependability

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PLASTICOTE INSULATION

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Plasticote Multiple  
Conductor Cable —  
multiple conductors  
(No. 16 AWG to No.  
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tinned, solid or  
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copper are available.

Plasticote Miniature Wire and Cable —  
single or multiple conductors bare or  
tinned, solid or stranded copper with  
thin wall Plasticote insulation.



Plasticote Hook-up Wire — made to con-  
form to the requirements of Specification  
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stranded constructions.



Plasticote Coaxial Cable—(RG/U) to con-  
form to JAN-C-17A and MIL-C-17B re-  
quirements are available. Special designs of  
coaxial cable transmission lines available.



Plasticote Intercom Cable — multiple con-  
ductors bare or tinned, solid or stranded  
annealed copper with tinned copper shield  
and Plasticote jacket.



### Easier Working... Super Durable!

Chester Plasticote is the rugged insulation that adds years to wiring life. Super-durable, Plasticote also offers the smooth pliable qualities that make Chester conductors easier to work with. Specifying Plasticote means you raise wiring quality at the same time you increase wiring production! Call or write for wire samples and bulletins.

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*A Subsidiary of Miami Copper Company*

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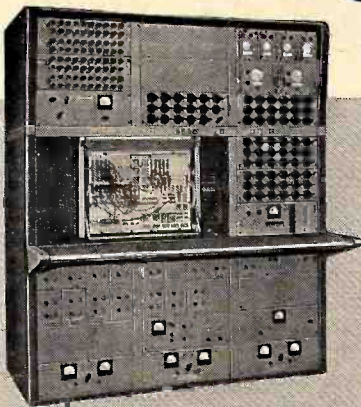
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# electronics BUYERS' GUIDE

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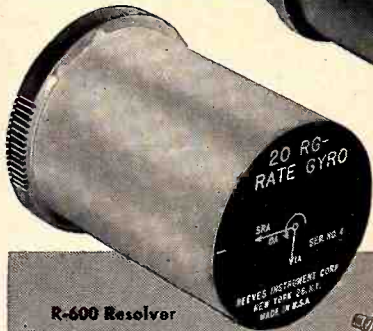
### New REAC 400 Series

- Building-block construction
- "Problem check" verification of solutions
- High Speed Servos
- Patchbay switching
- Simplified operation and maintenance

### REAC® analog computers

This "400" is the newest model of the famous REAC (Reeves Electronic Analog Computer). The new modular construction allows assembly of exactly the computer necessary to do a particular job or expand an existing installation. Problem check, a new Reeves development, permits verification of problem solutions before problem is run. New high speed servos and improved components facilitate high speed real time operation.

20 IG Integrating Gyro  
Extremely low drift rate, high sensitivity



20 R.G. Rate Gyro  
Small size. Fully floated construction.

### precision GYROS

Single-degree-of-freedom, viscous damped. Features fully floated construction that reduces friction, yet provides extreme resistance to shock. Small size, high precision. Ideal for airborne or shipborne equipment for space stabilization, rate tracking control, or rate measurement.

R-600 Resolver  
functional accuracy better than 0.05%.



R-150 Resolver  
miniature version of R-600.



### precision RESOLVERS

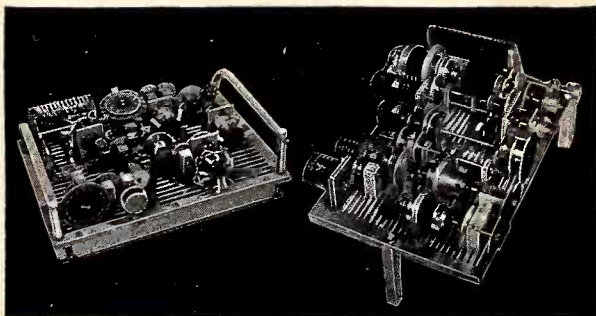
The highest precision resolvers commercially available. Small size makes them ideal for use as computing element in military and precision industrial electronic systems. Special wide band units are available for irregular wave shapes having rise times as low as one micro second. Units are built directly to required accuracy without selection or culling.



Series SR 6066

### MAGNETIC CLUTCHES

High quality magnetic clutches for all control applications. Single and double-ended models, as well as combination that provides effective SPDT action. Standard and Miniature models, with or without crown tooth construction. Quick acting, high torque.



### SERVO mechanical parts

standard (1/4" shaft) and miniature (1/8" shaft) sizes  
Shaft hangers, shafts, precision gears, differentials, couplings, terminal blocks, limit stops, dial assemblies, etc. Easy mounting on convenient slotted plate. Changes easily made, parts re-usable. Tremendous time-saver in prototype work on servo and instrumentation systems.

Reeves Sub-contract Service: Our facilities are available to you for help on computing systems, gun fire control, and precision electronic systems of any kind. For complete information, contact Reeves Sub-contract Department.

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having your ups and downs?



# DALOHM has the answer!

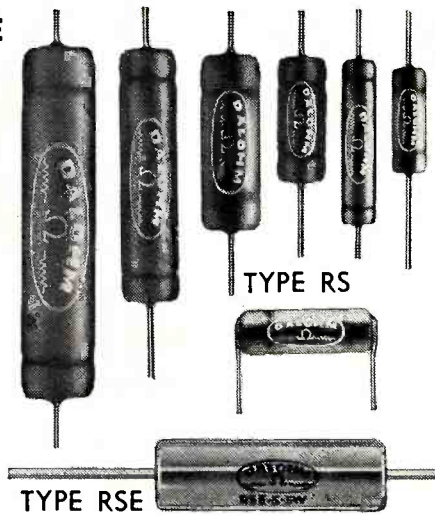
You can depend on  WIRE WOUND RESISTORS

Carefully designed, precision made to meet all space problems and for all applications where equipment must meet the most severe environmental, shock, vibration, and humidity conditions. Smallest in size; completely coated with special silicone material; welded from terminal to terminal; impervious to moisture, salt ions, vapor gases.

## TYPES RS, RLS, RSE

Five wattage ranges—2,3,5,7 and 10, six sizes; resistance range from .05 ohm to 175K ohms depending on type; tolerance range .05% to 3%. Type RS with axial leads; Type RLS with radial leads; Type RSE housed in metal tubing for tremendous shock and vibration resistance.

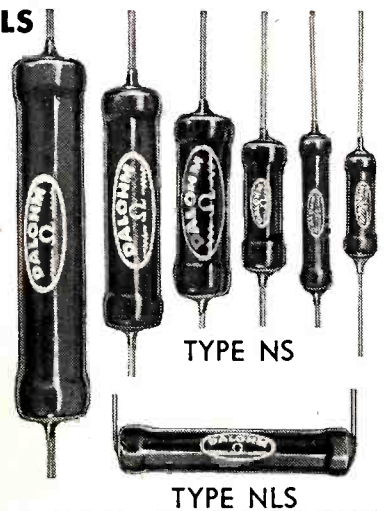
Write for Bulletins R-23B, R-30B, R-25B



## TYPES NS, NLS

Newly conceived NON-INDUCTIVE resistors. Five wattage ranges—2,3,5,7, and 10, six sizes; resistance range from 2 to 37K ohms; tolerance from .05% to 3%. Type NS with axial leads; Type NLS with radial leads.

Write for Bulletin R-34A



## TYPE RH

Die-cast, black anodized radiator finned housing. Lugs provided for horizontal mounting. Three wattage ranges—25,50,250; resistance range 0.1 to 100K ohms. Tolerance .05% to 3%.

Write for Bulletin R-21D



## TYPE PH

New ruggedized Powerhouse resistor for vertical panel mounting. Black anodized finned aluminum housing. Two wattages 25 and 100; resistance range from 0.1 to 60K ohms; tolerance .05% to 3%.



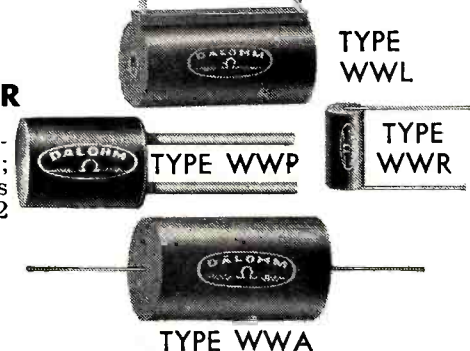
## SPECIAL PROBLEMS?

Just ask us; we'll help you find the solution.

## TYPES WWL, WWA, WWP, WWR

Encapsulated for hermetic sealing; non-inductive pi wound; powered at .1 watt to 2 watts; resistance range 0.1 ohm to 5 megohms; sizes from sub-miniature 1/8 by 3/8 inch to 1/2 by 2 inches; .05% to 3% tolerances.

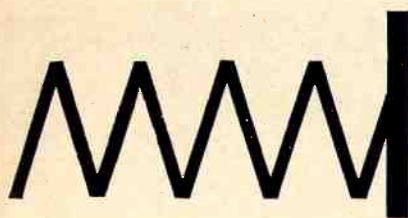
Write for Bulletin R-26B



# DALE PRODUCTS, INC.

1316 28th Ave., Columbus, Nebraska, U.S.A.

EXPORT DEPT.  
Pan-Mar Corp.  
1270 Broadway, New York 1, N. Y.



if your ups and downs involve  
DEPOSITED CARBON RESISTORS...

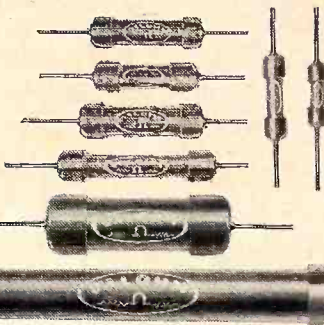
# DALOHM has the answer!

Assure accurate, dependable performance. Precision resistance values, low voltage coefficient, low capacitive and inductive characteristics in high frequency applications, extremely high stability and economy.

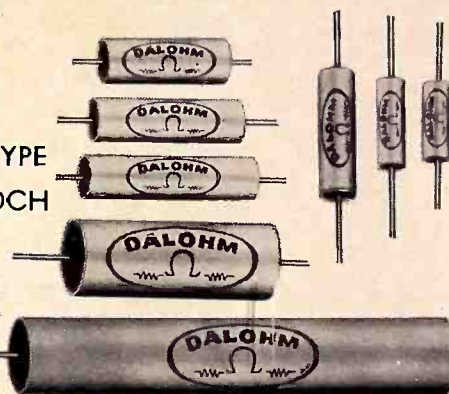
## TYPES DC, DCH

Resistance range from 10 ohms to 50 megohms; tolerance 1% or higher as specified. Type DCH hermetically sealed in non-hydroscopic ceramic envelope. Five wattages— $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ , 1 and 2; eight sizes.

TYPE DC



TYPE DCH



Write for Bulletins R-24C, R-27C

## TYPE DC-5

For high voltage and/or high resistance applications; powered at 5 watts; high voltage up to 20,000 VDC; resistance range 1 megohm to 200 megohms; tolerance 1%.

Write for Bulletin R-28



## POTENTIOMETERS

### TYPE A10-W TRIMMER

High temperature—humidity proof—ruggedized—wire wound—designed to provide highest performance under ever-increasing MIL SPEC requirements. Powered at .8 watt; resistance range 10 ohms to 100K ohms; tolerance 5% standard.

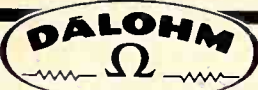
Write for Bulletin R-32C



### TYPE DP-12

Hermetically sealed, moisture proof for critical electronic circuitry, Military Type RA-30 built to surpass JAN-R-19.

Write for Bulletin R-31



## Collet-Fitting EQUIPMENT KNOBS

Precision made Dalohm knobs, incorporating an exclusive collet-fitting design, permit positive locking on the shaft without any of the damaging effects found in other knob securing methods.

### TYPE K INDUSTRIAL KNOBS

For hard use at high/low temperatures; precision cast of thermo setting plastic; five sizes— $\frac{5}{8}$ ", 1-1/16", 1 3/4", 2 1/4", 3". Collets interchangeable for shafts  $\frac{1}{8}$ " to  $\frac{3}{8}$ ". Standard pointers, escutcheons and indicators available.

Write for Bulletin K-29



### TYPE MS Military Style KNOBS

in accordance with MIL-K-25049

The ultimate in airborne and other military knob applications. Made of tough, durable, fungus-proof thermoplastic; metal parts corrosion resistant. Complete selection of skirts as required by MIL Specs.

Write for Bulletin K-35A

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PRODUCTS, INC.**

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Columbus, Nebraska, U.S.A.

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1270 Broadway, New York 1, N. Y.

You can depend on



# FREQUENCY STANDARDS

## PRECISION FORK UNIT TYPE 50



Size 1" dia. x 3 3/4" H.\* Wght., 4 oz.

Frequencies: 240 to 1000 cycles

Accuracies:—

Type 50 ( $\pm 0.02\%$  at  $-65^{\circ}$  to  $85^{\circ}\text{C}$ )

Type R50 ( $\pm 0.002\%$  at  $15^{\circ}$  to  $35^{\circ}\text{C}$ )

Double triode and 5 pigtail parts required

Input, Tube heater voltage and B voltage

Output, approx. 5V into 200,000 ohms

\*3 1/8" high  
400 - 1000 cy.

## FREQUENCY STANDARD TYPE 50L



Size 3 3/4" x 4 1/2" x 5 1/2" High

Weight, 2 lbs.

Frequencies: 50, 60, 75 or 100 cycles

Accuracies:—

Type 50L ( $\pm 0.02\%$  at  $-65^{\circ}$  to  $85^{\circ}\text{C}$ )

Type R50L ( $\pm 0.002\%$  at  $15^{\circ}$  to  $35^{\circ}\text{C}$ )

Output, 3V into 200,000 ohms

Input, 150 to 300V, B (6V at .6 amps.)

## PRECISION FORK UNIT TYPE 2003



Size 1 1/2" dia. x 4 1/2" H.\* Wght. 8 oz.

Frequencies: 200 to 4000 cycles

Accuracies:—

Type 2003 ( $\pm 0.02\%$  at  $-65^{\circ}$  to  $85^{\circ}\text{C}$ )

Type R2003 ( $\pm 0.002\%$  at  $15^{\circ}$  to  $35^{\circ}\text{C}$ )

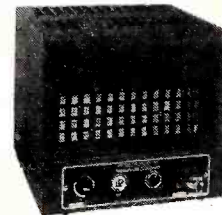
Type W2003 ( $\pm 0.005\%$  at  $-65^{\circ}$  to  $85^{\circ}\text{C}$ )

Double triode and 5 pigtail parts required

Input and output same as Type 50, above

\*3 1/2" high  
400 to 500 cy.  
optional

## FREQUENCY STANDARD TYPE 2005



Size, 8" x 8" x 7 1/4" High

Weight, 14 lbs.

Frequencies: 50 to 400 cycles

(Specify)

Accuracy:  $\pm 0.001\%$  from  $20^{\circ}$  to  $30^{\circ}\text{C}$

Output, 10 Watts at 115 Volts

Input, 115V. (50 to 400 cycles)

## FREQUENCY STANDARD TYPE 2007T



TRANSISTORIZED

Size 1 1/2" dia. x 4 1/2" H.\* Wght. 7 ozs.

Frequencies: 240 to 1000 cycles

Accuracies:—Same as 2003, above

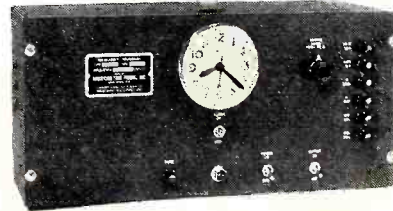
Type 2007S—Silicon type

Input, 28V.

Output, Multitap, 75 to 100,000 ohms

\*3 1/2" in 2007S, 400 to 800 cycles.

## FREQUENCY STANDARD TYPE 2121A



Size

8 3/4" x 19" panel

Weight, 25 lbs.

Output: 115V

60 cycles, 10 Watt

Accuracy:

$\pm 0.001\%$  from  $20^{\circ}$  to  $30^{\circ}\text{C}$

Input, 115V (50 to 400 cycles)

## FREQUENCY STANDARD TYPE 2001-2



Size 3 3/4" x 4 1/2" x 6" H., Wght. 26 oz.

Frequencies: 200 to 3000 cycles

Accuracy:  $\pm 0.001\%$  at  $20^{\circ}$  to  $30^{\circ}\text{C}$

Output: 5V. at 250,000 ohms

Input: Heater voltage, 6.3 - 12 - 28

B voltage, 100 to 300 V., at 5 to 10 ma.

## FREQUENCY STANDARD TYPE 2111C



Size, with cover  
10" x 17" x 9" H.

Panel model  
10" x 19" x 8 3/4" H.

Weight, 25 lbs.

Frequencies: 50 to 1000 cycles

Accuracy: ( $\pm 0.002\%$  at  $15^{\circ}$  to  $35^{\circ}\text{C}$ )

Output: 115V, 75W. Input: 115V, 50 to 75 cycles.

## ACCESSORY UNITS for TYPE 2001-2



L—For low frequencies  
multi-vibrator type, 40-200 cy.

D—For low frequencies  
counter type, 40-200 cy.

H—For high freqs, up to 20 KC.

M—Power Amplifier, 2W output.

P—Power supply.

*This organization makes frequency standards within a range of 30 to 30,000 cycles. They are used extensively by aviation, industry, government departments, armed forces—where maximum accuracy and durability are required.*

WHEN REQUESTING INFORMATION  
PLEASE SPECIFY TYPE NUMBER

# American Time Products, Inc.

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*slide it on  
and crimp!*

*a fully-insulated  
one-piece tap  
connector*  
**for shielded  
and  
coaxial cable**

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UNI-RING offers a tremendous saving in installation time over any previous method of tapping or terminating shielded or coaxial cable. As the inner ring slides under the shielded braid, the tap wire is held between the braid and the outer ring. Single or multiple taps, from either the front or back of the connector, can be accommodated . . . A single crimp, using the same basic HYTOOLS used for installing HYRINGS, completes the uniform, secure, and insulated assembly.

The protecting nylon insulation extends beyond both ends of the UNI-RING, eliminating metal-to-metal contact and preventing harmful wire-chafing in tight locations. The UNI-RING is color-coded to indicate conductor sizes.

UNI-RING's one-piece design insures electrical integrity, prevents heating, and eliminates noises caused by isolated metal parts.

For samples and complete details, write: **OMATON DIVISION**

# BURNDY

Norwalk, Connect. • Toronto, Canada • Other Factories: New York, Calif., Toronto • Export: Philips Export Co.



# TRANSFORMER PROBLEMS?



1

## problem

Design a charging reactor with an inductance of 4.85 henrys ( $\pm 7\%$ ) at 150 ma, DC, and an inductance linearity of 20%. It should operate at 8000 volts ma, DC, and be tested at 14,000 RMS volts, and continuously useable in the frequency range up to 2000 cps. It should have a maximum temperature rise of only 125°C in a standard ambient. It should also have a maximum effective capacitance of 20 60 micromicrofarads when measured in the frequency range between 20 and 25 megacycles. Other prime factors are minimum weight and dimension. Construction to be in strict accordance with the applicable requirements of MIL-T-27.

## solution

Inductance: 4.85 henrys  $\pm 5\%$  @ 150 ma, DC  
Linearity:  $\pm 10\%$  • Operating Voltage: DC=8000  
Test Voltage RMS: 16,000 • Useable at F up to:  
2000 cps • Maximum Temp. Rise:  $100^\circ\text{C}$  • Ambient Temperature:  $25^\circ\text{C}$  • Max. Effective Cap.:  
51 micromicrofarads (measured at 20-25 megacycles) • Weight: 2-3/4 lbs. • Dimensions nominal: H—3-1/2" + 3/8" terminal, W—2-7/8", L—3-13/16"

2

## problem

Design a miniaturized 400 cycle filament transformer for airborne operation. Transformer to operate in an ambient temperature ranging from  $-55^\circ\text{C}$  to  $+100^\circ\text{C}$ . The maximum allowable temperature rise to be  $60^\circ$  over ambient. Dimensions cannot exceed 2-7/8" high, by 2-7/16" wide, by 2-1/2" long; nor can the weight exceed 2 pounds. The primary source to be 115V, with primary insulation for 500V RMS hipot. An electrostatic shield is required between the primary and secondary. The secondary is required to deliver 10 amperes at 5V (C.T.)  $\pm 3\%$ , have a total maximum capacitance of 60 micromicrofarads to other windings, shield, and core, and be able to stand a high potential test of 21,000V, RMS, @ 60 cycles. Construction to be in accordance with applicable parts of MIL-T-27, grade 2, Class B. The above are given as maximum dimension and minimum performance requirements, greatest possible improvement in size, weight and performance requested.

## solution

Filament transformer, Fosterite Impregnated • Primary: 115V, 380 to 1500 cps. Hipot at 1000V, RMS, 60 cps • Electrostatic shield grounded to core. • Secondary: 5V, C.T.  $\pm 1/4\%$  @ 10 amp, Hipot at 25,000V, RMS, 60 cps, for one minute. Distributed capacitance to other winding, shield and core: 50 micromicrofarads. • Temperature Rise:  $30^\circ\text{C}$  • Ambient temperature range:  $-55^\circ\text{C}$  to  $+100^\circ\text{C}$  • Weight: 12 ounces • Dimensions: H—2-1/4" + 3/8" terminal, W—2-3/16", L—2-1/2".

3

## problem

Design a miniaturized 400 cycle power transformer for airborne operation, with a three phase primary and three secondaries: three phase, two phase and single phase. Transformer to operate in an ambient temperature ranging from  $-55^\circ\text{C}$  to  $+85^\circ\text{C}$ . The maximum allowable temperature rise to be  $40^\circ\text{C}$  over ambient. Transformer to operate at altitudes up to 50,000 feet. Dimensions cannot exceed 5" high, by 2-1/4" wide, by 2-1/2" long; nor can the weight exceed 2-1/2 pounds. The primary source to be 115V, 400 cps, three phase. The three secondary loads to be (a) 30V, single phase, at 1.8A with .5 lagging power factor, (b) 30V, single phase, at 4A with .7 lagging power factor, and (c) 115V single phase, in quadrature with (b)  $\pm 5^\circ$ , at .47A with .7 lagging power factor. Secondaries (a) and (b) to be loaded continuously with (c) loaded intermittently. All secondary windings to be ended in four terminals. Construction to be in accordance with applicable parts of MIL-T-27, Grade 1, Class A. The above are given as maximum dimensions and minimum performance requirements, greatest possible improvement in size, weight and performance requested.

## solution

Power transformer, three phase, 400 cps to one phase, two phase, and three phase. Construction: Grade 1, Class A, to MIL-T-27 • Ambient temperature range:  $-55^\circ\text{C}$  to  $+85^\circ\text{C}$  • Temperature Rise:  $35^\circ\text{C}$  • Primary: Three terminal, three phase, 115V, 380-420 cps, per phase • Secondaries: Total of four terminals (a) 30V, three phase at 1.8A and .5 lagging power factor. Continuous duty. (b) 30V, single phase at 4A and .7 lagging power factor. Continuous duty. (c) 115V, single phase, at .47A, .7 lagging power factor and in quadrature with (b) within  $\pm 5^\circ$ . • Weight: Two pounds • Dimensions: H—4-1/32" + 1/2" seven terminal header; W—2-1/32"; L—2-9/32"

4

## problem

Design a miniature audio input transformer for airborne operation. Transformer to operate in an ambient temperature of  $+85^\circ\text{C}$ , and to conform to the applicable parts of MIL-E-5400 and MIL-T-27. Duty cycle to be continuous with a minimum life of 1000 hours. Transformer to couple a 300 ohm source to a tube grid. Step-up turns ratio to be 1:17 minimum, with the maximum possible desired. Frequency response to be flat within 0.75 db from 20 cps to 7,000 cps, and flat within 1.2 db from 15 cps to 10,000 cps. Maximum signal level to be 500 mv @ 20 cps in 300 ohm primary. Electrostatic shield required between primary and secondary. Electromagnetic shielding to be 40 db minimum. Size to be kept minimum but must not exceed 1-1/8" x 7/8" x 1-3/8" high.

## solution

Audio Transformer, low level input, miniaturized. • Construction: Grade 1, Class A, MIL-T-27 • Duty Cycle: Continuous • Life: Greater than 1,000 hours. • Ambient temperature:  $+85^\circ\text{C}$  max. • Primary: Three terminal, center-tapped winding, 300 ohms nominal impedance. • Secondary: Two terminal winding, 125,000 ohms nominal impedance. Turns ratio: 1:20-1/2 • Electrostatic Shield: Between primary and secondary. Electromagnetic Shield: 45db • Frequency response: 20 cps—7,500 cps, flat within 0.5 db and 10 cps—10,000 cps, flat within 1.0 db with 125,000 ohm load. • Maximum input voltage: 500 mv at 20 cps • Dimensions: 1" x 11/16" x 1" high + 1/8" terminal

5

## problem

Design a hermetically sealed, miniaturized, power supply to provide 6600V, DC, at 100 microamperes load, when connected to a source of 115V, 400 cps. Power supply to operate in an ambient temperature range between  $-55^\circ\text{C}$  and  $+85^\circ\text{C}$ . Minimum life to be 5000 hours at full load. Full load input current must not exceed 0.05A. Output voltage regulation, no load to full load, to be 400 volts DC maximum. Maximum ripple voltage at full load to be 250 volts, peak to peak. Casing to be in accordance with the applicable requirements of MIL-T-27. Power supply to have low external magnetic field. Preferred maximum dimensions to be 3-3/4" x 3-3/4" x 1-3/4" thick.

## solution

Power supply: Hermetically sealed, AC to DC. Construction: Oil filled metal casing in accordance with applicable requirements of MIL-T-27. Duty cycle: Continuous • Life: Greater than 10,000 hours (measured). • Ambient temperature:  $+85^\circ\text{C}$  maximum,  $-55^\circ\text{C}$  minimum. • Input: Two terminals, 115V, 380 cps to 420 cps. Output: One terminal and case, 6600V DC at 100 microamperes. • Regulation: 350V, no load to full load. • Ripple voltage: 200V peak to peak. • External field: Nil. • Dimensions: 1-17/32" x 3-17/32" x 3-19/32" + 1-1/16" over terminals.

6

## problem

Design an hermetically sealed 400 cps output transformer for use in a servo amplifier with a high degree of feedback (Mu-B-100). Frequency response to be linear within 3 db from 200 cps to 170,000 cps, with no dips or peaks. Primary impedance to be 6,000 ohms, center-tapped, with a maximum DC resistance of 60 ohms. Primary OCL to be 4 henrys minimum when measured at 30V, 400 cps, and with 7.5 ma of DC flowing through the total winding. Secondary impedance to be 500 ohms, center-tapped, with a maximum DC resistance of 6 ohms. Secondary rated output to be 140V @ 400 cps into a 500 ohm load. Transformer efficiency to be 95% minimum. Ambient temperature range to be from  $-55^\circ\text{C}$  to  $+105^\circ\text{C}$ . Maximum altitude to be 70,000 feet. Casing to be in accordance with the applicable requirements of MIL-T-27, with preferred dimension limits to be 2-1/2" x 2-3/4" x 2-3/16".

## solution

Output Transformer: 400 cps, high level, hermetically sealed. • Construction: Grade 1, Class B, MIL-T-27. • Maximum Altitude: 70,000 feet. Duty Cycle: Continuous. • Life: Greater than 10,000 hours. • Ambient Temperature:  $-55^\circ\text{C}$  to  $+105^\circ\text{C}$ . • Primary: Three terminal, center-tapped winding, 6000 ohms nominal impedance. Primary Resistance: 45 ohms. • Primary OCL: 5 henrys, measured at 30V, 400 cps, with a 7.5 ma, DC, through winding. • Secondary: Three terminal, center-tapped winding, 500 ohms nominal impedance. • Secondary Resistance: 5 ohms. • Rated Operating Level: 140V, 400 cps across 500 ohm secondary load. • Efficiency: 96%. • Frequency Response: 200 cps—300,000 cps, flat within 1.0 db, and 200 cps—550,000 cps, flat within 3.0 db. Smooth response, no discontinuities. • Dimensions: 2-1/2" x 2-3/4" x 2-3/16" high + 5/8" terminals.

Do these problems look like those you face? They are typical of the Peerless Transformers which have been developed to meet unique and difficult specifications. The ability of the Peerless engineering staff to solve these design problems quickest and best accounts for the preference which engineers throughout the country have for Peerless products. If you have unusual transformer requirements, consult Peerless.

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# Hoffman

**Semiconductor Division**  
HOFFMAN ELECTRONICS CORPORATION

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Evanston, Illinois



*Silicon "Top Hat" Power Rectifiers*



*Silicon Glass Diodes*



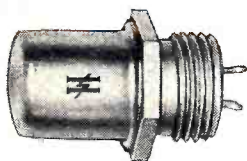
*Silicon Junction Diodes*



*Silicon Diffused Junction Miniature Diodes*



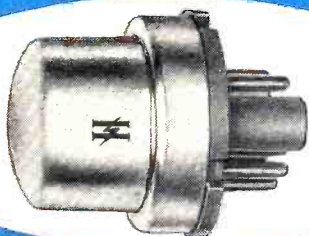
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**1. RATE GYROS**



MODEL	LINEARITY	THRESHOLD	FULL SCALE RANGE	NATURAL FREQUENCY	VIBRATION	SHOCK	OPERATING TEMPERATURE RANGE	WARM-UP TIME	SIZE	WEIGHT
K	0.25%	.01°/sec.	5°/sec. to 600°/sec.	up to 125 cps	15G to 2000 cps	50G	-67°F to 185°F	30 min.	3" Dia. 5 3/4" long	3 3/8 lb.
JR	0.25%	.01°/sec.	10°/sec. to 1000°/sec.	up to 125 cps	15G to 2000 cps	100G	-67°F to 185°F	—	2 1/8" Dia. 4 1/8" long	1.95 lb.
GNAT	<1%	.01°/sec.	10°/sec. to 570°/sec.	up to 125 cps	15G to 2000 cps	60G	-67°F to 185°F	—	1" Dia. 2.2" long	4 oz.

All Gyros have synchronous, hysteresis-type motors, variable reluctance pickoffs, and controlled viscous damping.

**2. LINEAR ACCELEROMETERS**

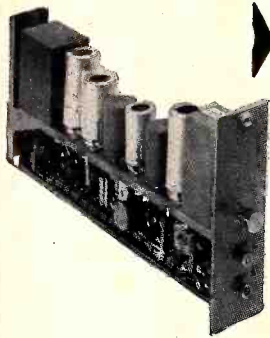


sense positive or negative accelerations, or both in either the vertical or horizontal plane. Available in variation of ranges from ± 0.5 g to more than ± 50 g's. Hermetically sealed. Meet specifications MIL-E-5272A. Write for Bulletin LA.

MODEL	FULL RANGE	THRESHOLD	NATURAL FREQUENCY	DAMPING RATIO	LINEARITY	POTENTIOMETER
LA-107	±5G	.17G max.	9 cps min.	.6 @ 80°F.	2%	2K min.
LA-108	±5G	.1G max.	9 cps min.	.6 @ 80°F.	1%	12K ±15%
LA-111	0 to +20G	.2G max.	14 cps min.	.8 @ 80°F.	2%	8K ±10%
LA-112	0 to +4G	.05G max.	5 cps min.	.6 @ 80°F.	2%	1K ±10%
*LA-301	-3 to +7G	.17G max.	9 cps min.	.7 to 1.4 @ -65° to +160°F.	2%	2K min.
**LAS-301	+5G	—	7 cps	.6 to 1.5 @ -65° to +160°F.	—	2K min.

\*with 30 Watt Heater 28 Volts D-C  
\*\*with 100 Watt Heater 115 Volts A-C

**3. LOW LEVEL D-C AMPLIFIERS**



MODEL	INPUT RANGE mv.	INPUT IMPEDANCE ohms	FREQUENCY RESPONSE cps	RISE TIME (99.9%) millisecs.	GAIN	LINEARITY %	ZERO DRIFT max. %	NOISE LEVEL max. %	OVER RANGE volts	OUTPUT
2HLA-3	1-30-10 30-100	1 Meg/Volt	0-20	—	10,000	<1	1	0.5	1.5	10 v. into 1500Ω
2HLA-4*	0-100μv to 100 mv	100K	0-60	—	100 to 100,000	0.1 to 10	1	0.5	1.5	10 v. into 1500Ω
2HMA-2	0-5	2.2K	0-400	<5	1,000	0.5	0.2	3 p-p	1.5	0-5 volts
2HHD-0a	±10	1.7K	—	<50	5,000	±.1	.3	.25 p-p	1.5	±50 volts
2HHD-1a	±5	1.7K	0-5	—	100	±.1	±.3	.1 p-p	1.5	±.5 volts
2HHD-2a	±5	1.7K	0-5	<250	100	±.1	±.3	.1 p-p	1.5	±.5 volts
2HHD-3a	±10	1.7K	—	<100	100	±.05	±.3	.2 p-p	1.5	±1.0 volts
2HHD-4a	±50	1.7K	—	<20	1,000	±.05-1	±.1	.1 p-p	1.5	±50 volts
2HHD-5a	±5	1.7K	0-10	<250	200	±.1	1	.1 p-p	1.5	±1.0 volts
2HHD-6a	±20	1.7K	0-5	—	250	±.1	±.1	.1 p-p	1.5	0-5 volts

\*Plug-in Unit

**4. 400-CYCLE SERVO MOTORS**



HONEYWELL TYPE NO.	GOVERNMENT DESIGNATION	FRAME SIZE	STALL TORQUE MINIMUM	NO LOAD SPEED	RATED VOLTAGE		
					FIXED PHASE	CONTROL PHASE (SERIES)	CONTROL PHASE (PARALLEL)
SM-070	MK 7 MOD 0	15	1.45 oz. in.	4800 rpm	115	115	57.5
SM-071	MK 7 MOD 1	15	1.45 oz. in.	4800 rpm	115	115	57.5
SM-072	MK 7 MOD 2	15	1.45 oz. in.	4800 rpm	115	230	115
SM-080	MK 8 MOD 0	18	2.35 oz. in.	4800 rpm	115	115	57.5
SM-081	MK 8 MOD 1	18	2.35 oz. in.	4800 rpm	115	115	57.5
SM-082	MK 8 MOD 2	18	2.35 oz. in.	4800 rpm	115	300	150
SM-142	MK 14 MOD 2	11	0.60 oz. in.	6200 rpm	115	115	57.5
SM-143	MK 14 MOD 3	11	0.60 oz. in.	6200 rpm	115	180	90

1. RATE GYROS combine extreme ruggedness with high precision in applications where accuracy and superior dynamic response are essential . . . proven components in many missile homing, fire control and autopilot systems . . . Write for Gyro Bulletin.

3. LOW LEVEL D-C AMPLIFIERS excel in linearity and stability in proportionally amplifying low level d-c voltages for measurement and control applications. Input is completely isolated from output. Write for Amplifier Bulletin.

4. 400-CYCLE SERVO MOTORS provide the fast dynamic response required in high performance servo systems . . . extremely high torque-to-inertia ratio . . . MIL-S-17087 . . . available with internally or externally threaded gear pinion shafts . . . can be equipped with gear heads to meet customer requirements. Write for Servo Motor Bulletin.

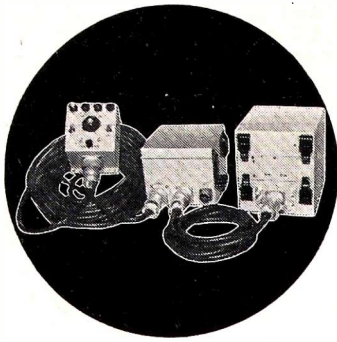
5. SYNCHROS (115 volt, 400 or 60 cycle) are proven components in numerous military servo systems. Over-all performance characteristics are guaranteed to equal or surpass requirements of MIL-S-16892, FXS-1006, MIL-S-12472 and MIL-S-17245 . . . available with either splined or keyed shafts. Write for Synchro Bulletin.

**5. SYNCHROS (115 volt 400 or 60 cycle)**

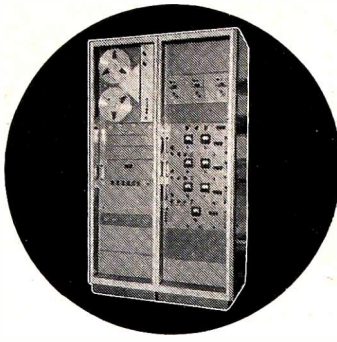


GOVERNMENT DESIGNATION	FUNCTION	FREQUENCY	MAX. ELECTRICAL ERROR	MAX. DYNAMIC RECEIVER ERROR
SIZE 15				
15CDX4a	DIFFERENTIAL TRANSMITTER TRANSFORMER	400	10'	
15CT4a		400	10'	
15CX4a		400	12'	
15TDX4a	DIFFERENTIAL TRANSMITTER RECEIVER	400	10'	60'
15TR4a		400	12'	
SIZE 23				
23CDX4a	DIFFERENTIAL TRANSMITTER	400	8'	
23CDX6a		60	8'	
23CT4a	TRANSFORMER	400	6'	
23CX4a		400	8'	
23CT6a	TRANSFORMER	60	6'	
23CX6a		60	8'	
23TDR4a	DIFFERENTIAL RECEIVER	400	8'	60'
23TDR6a		60	8'	
23TDX4a	DIFFERENTIAL TRANSMITTER	400	8'	60'
23TDX6a		60	8'	
23TR4a	RECEIVER	400	8'	60'
23TR6a		60	8'	
23TX4a	TRANSMITTER	400	8'	60'
23TX6a		60	8'	

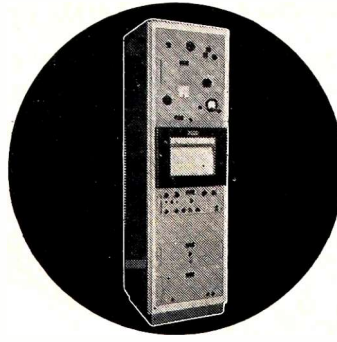
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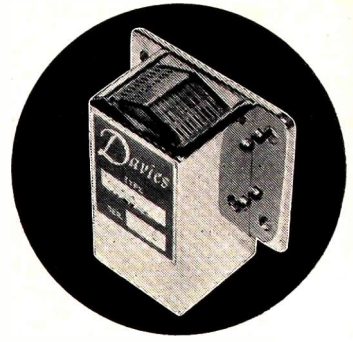
airborne recording system



universal tape system



automatic wave analyzer



multi-track record/reproduce heads

## Record, Reduce, and Analyze Data on Magnetic Tape

### ON-THE-SCENE RECORDING

Getting the data on tape is generally just as difficult as the available space is limited. But standard recorders available from the Davies Laboratories Division can meet even the severe restrictions of missile flight. Recorders for airborne, mobile, and other uses characterized by limited space and severe environmental conditions range from a complete six track system in a seven inch cube illustrated, to a 10½" reel recorder with 14 or more tracks. Electronic Housings contain complete power facilities, while interchangeable plug-in cards provide recording circuitry for direct, FM, PWM, or digital pulse techniques on each track. Operating on 28 volts DC and/or 115 volts, 400 cps, recorders provide tape speeds from ½ to 60 ips. All include provision for electronic wow and flutter compensation perfected by the Davies Laboratories Division. *Standard portable recording equipment is described in Bulletin 2602.*

### UNIVERSAL SYSTEMS RECORD/REPRODUCE IN THE LABORATORY

Universal Magnetic Tape Systems combine the ready to use trouble-free qualities of a "package" with the precision, accuracy, and flexibility of the far more expensive custom designs. Systems available provide up to thirty tracks of data capacity, interchangeable plug-in direct, FM, or PWM recording electronics for each track, electronic compensation for wow and flutter, plus numerous other features proved through years of service in jets, missiles, and on the ground. Features never before available in a "package" system include a choice of six tape speeds at the flip of a switch, automatically switched components to match tape speed, and precise time coincidence of data across the tape. Custom systems are readily available for those few applications for which a Universal System is not suited. *Write for Bulletin 2701.*

### AUTOMATIC WAVE ANALYZERS SPEED DATA REDUCTION... IMPROVE STATISTICAL RELIABILITY

Feed data from magnetic tape or other steady state sources into a Davies Laboratories Division Automatic

Wave Analyzer and a complete Fourier series is automatically plotted and printed in permanent record form as either *amplitude* versus *frequency* or *power* versus *frequency*. Model 9020A analyzes frequencies from 3 cps to 2 kc, and Model 9050A has a frequency range of 3 cps to 10 kc. Both have a "quick look" facility for a fast picture of major frequency components, and both are characterized by high amplitude accuracy, wide voltage range, high resolution, and adjustable bandwidths. Multichannel inputs permit simultaneous analysis of up to six data channels. *Write for Bulletin 9001.*

### MULTI-TRACK RECORD/REPRODUCE HEADS

Head styles are available from the Davies Laboratories Division to satisfy all of the major considerations of data recording, including precise data coincidence among tracks across the tape, maximum number of tracks per inch of tape width, high speed stop/start operation, special pulse system requirements, and efficiency in low speed recording. Inline head stacks for data coincidence, interleaved head stacks for high track density, and "pointed" head stacks for high speed stop/start pulse systems are constructed for maximum accuracy under the most adverse environmental conditions. *Write for Bulletin 3300.*

\* \* \*

*Space does not permit coverage of more than a few kinds of Davies Laboratories Division equipment for data recording, reduction, and analysis. Chances are, whatever your tape requirements, Davies Division is experienced in satisfying them. Tell us what they are, and we'll be happy to send you whatever literature is available, or have a representative at your door at your convenience. If you'd like a general rundown of magnetic tape data recording, and the techniques available for getting your data accurately on tape, write for Bulletin 1001, "The Role Of Magnetic Tape In Data Recording". Minneapolis-Honeywell Regulator Company, Davies Laboratories Division, 10721 Hanna Street, Beltsville, Maryland. Webster 5-2700.*

MINNEAPOLIS  
**Honeywell**

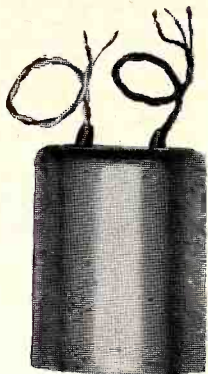
DAVIES LABORATORIES DIVISION

# HONEYWELL Recorders and Components

## for electronic use

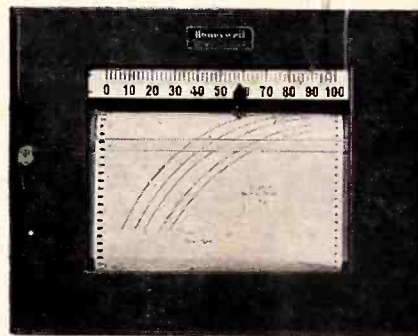
These instruments and components can serve scores of measurement, control and servo applications in your research and production work. Honeywell's world-wide engineering and service organization can give you valuable help in applying these products. For details, call your nearby Honeywell sales engineer. He's as near as your phone. Or write for the Honeywell Composite Catalog.

MINNEAPOLIS-HONEYWELL REGULATOR CO.,  
Industrial Division, Wayne and Windrim Avenues, Philadelphia 44, Pa.—in Canada, Toronto 17, Ontario.



### SHIELDED LOW-LEVEL TRANSFORMERS

For input or coupling circuits, these transformers faithfully handle low-frequency a-c or chopper-modulated d-c signals of from 0.0005 to 200 millivolts. Highly effective electrostatic and magnetic shielding. Write for Specification S900-1.



### BROWN INSTRUMENTS

For measuring, recording and controlling temperature, pressure flow, liquid level and many other variables. The line of *Electro-iK* potentiometers includes special models for research work . . . such as the Function Plotter, Duplex Function Plotter, Extended Range Recorder, 1/4-second Pen Speed Recorder, Adjustable Span Recorder, High-Impedance Recorder, and Brown-Rubicon Precision Indicator. Write for Catalog 1561.



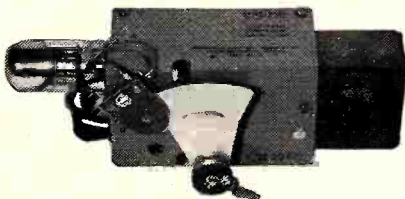
### ElectroniK NULL INDICATOR

The modern successor to the spotlight galvanometer, it's ideal for either lab or production work. Resists vibration, responds quickly, takes heavy overloads without "loss of spot." Write for Data Sheet 10.0-12.



### BROWN SERVO COMPONENTS CONVERTERS, AMPLIFIERS, MOTORS

These components, proved in thousands of *ElectroniK* instruments, are available as individual units. For remote positioners, null balance circuits, analog computers, co-ordinate translators, servo loops. Order in small quantities for prototype development, or by the thousands for production use. Write for specifications.



### Electr-O-Vane PRECISION SWITCH

Less than 2 gram-inches of torque actuates this high-precision SPDT switch. Switching action occurs with from 0.00025 to 0.0025 inches of actuating lever movement. Use it as a non-loading limit switch, cutoff switch, or no-load safety switch. Write for Specification S800-1.



MINNEAPOLIS  
**Honeywell**  
BROWN INSTRUMENTS

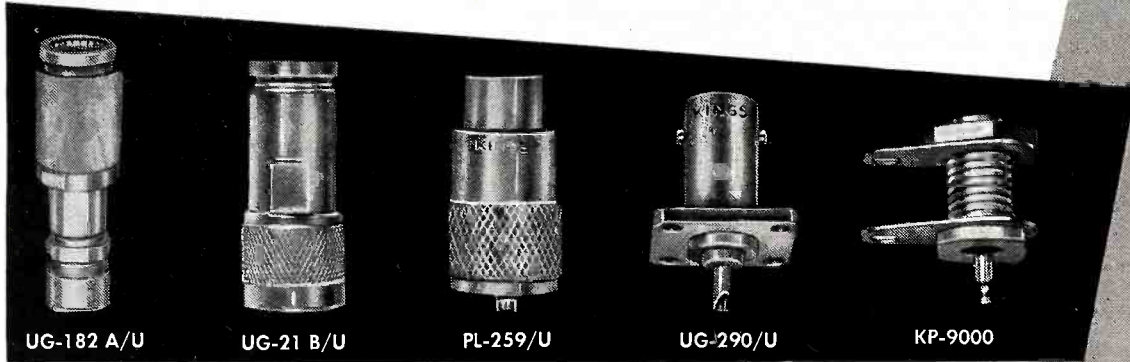
*First in Controls*



# KINGS

## COAXIAL CONNECTORS

KINGS offers to the electrical, electronic and aircraft industries the most complete line of government approved Coaxial Connectors and R. F. Components — manufactured to rigid standards of the Armed Services and MIL-C-3108 specifications.



UG-182 A/U

UG-21 B/U

PL-259/U

UG-290/U

KP-9000

Problems pertaining to Connectors and R. F. Components are competently handled by our fully staffed Engineering Department. Write for full information.

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- BN • BNC
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HN • LN
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- SPECIALS



# KINGS *Electronics* CO., INC.

46 MARBLEDALE ROAD • TUCKAHOE, N. Y.

**KINGS**  
FOR  
**TELEPHONE PLUGS AND JACKS**

The Plugs and Jacks shown here have undergone extensive life and humidity tests and have received full government approvals. As soon as tooling is completed KINGS will introduce a complete line of Plugs and Jacks for the electronic trade.

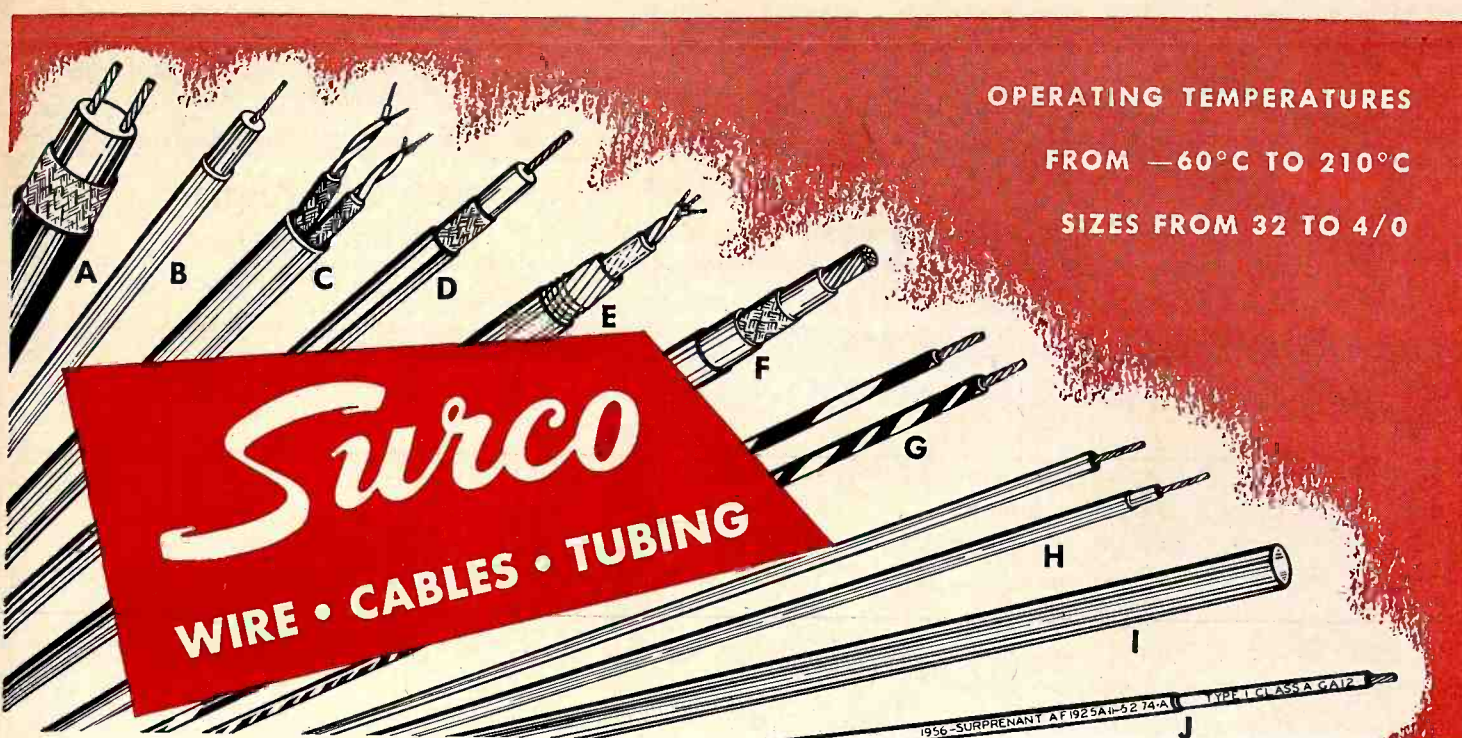
Quotations on request.

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*Electronics* CO., INC.  
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SWIFTWATER 3-5000

OPERATING TEMPERATURES

FROM  $-60^{\circ}\text{C}$  TO  $210^{\circ}\text{C}$

SIZES FROM 32 TO 4/0



# Surco

WIRE • CABLES • TUBING

**A** Coaxial Cables — "Surco" coaxial cables include a wide variety of types, such as low capacity, extra flexibility, small diameter, microphone 2 conductor, and high temperature "Teflon." Conform to Military Spec. MIL-C-17B. Many special designs. If you have a coaxial cable problem consult us.

**B** Miniature Coaxial Cables — Extruded low-loss Teflon dielectric O.D. under 1/16 inch for 50 ohm cable and under 1/8 inch for 95 ohm cable. Low capacitance, stable electrical characteristics.

**C** Miniature Wire and Cable — "Surco" miniature wire and cables are made in conductor sizes down to No. 32 AWG in stranded and No. 30 AWG in solid. Close control in manufacturing permits small finished diameters on both single and multi-conductor cable. Available in standard colors with and without nylon jackets or shielding in the various vinyl or polyethylene compounds.

**D** "Surflene" Insulated Hook-up Wire and Tubing — "Surflene" (Kel-F) for use at temperatures not exceeding  $135^{\circ}\text{C}$  is available in 15 solid colors and wall thicknesses down to 0.008".

**E** Multi-Conductor Cables — "Surprenant" Multi-conductor cables are available with conductor sizes from No. 32 AWG and larger with vinyl, "Surflene", or Teflon insulation, with or without nylon jacket or shielding and can be made to specification for special design and applications. Close tolerances permit unusually small overall diameters, and "Spiralon" color coding permits easy identification even when hundreds of conductors are involved.

**F** New Improved Aircraft Wire — Surprenant new lightweight, smaller diameter MD wire (Vinyl, glass braid, nylon) and the standard Surprenant sandwich construction (Vinyl, glass braid, nylon) give excellent overload safety, high and low temperature performance, good electrical properties and have a nylon jacket giving greater resistance to abrasion, fungus, moisture, and hydraulic and other oils (nylon braided jacket on size 10 AWG and larger for greater flexibility) and are made to conform to MIL-W-5086. "Surprenant" also offers nylon jacketed polyvinylchloride construction made to conform to MIL-W-5086, MIL-C-

7078A and MIL-W-7072A (ASG). High temperature wire made to MIL-W-8777A and MIL-W-7139A.

**G** "Spiralon" — "Surco-Spiralon" color coding is available on all vinyl, nylon, Teflon, and Kel-F insulated wires, with or without nylon jackets. One, two or three color stripes are available in the Nema colors providing almost unlimited color identifications. Solid color insulation is also available in the 10 standard Nema colors.

**H** "Surco" A-10 for ( $105^{\circ}\text{C}$ ) Hook-up Wire — A-10 is an unusually high grade vinyl insulating compound developed in our own laboratories for a better hook-up wire. It has excellent resistance to deformation, soldering, high temperature, low temperature and aging; high electrical properties; Underwriters' Lab. approved for continuous operation to  $105^{\circ}\text{C}$  without fibrous covering. A-10 insulated wire made to conform to MIL-W-16878B, Types B, C, and D, with or without nylon jackets or synthetic braids.

**I** "Surco" Tubing — "Surco" vinyl, nylon, polyethylene, silicone rubber, Kel-F and Teflon tubing available in a wide variety of sizes, temperature ranges, electrical and physical characteristics.

**J** MIL-W-5274A Radar & Electronic Hook-up Wire — Made to conform to Air Forces Spec., this wire offers excellent low temperature performance. Nylon jacketed, it has high abrasion resistance and superior surface resistivity even under adverse humidity conditions, making it very adaptable for high impedance circuits.

**K** Silicone Rubber Wire and Cable — Thin wall silicone wire for 600 and 1000 volt service up to  $400^{\circ}\text{F}$  continuously and higher with short life ratings. Remains flexible at  $-100^{\circ}\text{F}$ . Braided and jacketed constructions available for increased mechanical and abrasive characteristics.

**L** UL and CSA Appliance Wire — Approved for  $80^{\circ}\text{C}$ ,  $90^{\circ}\text{C}$  and  $105^{\circ}\text{C}$  in a range of sizes, wall thicknesses and voltage ratings as required, and solid or stranded conductors with or without nylon or braided jackets. Color coded as required.

Extruded THIN WALL Teflon  
INSULATED ( $210^{\circ}\text{C}$ )  
HOOK-UP WIRE

Continuously operable over the range from  $-90^{\circ}\text{C}$  to  $210^{\circ}\text{C}$  without appreciable deterioration, extruded "Teflon" (polytetrafluoroethylene) is now available in walls as thin as 0.010" (type WTE) and 0.015" (type RTE). Teflon combines non-flammability, chemical and solvent resistance, high volume and surface

resistivity with extremely low electrical losses. This wire is available in all flexible strandings from AWG 8 and conforms to performance requirements of MIL-W-16878B. Colors and Spiralon markings conform to MIL-STD-104. Also, available in limited range of sizes in natural or colored tubing.

**Surprenant**  
MFG. CO.

CLINTON, MASS.





# Data for Designers

- RF Shielding
- Wave Guide Gaskets
- Heat Dissipating Tube Shields



## Electronic Weatherstrip

Knitted, metallic wire structure combines maximum *conductivity* for efficient performance with inherent *resiliency* that assures continuous line contact between imperfect mating surfaces. Interlocked loops, of continuous wire strands, assures maximum *cohesion*. Available in continuous lengths in more than 500 shapes and sizes to meet all installation requirements.

Type	Size	METEX PART NUMBER		
		Monel	Aluminum	Silver Plated Brass
□ Rectangular	1/8" x 1/8"	10-199	10-204	10-230
	1/8" x 3/32"	10-194	10-182	10-338
○ Round	1/8" dia.	10-006	10-035	10-118
	3/16" dia.	10-020	10-029	10-253
	1/4" dia.	10-024	10-032	10-337
Single Fin	1/8" dia.	10-008	10-095	10-343
	3/8" o/a			
Single Fin	1/8" dia.	10-061	10-339	10-340
	5/8" o/a			
Single Fin	3/16" dia.	10-058	10-066	10-288
	5/8" o/a			
Single Fin	1/4" dia.	10-109	10-341	10-342
	5/8" o/a			

Standard strips shown above available from stock without minimum charge. Other types available on order.



## Choke Flange Gaskets

The controlled resiliency and compressibility of METEX *Knitted Wire Gaskets* for standard Waveguide Choke-Flanges insure complete metallic contact, flange to flange. Assures RF-tight joint when distortion makes choke inefficient. Supplements choke to prevent RF leakage at high power levels. Eliminates leakage at other than choke frequencies.

ASESA FLANGE NO.	METEX PART NO.	GASKET MATERIAL	REFERENCE WAVEGUIDE		
			ASESA NO.	NOMINAL O.D.	MATERIAL
UG-40/U	MT 17/4	Monel	RG-52/U	1 x 1/2	Brass
UG-40A/U	MT 266-2	Monel	RG-52/U	1 x 1/2	Brass
UG-42/U	MT 74-2	Monel	RG-51/U	1 1/4 x 5/8	Brass
UG-52A/U	MT 307-1	Monel	RG-51/U	1 1/4 x 5/8	Brass
UG-54A/U	MT 406-1	Monel	RG-48/U	3 x 1 1/2	Brass
UG-136/U	MT 17-15	Aluminum	RG-67/U	1 x 1/2	Aluminum
UG-136A/U	MT 266-4	Aluminum	RG-67/U	1 x 1/2	Aluminum
UG-137A/U	MT 307-3	Aluminum	RG-68/U	1 1/4 x 5/8	Aluminum
UG-148B/U	MT 358-1	Monel	RG-49/U	2 x 1	Brass
UG-343A/U	MT 426-1	Monel	RG-50/U	1 1/2 x 3/4	Brass
UG-406A/U	MT 358-2	Aluminum	RG-95/U	2 x 1	Aluminum
UG-440A/U	MT 426-2	Aluminum	RG-106/U	1 1/2 x 3/4	Aluminum
UG-541A/U	MT 157-2	Monel	RG-91/U	.702 x .391	Brass
UG-585/U	MT 406-2	Aluminum	RG-107/U	.702 x .391	Silver
			RG-75/U	3 x 1 1/2	Aluminum

Standard RF gaskets shown above available from stock without minimum charge. Other RF gaskets available on order.



## Heat Dissipating Tube Shields

METEX Resilient Cooling Sleeves for subminiature tubes combine high heat conducting ability with inherent vibration dampening and shock absorbing properties. Provides an efficient, practical and economical method of conducting heat away from the tube envelope, directly to a heat sink. Aluminum alloy wire assures maximum thermal conductivity with minimum weight. Thermal peaks and valleys are leveled out assuring consistency of thermal performance among tubes.

METEX Part No.	Tube Envelope	HEIGHT
MT-204E-1	T3-1; T3-6; T3-7	1"
MT-204E-2	T3-2; T3-5; T3-8	1 1/16"
MT-204E-3	T3-3	1 1/2"
MT-204E-5	T3-4	1 1/16"

Sizes shown available from stock. Other sizes available on special order.

**METEX Engineers will be glad to work with you on any problems involving RF Shielding or Heat Dissipation in electronics or related equipment. No obligation, naturally!**

ELECTRONICS DIVISION

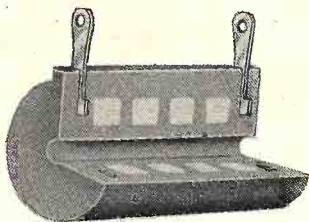
**METAL TEXTILE CORP.**  
ROSELLE • NEW JERSEY

# Our principal product — RELIABILITY



Eastern Precision Resistor Corp. is the only resistor manufacturer which compounds and produces its own plastics, extrudes its own rods and machine its own bobbins. The rigid quality control exercised

over these operations as well as over resistor production, insures the reliability, stability and tolerance of all EPR products.



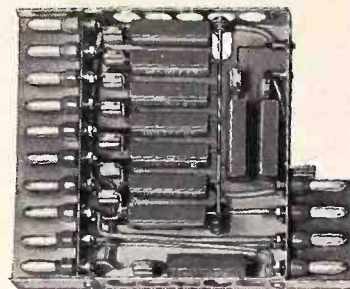
### N-CAPS

Designed to surpass the requirements of MIL-R-93A and MIL-R-9444 specifications, EPR "N-Caps" encapsulated lug resistors feature optimum reliability over a wide range of adverse environmental conditions. Available in all standard military sizes, plus hundreds of commercial, subminiature and special sizes and shapes.



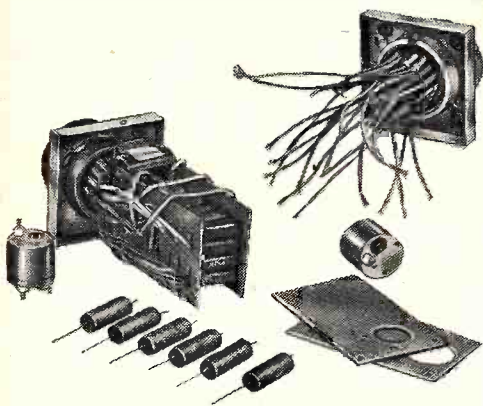
### ENCAPSULATED SUBMINIATURE PRECISION WIRE-WOUND RESISTORS

Series NM (radial lead) and Series NS (axial lead) resistors are wound on plastic bobbins and encapsulated to meet the requirements of MIL-R-93A specifications, characteristic "A". Available in both military and industrial subminiature sizes and ratings.



### AC RESISTANCE NETWORKS

Excellent matched characteristics over wide temperature and frequency ranges, combined with very low distributed capacitance are the outstanding features of the Type SS5 Matched Precision Resistors shown above. The distributed capacitance of these wire wound units is held to values as low as 0.5mmfd to 1mmfd on a 1-megohm resistor. Individual resistors are accurate within  $\pm 0.05\%$ , and are available in resistance values from 25 ohms to 2 megohms in  $\frac{1}{4}w$  to 1w ratings. A typical 1-megohm unit is  $1" \times \frac{3}{8}"$  diam.



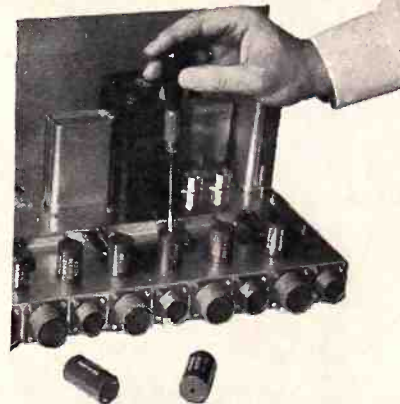
### COMPLETE PACKAGING

All Series of EPR resistors can be supplied in modular AC and/or DC matched networks; encapsulated, varnished or wax-impregnated to meet your requirements for termination and mounting.



### MINI-SCOPES

These compact, miniaturized oscilloscopes are ideal for general servicing applications at low RF. Automatically-focussed, flat-face 1-inch CRT provides full-scope usable trace with minimum pattern distortion. Frequency Response: DC-150 KC,  $\pm 3$  db, usable to 200 KC; Sensitivity: 0.5 volts/in. horizontal, 0.5v—1mv/in. vertical; Sweep Frequency: 0.5 cps-50KC.



### COMP-U-TRIM (MODEL 113)

The first, truly-adjustable precision wire-wound resistor. Combines all the desirable features of a bobbin-wound encapsulated resistor and a trimming potentiometer. Values from 100 ohms to 1.0 megohms are available with matched tolerances of better than  $\pm 0.005\%$ . Particularly suited to computer circuitry, voltage dividers and networks, and other applications where extreme resistance matches must be obtained.

Write TODAY for your "Handbook of Precision Wire Wound Resistors", FREE.



**EASTERN PRECISION RESISTOR CORP.** 675 Barbey St., Brooklyn 7, N. Y. HYacinth 5-0133



Can the face of your products  
profit from better

## Decorating on Metals?

### Leyse Precision Reproduction Processes Give Your Products the "Good Looks" That Sell!

Dials, instrument plates, bezels or what have you — the finest of design reproduction on metals is available to you at Leyse.

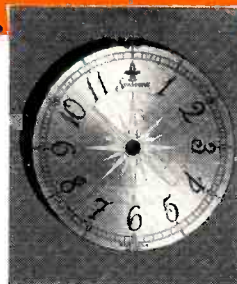
Whether your requirements call for lithography, letterpress or silk screen printing — plus any special surface finishing as listed below, Leyse offers the economical answer for *customizing* and producing top quality units in quantity production.

Designs, lettering and markings are clean and sharp and colors laid down with hairline register accuracy — free from blurs. Background surface finishing is done to perfection and all units blanked with burr-free edges. Write for samples today and evaluate the "good looks" Leyse can contribute to your products. Better yet, send us your blueprints for quotation.

#### LEYSE PRODUCTION FACILITIES INCLUDE:

- |                              |             |
|------------------------------|-------------|
| ● LITHOGRAPHING              | ● BRONZING  |
| ● LETTERPRESS PRINTING       | ● EMBOSSING |
| ● SILK SCREENING             | ● STAMPING  |
| ● ROLLER COATING             | ● FORMING   |
| ● SPRAYING                   | ● SPINNING  |
| ● SATIN FINISHING            | ● DRAWING   |
| ● CIRCULAR BRUSH FINISHING   | ● PUNCHING  |
| ● HORIZONTAL BRUSH FINISHING | ● WELDING   |
| ● SUNBURST FINISHING         | ● BUFFING   |

Dials and Instrument Plates—Special Contract Products



# THE 17<sup>TH</sup> YEAR for the electronics BUYERS' GUIDE

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BUYERS' GUIDE



# Where Metering Accuracy is Vital-

## RCA Instruments Rate Your Confidence



The RCA Seal on these quality instruments is your assurance of highest dependability. They are backed by the RCA reputation for engineering excellence. All are immediately available—ready to serve you eminently well.

### VACUUM TUBE VOLTMETER

Type LV-10 \$250\*

With excellent stability and versatility, this new RCA Vacuum Tube Voltmeter is ideal for use wherever highly precise measurements are essential. Combines in one instrument an AC voltmeter covering a range from audio to UHF frequencies, a DC voltmeter with 100 megohms input resistance, and an ohmmeter capable of measuring resistance from zero to 1000 megohms.

#### SPECIFICATIONS

##### DC VOLTS:

7 ranges: 1, 3, 10, 30, 100, 300, 1000.  
Accuracy:  $\pm 3\%$  full scale deflection.  
Input resistance: 100 megohms  $\pm 2\%$  on all ranges.

##### AC VOLTS:

6 ranges: 1, 3, 10, 30, 100, 300.  
Sine Wave Accuracy:  $\pm 3\%$  full scale deflection.  
Input impedance: Less than  $2 \mu\text{f}$  in parallel with 15 megohms.

##### Frequency Response:

$\pm 1.0$  db, 18 cps to 700 MC.  
Relative Measurements: possible to 1000 MC.

##### RESISTANCE:

0 to 1000 megohms in 7 ranges.  
Accuracy  $\pm 5\%$  between divisions 10 and 100 on scale.  
DB Range:  $-10$  to  $+52$  dbm in 6 ranges.  
Zero dbm = 1 mw in 600 ohms.

### DC NULL VOLTMETER

Type LV-14 \$345\*

Five important features characterize this Null Voltmeter, as follows: (1) Flexible input: positive, negative or neither side grounded. (2) Calibrated voltage output for external recorder amplifier, sensitive laboratory galvanometer. (3) Simplicity of operation. (4) Infinite impedance at null. (5) Long-life mercury battery. Rack Model LV-14R available at \$360.00.\*

#### SPECIFICATIONS

##### VOLTAGE RANGES:

0-10, 0-100, 100-200, 200-300, 300-400, 400-500, 500-600 volts DC.  
Positive, negative, or neither side grounded.

##### ABSOLUTE ACCURACY:

$0.1\% \pm 10$  millivolts between 0 and 10 volts.  $\pm 100$  millivolts between 10 and 600 volts.

##### RESOLUTION:

At least 5 millivolts between 0 and 10 volts. 50 millivolts between 10 and 600 volts.

##### INPUT IMPEDANCE:

Infinite at null.  
Greater than 2.5 megohms per volt at  $\frac{1}{4}$  division off null.

##### POWER REQUIRED:

100-135 volts, 50-60 cycles, 24 watts.

### MULTIMETER

Type LM-1 \$70\*

Widely used in all phases of industry for measurements of AC and DC voltages and DC current, this new Multimeter provides highest accuracy with modern overload protection. High sensitivity: 20,000 ohms per volt, AC and DC. One selector switch.

#### SPECIFICATIONS

##### SENSITIVITY:

20,000 ohms per volt for both AC and DC.

##### AC VOLTS:

Seven ranges: 3, 10, 30, 100, 300, 1000, 5000V.

##### Accuracy:

$\pm 2.5\%$  FSD, 20 to 2000 cps;  $\pm 4\%$  for the 5000V range.

##### RESISTANCE MEASUREMENT:

From 0 to 20 megohms in 3 ranges.

##### DC VOLTS:

Seven ranges: 3, 10, 30, 100, 300, 1000, 5000V.

##### Accuracy:

$\pm 1.5\%$  FSD,  $\pm 3\%$  for the 5000V range.

##### DC CURRENT RANGES:

50  $\mu\text{a}$ , 1 ma, 10 ma, 100 ma, 1 A, 10 A.  
1.5% FSD accuracy.

For complete information on the above and other instruments in the RCA line, write to RCA, Dept. U-46, Building 15-1, Camden, N.J.



Tmk(s) ®

**RADIO CORPORATION  
of AMERICA**  
COMMERCIAL ELECTRONIC PRODUCTS  
CAMDEN, N. J.

In Canada: RCA VICTOR Company Ltd., Montreal

Instrument  
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\*Price in U.S.A., f.o.b. Camden, N. J.  
Subject to change without notice.



# TRANSFORMERS FOR MILITARY & INDUSTRIAL APPLICATIONS

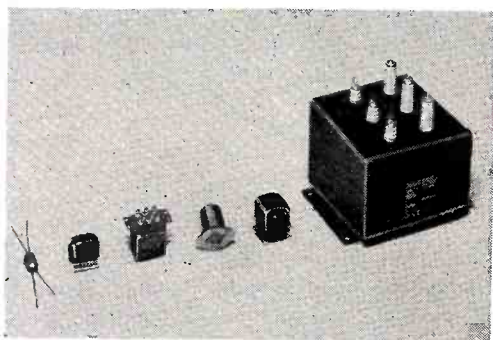
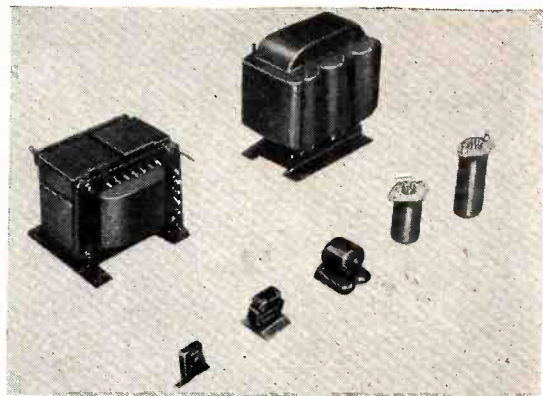
APPROVED FACILITIES FOR CERTIFYING COMPLIANCE TO MIL-T-27A

*Manufacturers of Transformers since 1930*

## SPECIALLY TREATED TRANSFORMERS

For those innumerable transformer applications in electronic equipment where size, weight and resistance to various atmospheric and temperature conditions are the determining factors, ITC can encapsulate or mold to meet practically any specified condition. This can be accomplished without any deviation in transformer perform-

ance due to special ITC techniques and materials. Special ITC test equipment can simulate temperature, humidity and atmospheric conditions thereby permitting transformer testing under identical operating conditions. ITC specially treated transformers have been "use-proven" in the field under rigid MIL-T-27A specifications.



## PULSE TRANSFORMERS

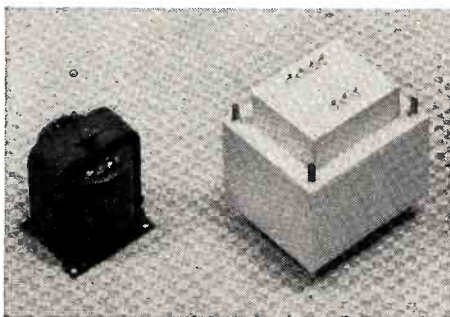
ITC's design file includes pulse transformers varying in size from the subminiature molded types used for blocking oscillator and low power matching purposes to high power pulse output transformers feeding magnetron loads. ITC engineers have produced a great variety of pulse transformers

designed for a wide range of specialized electronic equipment and as a result are considered outstanding specialists in this field. This, coupled with their many other design specialties, points out the versatility of design and manufacturing facilities available at ITC.

## HIGH TEMPERATURE TRANSFORMERS

Constant technological developments in the electronic industry, primarily in the area of military defense, are rapidly increasing the applications for reliable, high temperature transformers. ITC has accumulated much data and experience in the design, fabrication and testing of these transformers to meet rigid Military Specifications.

Transformers have been constructed using practically every high temper-



ature material that has been available in the last decade to insure transformer reliability and performance in the field. ITC's work on high temperature transformers has met with complete acceptance by both government and industry . . . you can put their "know-how" to work with confidence on high temperature transformer applications.

## COMPUTER TRANSFORMERS

ITC engineers have, for several years, devoted considerable time to developing precision transformers for computer applications. These transformers have found complete acceptance among the outstanding computer manufacturers.

Illustrated are some examples of computer precision transformers typical of the engineering skill and resourcefulness gained as a result of constantly working to rigid technical requirements demanded in computer components.





Industrial Insulation Breakdown Testers



**DIELECTRIC TEST SET NO. 50**

General: Designed to furnish the potentials required for dielectric tests conducted under MIL-C-13294A. Console type unit completely self-contained. Rating: Output is 5 kw at 1000 or 5000 V RMS.

Input: Operates from 220 V RMS, 60 cycle, single phase line.

Output: 1000 V RMS at 5.0 amps or 5000 V RMS at 1.0 amps, selection to be made by manual change-over switch mounted on the control panel.

Voltage Control: Output voltage is continuously adjustable from zero to max. by panel mounted control driving a variable auto-transformer within the console.

Overload Protection: Instantaneous trip type circuit breaker is mounted on panel to interrupt circuit in case

of breakdown. Also serves as on-off switch for unit. Two pole type, rated to trip at 25 amps.

Indicators: Control panel has 2 pilot lights to indicate "line voltage on" and "high voltage on".

Metering: Voltage and current are simultaneously metered. An iron vane type ammeter having ranges of 0-1.0 amp. and 0-5.0 amperes is included in the output circuit. An iron vane type volt meter with 0-1000 V and 0-5000 V range is mounted on control panel.

Input Cables: 50-ft. line-cord furnished having 3 conductors; 2 for line circuit, 1 to ground set. Two 50 ft. 8KV cables furnished. Insulated fittings at remote ends of cables.



**INSULATION BREAKDOWN TEST SETS**

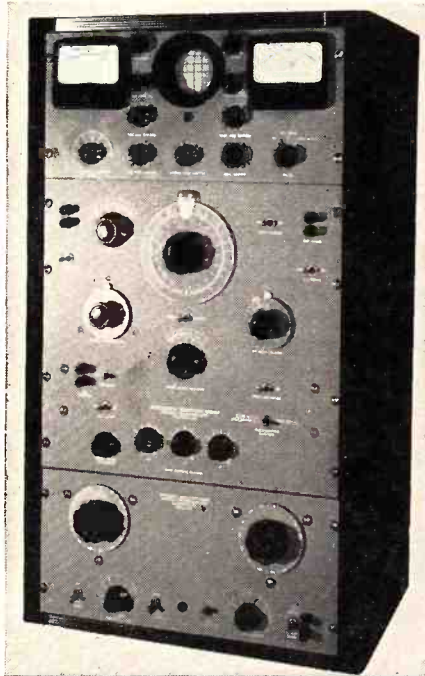
MODEL IT-25-A: Accurate indicator of grounds, shorts or opens. High voltage output and short circuit current: 500 V 1 amp-1500 V 360 ma, 1000 V 500 ma-1750 V 310 ma, 1250 V 420 ma-2000 V 370 ma. Input: 115 V, 60 cycles. Rating: 500 Va.

MODEL IT-630: Has two operating ranges. 0-3000 V RMS and 0.6000 V RMS, continuously variable, with circuit breaker. It is a convenient, compact and accurate means of testing insulation breakdown. Input: 115 V, 60 cycles. Rating: 1 KVA.



**INCREMENTAL INDUCTANCE BRIDGE**

MODEL 226 Three bridge circuits in one instrument. Owen-Hay-Maxwell. Range—1 Millihenry—2000 henrys. Test voltage—.01-300 volts—R.M.S. D.C. saturation—0-1000 M.A. Q—.06-300. Frequency—60 cycles internal, 20-5000 cycles external. Accuracy—1%. With the HAY arrangement, any inductance between 1 Millihenry and 2000 henrys can be measured provided the Q is larger than 5. With the OWEN arrangement, the same inductance range can be covered, but the Q must be comparatively low and can have a value as low as .06 at 60 cycles. The MAXWELL arrangement is suitable for the measurement of low Q coils (below 5 at 60 cycles) without superimposed D.C. and for the measurement of leakage inductance. Both the OWEN and the HAY circuits can be used with or without superimposed D.C. Automatically disconnects the D.C. supply from the bridge when it is put into the MAXWELL position.



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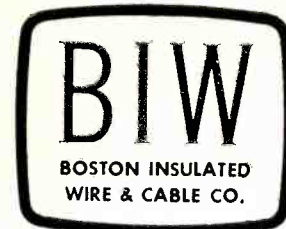
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Laminated teflon insulation having unusual high corona level and breakdown voltage complying with Air Force Specifications.

### Coaxial Cables:

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### Coaxial Cables Miniature for Electronics:

Extremely small teflon insulated of unique design having low noise characteristics, and very suitable for miniaturization.

### Electronic Hook-up Wire:

Extruded high-temperature vinyl, Kel-F and teflon for miniature high-temperature applications.

### Engine Ignition Cable:

A variety of sizes of teflon ignition cable for jet engine installations approved by leading manufacturers.

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Heat and fire resistant special designs approved by major manufacturers of flame detector devices.

### Flexible Telemetering Cable:

Miniature shielded cables, single, 2, and 3 conductor approved by many years of satisfactory service.

### Fuel Gauge Wires:

Specially designed teflon insulated cables approved and adopted by the major manufacturers of fuel gauges.

### Jet Engine Control Wire:

BIW standard teflon and fibreglass insulated approved and service tested as a dependable jet engine control wire.

### Missile Wiring:

Complete range of teflon and fibreglass insulated small-size, high-performance missile wiring approved by leading missile manufacturers.

### Multi-Conductor Cable:

BIW designs and manufactures multi-conductor cables to withstand the aircraft service conditions of low-temperature, vibration, light-weight and serviceability.

### Power and Lighting Cable:

Complete range of sizes and ratings: 100°C, 125°C, 150°C and 200°C.

### SOX Low Temperature

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A special series of low-temperature, multi-conductor cables approved from operating service life and applications such as propeller de-icers, rudder control, bomb doors, missile launching.

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Made to order special types for unusual applications utilizing teflon and fibre-glass insulation.

## ELECTRICAL EQUIPMENT

### Elevator Cables for Control,

#### Annunciator and Lighting:

2 to 40 conductors, with and without steel supporting strands. Accepted standard by principal elevator manufacturers.

### Extra Flexible Power, Lighting & Instrument Cable:

#24 to #0 flexible and extra-flexible strandings with pliable heat-resisting rubber and neoprene insulation for numerous applications such as relay contactors, mercury switches, reciprocating equipment and hinged panel apparatus.

### Flexible Motor Lead Wire and

#### Appliance Wire:

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### High temperature Wires and Cables:

BIW specializes in high-temperature wires using 105°C vinyl, silicone rubber, and teflon to produce cables with higher temperature ratings required in many applications:

- Motor and transformer lead cable

- High voltage units: precipitator, static neutralizer, Etc.
- Chemical apparatus requiring resistance to corrosion
- Multi-conductor cables

### Multi-conductor cables:

BIW designs and manufactures multi-conductor cables of all types for electrical apparatus and equipment such as automatic machinery, x-ray apparatus, remote control devices and signaling equipment.

## ELECTRONICS

### Flexible coaxial transmission cable and pulse cable for airborne electronics.

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### Low capacity Probe cables:

Low capacitance of 8 to 10 mmf/ft., extra flexible.

### Low Noise Shielded Cables:

As a result of BIW developments a wide range of types and sizes are available designed to fit standard connectors.

### Multi-conductor Cables:

BIW designed and manufactured over 900 made-to-order multi-conductor cables complying exactly with requirements for particular equipment.

### Radiation Monitoring Cable for Nuclear Energy Locations:

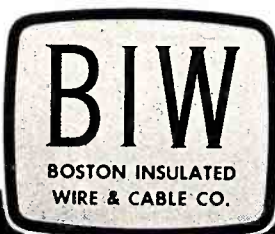
Approved designs for use with the principle detection instruments.

### TV Camera Cables:

BIW design has been approved and adopted by the major manufacturers of TV cameras and recognized by leading studios as the most serviceable cables available.

### Telemetering Cables:

Miniature shielded cables single, 2 and 3 conductor as well as a variety of multi-conductor types.

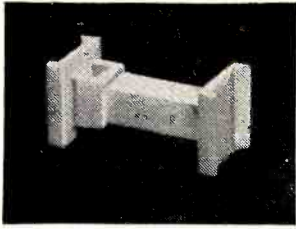


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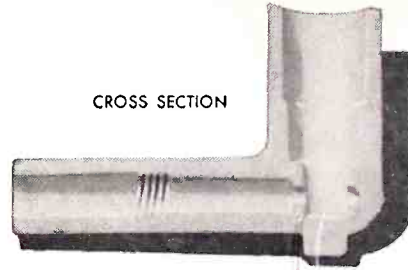
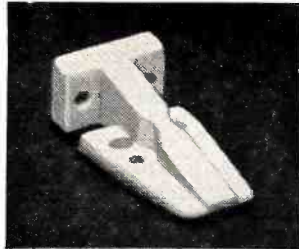
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- BULLETIN B-101 — Detail Engineering Data on L-R Blowers
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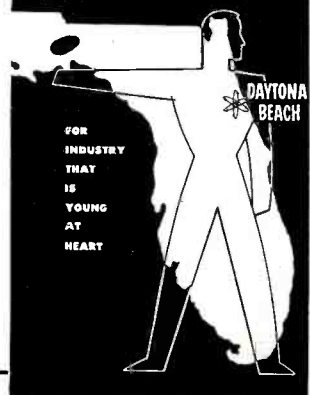
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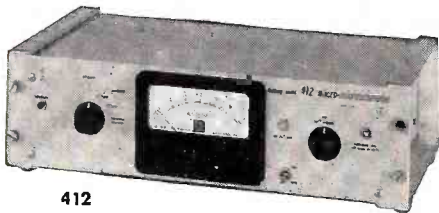
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410



412

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**MODEL 200B**, Battery operated, portable. Ranges, Eight: 8, 20, 80, 200, 800 mv and 2, 8, 20 volts full scale. Drift < 1 mv per hour. Not sensitive to temperature variation. Battery Life 400 hours or better. \$335.00

**MODEL 210**, Line operated. Ranges, Five: 0.8, 2, 8, 20, 80 volts full scale. Drift < 1% of full scale. Output 10 volts for full scale meter deflection on any range; impedance 8600 ohms. \$325.00

**MODELS 200, 200A**, Battery operated. Ranges, 2 and 20 volts, and 2 and 8 volts, full scale. \$175.00

**ACCESSORIES** permit above DC VTVM's to measure higher voltages, low currents and high resistances. Voltage Dividers have ratios of 100:1 and 1000:1—permit measurements to 20 kv. Decade Shunts permit measurements from  $10^{-3}$  to  $5 \times 10^{-14}$  ampere. Regulated Voltage Supply permits measurements from  $10^4$  to  $10^{16}$  ohms.



**AC DECADE ISOLATION AMPLIFIER** Model 102B also useful as general purpose broad-band preamplifier. Decade Gains, 0.1, 1, 10, 100, and 1000. Mid-band gain accuracy 2%. Input Impedance is  $> 400$  meg, 3 mmf. Output Impedance is  $< 50$  ohms, 20 mfd. Frequency Response (two position band width switch provided):

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TMA-10	$\pm 2$		10	.25	2K	3.2		
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TMA-12		$\pm 2$	4	.25	20K	50		
TMA-13		$\pm 2$	8	.25	1K	50		
TMA-14		$\pm 2$	0	.10	100K	1K		
TMO-15		$\pm 2$	1	.04	20K	50		
TMO-16		$\pm 2$	1	.04	20K	600		
TMO-17		$\pm 2$	3	.06	1K	50		
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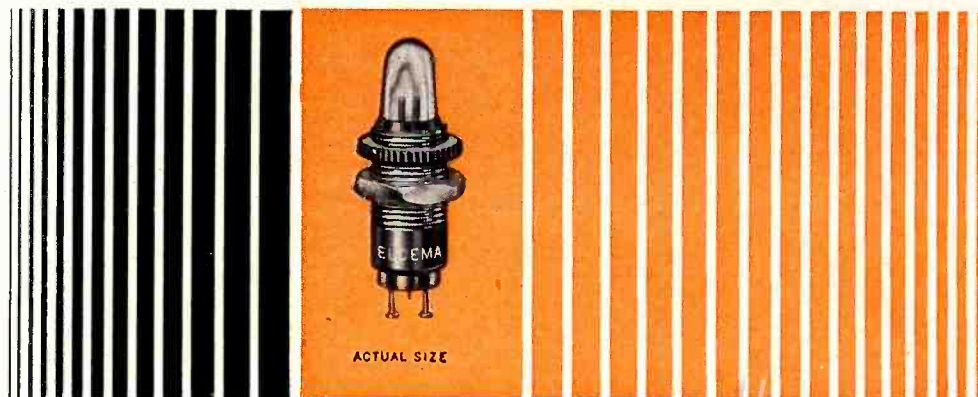
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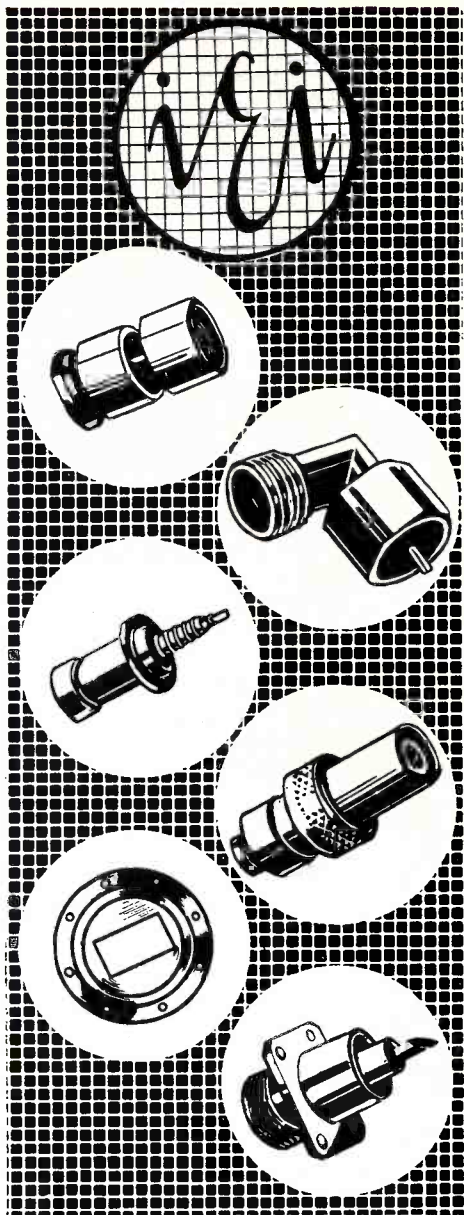


E-lite 1AD—Transistor circuit indicator light. Operates on 10-volt signal at low current. Has pre-aged neon lamp, built-in diode-resistor network.

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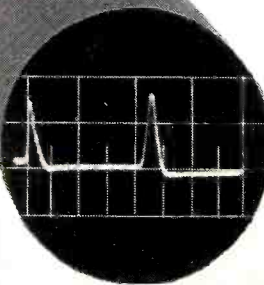
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The Model 60A FAULT-FINDER is small, light and easy to operate. Range accuracy of 3% or better. Ideal for cable servicing in aircraft, aboard ship . . . wherever cables are used . . . \$194.50 net.

(Screen at right indicates open circuit at 105 feet. Full range equals 200 feet.)

Transmitted pulse shows at left edge.



# RADAR ENGINEERS

401 East 45th Street, Seattle 5, Washington

# WHAT IS AVAILABLE FROM PYRAMID

## CAPACITORS

A complete line of capacitors . . . electrolytics, paper and metallized paper in standard and miniaturized styles. Featuring many new types for printed circuit applications.

All made to standards which exceed even rigid military specifications

## SELENIUM RECTIFIERS

A complete line of Radio & TV types . . . the first truly new design in over two decades.

## CAPACITOR TEST EQUIPMENT

Model CRA-2 Capacitor Resistor Analyzer featuring quick check-in-circuit testing, moderately priced.

## PAPER CAPACITORS

Type 85 LPT  
Type CT  
"IMP" Molded  
Type PG "Glasseal"  
CP04, TOCP11

## ELECTROLYTICS

Type TD, TIL  
Type CDB  
Type MC  
Type TM  
Type DO

## OIL PAPER

Type PDM, CP53  
Type PTIM, CP25  
Type PLMF, CP70  
Type PEM, CP67, CP69  
Type PKM, CP61 to CP65  
Type PJ, CP70

## PRINTED CIRCUIT

Type BTS Autocaps  
Microlytics  
Type ATM Autolytics  
Type ATD Autolytics

## METALLIZED PAPER

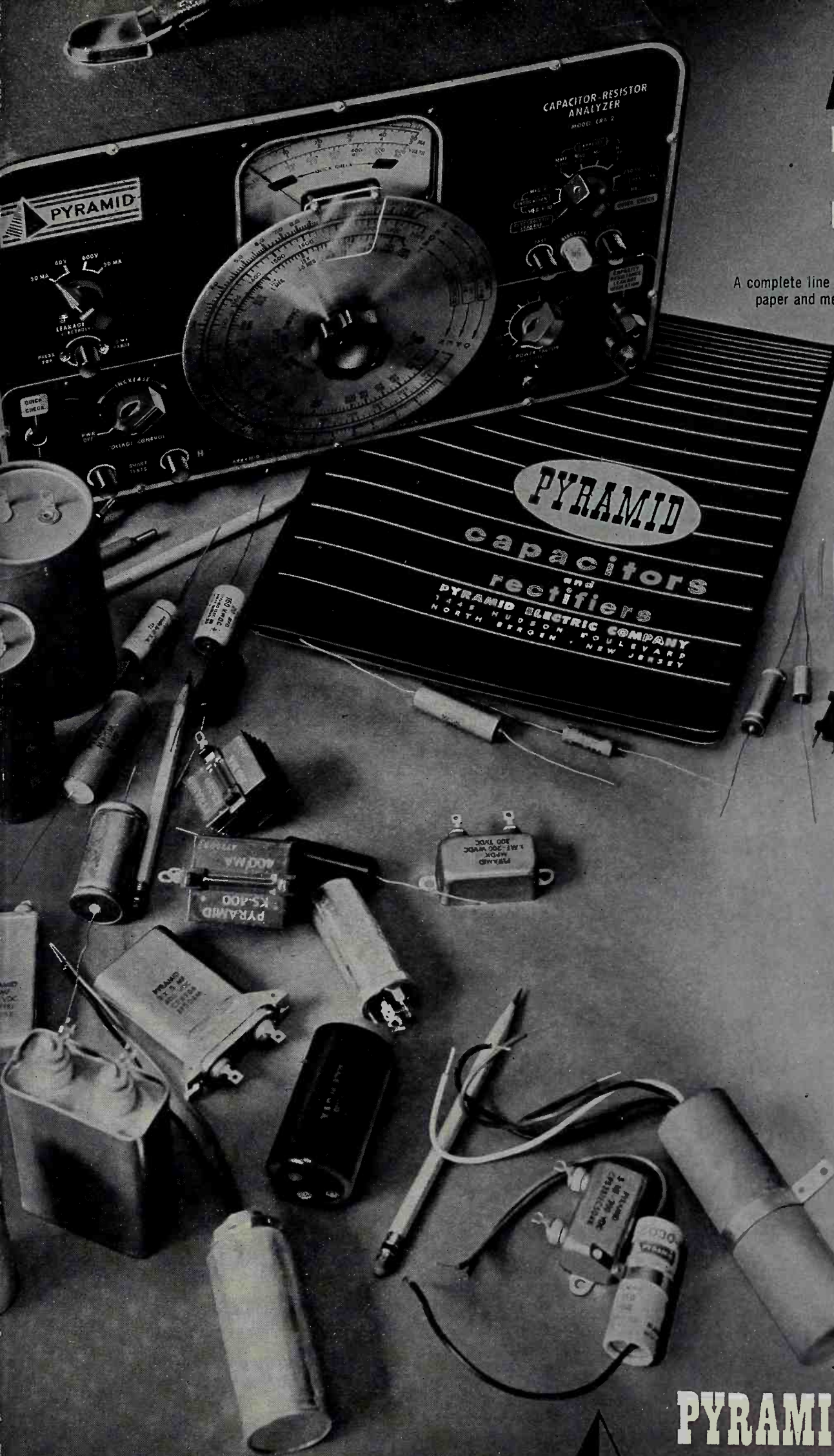
Type MT  
Type MPD  
Type MPG  
Type MPT

For information concerning your specific application . . . write to

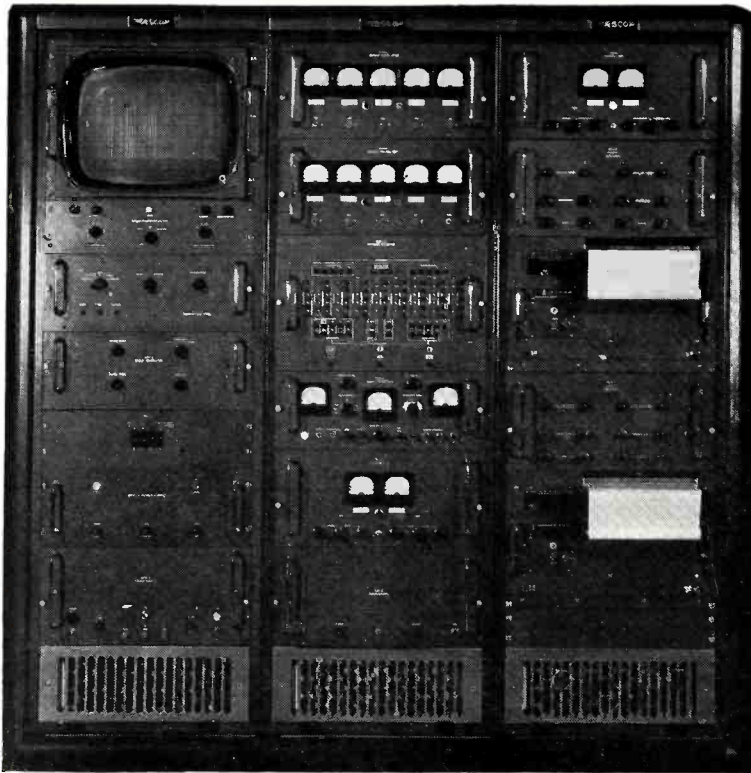
The big name in Capacitors and Selenium Rectifiers today.

# PYRAMID ELECTRIC CO.

NORTH BERGEN, NEW JERSEY



# ASCOP *Pulse Width* DATA SYSTEMS



## M SERIES PW GROUND STATION

Complements ASCOP's PW Multicoders and Telemetry Sets. A "packaged" system for operational testing of airborne or land vehicles . . . and for static testing.

Continuous automatic compensation of system zero and scale factor eliminates need for calibration and manual adjustment. Operates directly from PW signals of 30x30,

45x20 or 90x10 configurations — or indirectly at non-standard rates of 30, 45 or 90 channels by means of proper tape control. Provides for visual monitoring of all data channels and produces reduced graphic output records of selected channels in real time. Features missing data point correction for continuous synchronization. Easy access to slide-mounted chassis is also provided.

## MULTICHANNEL DATA TRANSMISSION OR RECORDING USING RF CARRIER FM SUBCARRIER OR SINGLE MAGNETIC TAPE TRACK

ASCOP pulse width coding and time division multiplexing techniques result in systems featuring large numbers of data channels, highest accuracy, reliability, flexibility and ease of operation. That is why ASCOP Telemetry Systems have been first choice for the nation's most vital projects involving automatic handling of data from aircraft, missiles, test stands, nuclear reactors, etc. With an ASCOP PW System as many as 88 data channels may be sampled, transmitted and/or recorded and reduced in real time. Up to 1232 data channels are available by means of multiple tape recording, or up to 1760 data channels by means of sub-commutation. System accuracy is better than 1%.

### TYPICAL SYSTEM PERFORMANCE (Utilizing Zero and Full Scale Reference)

NUMBER OF DATA CHANNELS	26	41	86
SAMPLES/CHANNEL/SECOND	30	20	10
FREQUENCY RESPONSE, CPS	5	3.3	1.5

LINEARITY . . . Better than  $\pm 0.5\%$  of full scale.  
STABILITY . . . Long term drift less than  $\pm 1\%$  of full scale.



M SERIES  
MONITOR  
CONSOLE  
GROUP



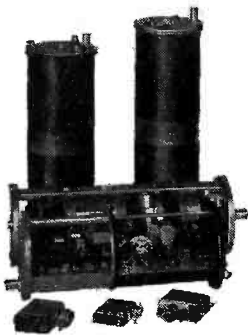
G SERIES  
LOW LEVEL MULTICODERS



C SERIES  
MONITOR EQUIPMENT



D SERIES  
LOW LEVEL MULTICODERS



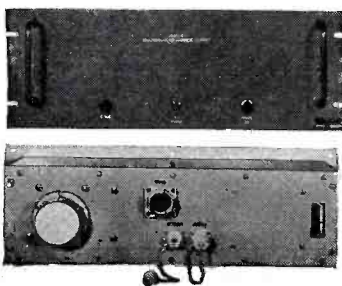
F SERIES MISSILE  
TELEMETERING SETS

For short life applications, where the ultimate in compactness, ruggedness, and performance are required. Standard packages as shown are available for 30 x 30 and 45 x 20 operation. Special configurations, using standard functional components, may be ordered. Some components are sold separately.

Low level sensitivity opens a whole new field of mobile instrumentation. Combine super-sensitivity, high accuracy and a wide selection of data channels (up to 88). Ultra high altitude pressurization and rugged design make them ideal for recovery and repeat use. Available for 15 or 30 mv range. High speed models operate at 900 PPS . . . low speed models at 112.5 PPS. Operate from low level or standard transducers. Accept double ended balanced inputs.

A means for rapid inspection and visual monitoring of airborne or test stand data. Permits engineer to check or read data both before and during test runs on entire telemetry train from commutator through the tape recording system, saving a great deal of data reduction time. Samples data at repetition rates of 1/4 to 30 samples per second. Provides reliable performance under extremes of vibration, acceleration, deceleration, etc.

A commercial series for use in wind tunnels, chemical processes, nuclear reactors, etc., where automatic data handling is mandatory. Provide 88 channels of low level information with sampling speeds of 10 or 1/4 samples per second. Output is in pulse width form . . . can be recorded on magnetic tape, transmitted over a line or used to modulate a transmitter. Input sensitivity 15 mv. Available for rack mounting or in a bench cabinet.



A SERIES  
ACCESSORY EQUIPMENT

RF Preamp units for greatly increased receiving range, and RF Multicoupler for operation of up to 4 receivers from a single Preamp or antenna. Broad band operation 215 to 235 megacycles.



**APPLIED SCIENCE CORP.  
OF PRINCETON**  
PRINCETON, NEW JERSEY

West Coast Office: 15551 Cabrito Road, Van Nuys, California  
Southeastern District Office: 1 N. Atlantic Ave., Cocoa Beach, Florida

Send for Our Catalog



## **BOEING 707**

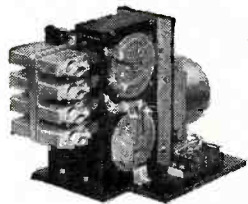
# *ASCOP Sampling Switches — first with performance data on America's first jetliner!*



**CUT-AWAY  
VIEW  
ASCOP  
TELEMETERING  
SWITCH**

When the Boeing 707 — America's first jetliner — enters service on the air routes of the world, seven years of development will be behind it. The most tested airliner in aviation history, prototype of the 600-mile-per-hour plane has already been flying more than two years . . . has already been ordered by eleven famous airlines.

ASCOP high-speed rotary sampling switches were employed in the Boeing 707 to provide detailed information on **flight attitude, air speed, temperature, altitude, stress, etc.** As many as 100 measurements of aerodynamic behavior can be provided by ASCOP switches . . . providing vital statistics that contribute to superior performance. ASCOP is the leading manufacturer of rotary sampling switches and has 300 standard models for use in telemetering, drift compensation, thermocouple sampling, radar display and countless other applications. Write for complete details.



**THERMOCOUPLE  
SAMPLING SWITCH**



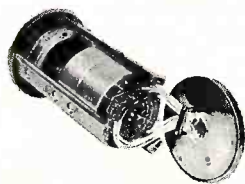
**CRO DISPLAY  
SAMPLING SWITCH**

## **APPLIED SCIENCE CORP. OF PRINCETON**

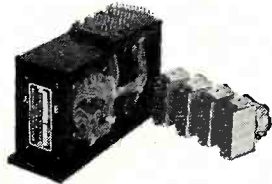
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**GUIDANCE  
SAMPLING SWITCH**



**STRAIN GAUGE  
SAMPLING SWITCH**



# **ASCOP**

WE PROVIDE ▲ THE LEVER YOU MOVE THE WORLD

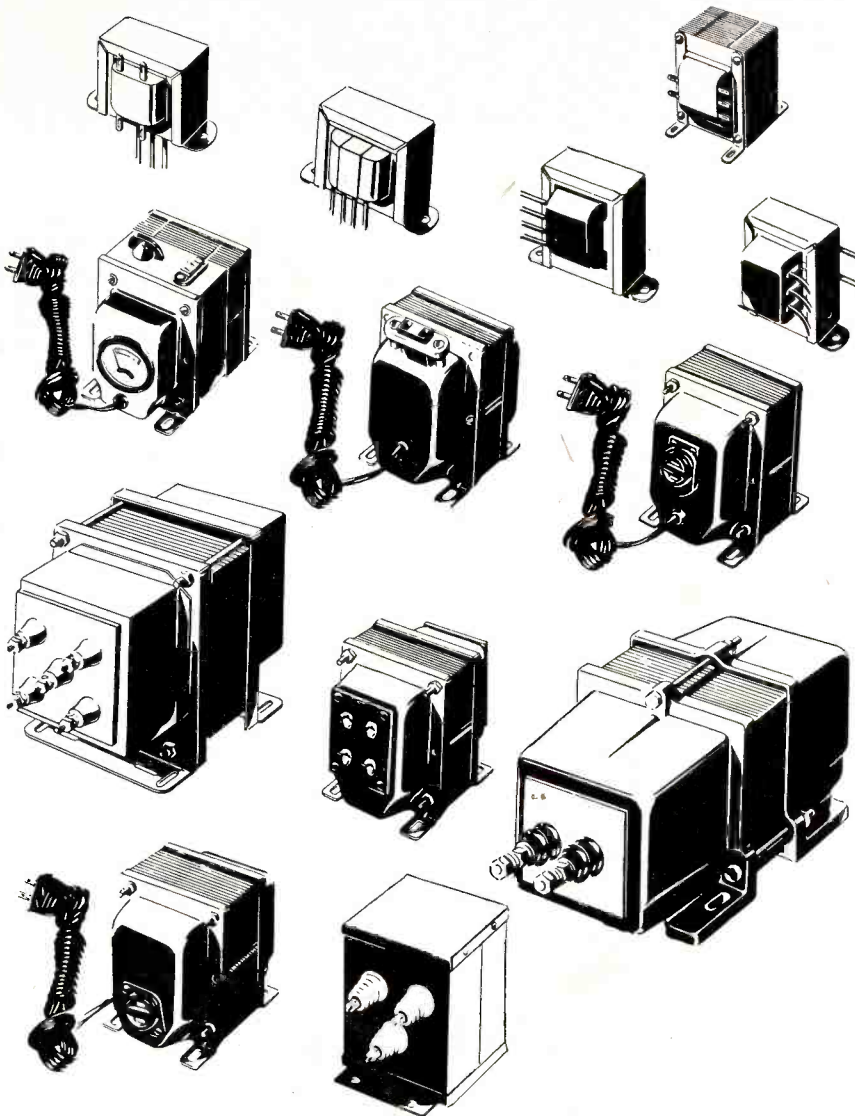
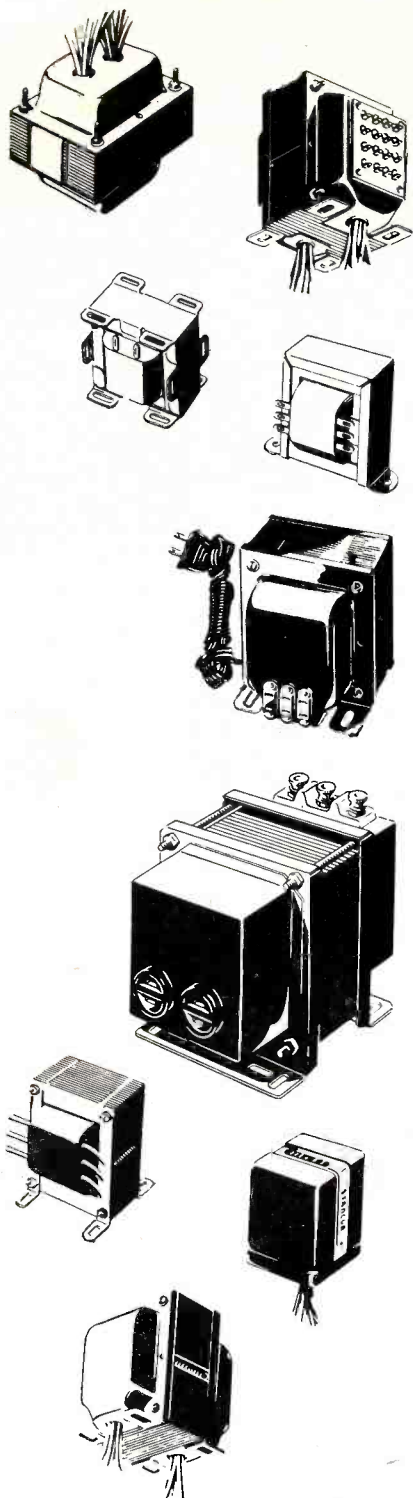


# STANCOR

## STOCK TRANSFORMERS

for dependable, low cost operation

For simplicity, economy and fast delivery—design with stock transformers. Whether you need one unit or one hundred, Stancor catalog transformers are available from stock, through your local Chicago Standard distributor.



- |                                                                      |                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>INPUT</b>                                                         | line to line, line to grid, plate to grid, plate to p-p grids, intercommunication, transceiver                                                                                                                                                                         |
| <b>INTERSTAGE OUTPUT</b>                                             | p-p plates to p-p grids, p-p plates to parallel grids, multi-purpose plate to voice coil, p-p plates to voice coil, hum reducing, tube to line, line to voice coil, 70.7V line, 140V line, outdoor, universal, high fidelity, transceiver                              |
| <b>POWER DRIVER MODULATION FILAMENT CHOKES ISOLATION AUTOFORMERS</b> | dual and multiple secondaries, cathode ray tube, selenium rectifier plate to p-p grids, p-p plates to p-p grids, "Poly-Pedance" plate and "Poly-Pedance" single and multiple secondaries swinging, smoothing, audio straight and step-down straight and line adjusting |
| <b>TV SWEEP CIRCUIT PLATE</b>                                        | <b>BIAS SUPPLY AUDIO FILTERS SELENIUM RECTIFIER</b>                                                                                                                                                                                                                    |



**CHICAGO STANDARD TRANSFORMER CORPORATION**

3521 ADDISON STREET  
CHICAGO 18, ILLINOIS

Export Sales: Roburn Agencies, Inc., 431 Greenwich St., New York 13, N. Y.



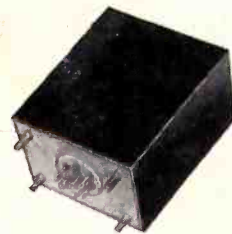
Hermetically Sealed for MIL-T-27A



400 Cycle Units—  
military standard cases



Transistor Audios—  
military standard cases



Saturable Transformers



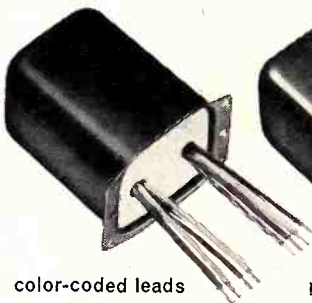
Toroids—open or encapsulated



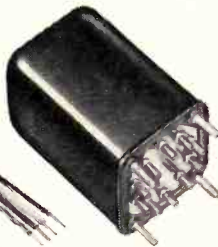
Isolation — Step-down Transformers



Pulse Transformers



color-coded leads



pin-type terminals



solder lug terminals

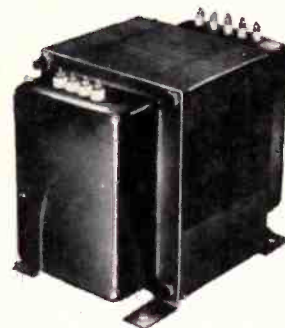


Plate Transformers

**"SEALED-IN-STEEL" TRANSFORMERS**



High Q Chokes



Epoxy Cast Transformers



Modulation Transformers



Splatter Chokes



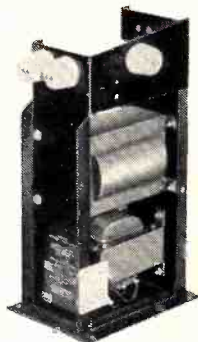
High Fidelity Audio Transformers



Silastic Encapsulated Transformers



Audio Filters



High Voltage Filament  
Transformer and Choke



Miniature Audio  
Transformers



Transistor Transformers  
open case

# CHICAGO TRANSFORMERS

## for High Reliability Applications

Hermetically sealed transformers that meet MIL-T-27A specifications and "Sealed-in-Steel" units for commercial applications are available—in stock—at Chicago Standard. In addition to over 500 of these stock units, special transformers can be built to your specifications by Chicago Standard's engineering staff—the largest and most experienced in the transformer industry. This versatile group includes specialists in filters, magnetic amplifiers, pulse transformers, toroids, transistor transformers and other difficult-to-design units.



**CHICAGO STANDARD TRANSFORMER CORPORATION** 3521 ADDISON STREET  
CHICAGO 18, ILLINOIS

# These Components Solve Exacting Problems!

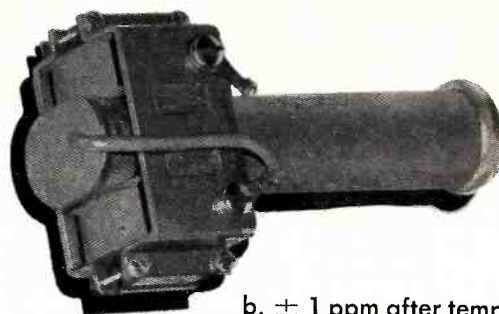
## FORK OSCILLATORS

for the most precise timing and frequency control — new fork unit designed for high environmental vibration uses

### FEATURES

In Audio Frequency systems, the fork has advantages over other types of oscillators including crystals

- **INTRINSIC STABILITY** — Superior at Audio Frequencies
- **TEMPERATURE COMPENSATED**
- **RUGGED MECHANICAL DESIGN**
- **STABILITY NOT DEPENDENT ON AMPLIFIER COMPONENTS** (in recommended circuits)
- **STABLE OPERATION WITHIN 5 MINUTES**
- **LOW AGING RATE**



### SPECIFICATIONS

frequency stability

a.  $\pm 3$  ppm room ambient (no oven)

b.  $\pm 1$  ppm after temperature equilibrium is attained  $\pm 5^\circ\text{C}$

c. Long term drift less than 5 ppm per annum after first 3 months



## DATA RECORDER AND TIMING UNIT

The highly accurate linear scan rate of the recording stylus makes the Model RJC Precision Depth Recorder ideally suited for the measurement of short or long pulse phenomena. The cumulative stylus position error does not exceed one scan in twelve days (at 1 scan per second) while the maximum instantaneous error is 0.015%.

## TOP HAT

### TUBE CLAMPS

#### RETAINERS FOR PLUG-IN COMPONENTS

An improved clamp for securing electron tubes, relays, capacitors and other plug-gable parts.

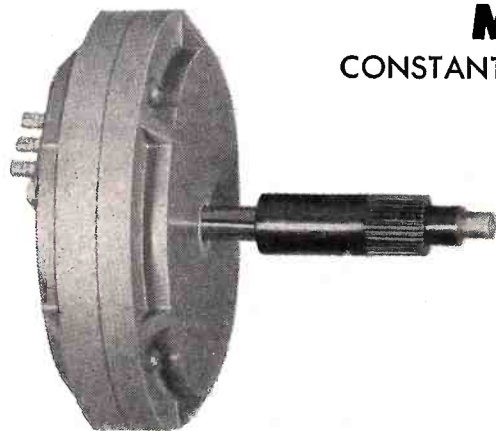
**POSITIVE** Component even when inverted will not loosen under the most severe shock or vibration.

**CORROSION RESISTANT** Hats and Posts are stainless steel. All materials and

finishes comply with Armed Forces Specifications.

**RESILIENT** Positive retention is achieved with minimum rigidity or strain on component.

**ACCESSIBLE** Clamp fits on top of component and can be fastened or released easily without tools.



## MS-2 SYNCHRONOUS MOTOR

CONSTANT ANGULAR ROTATION  $\pm 0.1$  DEGREES—NO LOAD TO FULL LOAD!

A phonic wheel type motor capable of operating from vacuum tube amplifiers on signal frequencies from 60 to 4000 cps. It was designed to provide the extremely accurate and invariable speed required for driving fork-synchronized facsimile equipment. Its unique characteristics will be found the answer to many problems involving the need for constant angular rotation or precise synchronization.

The Model MS-2 Motor can be operated single phase in the plate circuit of a single-ended amplifier or as a two phase motor when driven by a push-pull amplifier. The latter is recommended since the two-phase connection runs quieter and provides more power with less heating. The motor current is about 75 milliamperes per phase. The power input may be as high as 20 watts.

Complete information and prices will be mailed promptly on request

## TIMES FACSIMILE CORPORATION

540 West 58th Street, New York 19, N.Y. • 1523 L Street N.W., Washington 5, D.C.

# Machlett Electron Tubes for Broadcasting & Industry

## MODULATOR — OSCILLATOR — AMPLIFIER TRIODES

TYPE	CATHODE		A. F.	MAXIMUM ANODE RATING				FULL INPUT FREQ. MCS.	COOL-ING
	VOLTS	AMPS		MU	VOLTS	AMPS	INPUT WATTS		
ML-2C39A	6.3	7.0	100	1000	0.125‡	125	100	2500	F-A
ML-212E	14.0	6.0	16	3000	.350	—	275	1.5	C
ML-220C	21.5	41.0	40	15000	1.5	—	10000	4	W
ML-220CA	21.5	41.0	40	15000	1.5	—	5000	4	F-A
ML-228A	21.5	41.0	16	6000	1.5	—	5000	3	W
ML-232B	20.0	60.0	40	20000	3.0	—	25000	3	W
ML-240B	21.5	41.0	40	12000	1.7	—	10000	20	W
ML-241B	14.0	6.0	16	3000	.350	—	275	7.5	C
ML-279A	10.0	21.0	10	3000	.800	—	1200	20	C
ML-298A	27	225	32	20000	11.0	—	100000	4	W
ML-298B	27	225	57.5	20000	11.0	—	100000	4	W
ML-342A	20.0	67	40	20000	2.5	—	25000	4	W
ML-343A	21.5	57.5	40	18000	2.0	—	10000	4	W
ML-343AA	21.5	57.5	40	18000	1.5	—	5000	4	F-A
ML-354	12.0	220	25	15000	12	150000	75000	20	W
ML-356	7.5	170	20	12500	6.0	60000	22500	25	W
ML-357B	10.0	10	30	4000	0.5	1800	400	100	C
ML-379A	10.0	21.0	10	3000	.800	—	1200	20	C
ML-381	6.0	1.0	100	3500	0.01*	35*	35*	3000	F-A
ML-880	12.6	315	20	10500	6.0	60000	20000	25	W
ML-889A	11.0	120	21	8500	2.0	16000	5000	50	W
ML-889RA	11.0	120	21	8500	2.0	16000	5000	40	F-A
ML-891	22.0	60	8.5	12000	2.0	18000	6000	1.6	W
ML-891R	22.0	60	8.5	10000	2.0	15000	4000	1.6	F-A
ML-892	22.0	60	50	15000	2.0	30000	10000	1.6	W
ML-892R	22.0	60	50	12500	2.0	18000	4000	1.6	F-A
ML-893A	20.0	183	34.5	20000	4.0	70000	20000	5	W
ML-893AR	20.0	183	34.5	20000	4.0	70000	20000	5	F-A
ML-5530	5.0	55	26	5000	1.75	8750	4000	110	F-A
ML-5531	6.3	92	24	10500	3.75	30000	10000	30	F-A
ML-5541	7.5	57	26	8500	2.75	23000	10000	110	F-A
ML-5604	11.0	176	19.5	12500	3.0	32500	10000	25	F-A
ML-5606	22.0	60	50	14000	2.0	25000	10000	1.6	W
ML-5619	11.0	176	19.5	12500	3.0	32500	20000	25	W
ML-5658	12.0	310	20	12500	5.0	60000	20000	15	W
ML-5666	11.0	120	21	10000	2.0	20000	12500	22.5	W
ML-5667	11.0	120	21	10000	2.0	20000	7500	22.5	F-A
ML-5668	22.0	60	50	14000	2.0	28000	20000	5	W
ML-5669	22.0	60	50	14000	2.0	28000	10000	5	F-A
ML-5681	12.0	220	25	15000	12.0	150000	75000	30	W
ML-5682	16.5	325	30	16000	20.0	300000	120000	30	W
ML-6256	12.6	27	21	5500	1.5	7000	5000	110	W
ML-6257	12.6	27	21	5500	1.5	7000	5000	110	W
ML-6258	12.6	27	21	5500	1.5	7000	3000	110	F-A
ML-6420	7.0	85	20	10000	2.2	20000	12500	30	W
ML-6421	7.0	85	20	10000	2.2	20000	10000	30	F-A
ML-6422	7.0	85	90	12500	2.5	30000	20000	30	W
ML-6423	7.0	85	90	12500	2.5	30000	12500	30	F-A
ML-6424	7.0	120	20	12500	3.5	40000	20000	30	W
ML-6425	7.0	120	20	12500	3.5	40000	12500	30	F-A
ML-6426	8.0	200	20	12500	8.0	80000	40000	30	W
ML-6427	8.0	200	20	12500	7.0	80000	20000	30	F-A
ML-6576	7.5	170	5.5	12000	5.0	45000	22500	25	W

## New TRIODES

ML-2C39WA	5.8	1.0	100	1000	.125‡	100	100	2500	F-A
ML-2C41	6.3	1.03	100	3500†	4.0†	35	35	3000	F-A
ML-5530-H	5.0	55	26	8500	1.75	10000	4000	30	F-A
ML-5736	6.0	60	22	5000	1.4	5000	2500	60	F-A
ML-6623	6.0	60	22	5000	1.4	5000	2500	30	F-A
ML-6696	13.0	205	20	16000	11	120000	60000	30	W
ML-6697	13.0	205	20	16000	11	120000	35000	30	F-A

## HIGH VACUUM RECTIFIERS

TYPE	CATHODE		ANODE RATINGS		INSULA-TION	COOL-ING
	VOLTS	AMPS	INV. PKV	PEAK MA		
ML-102A	20	19.0	75	750	Air	C
ML-103	10	11.5	125	78	Oil	R-C
ML-108	13	12.5	140	200	Oil	R-C
ML-115	10	11.5	125	100	Air	C
ML-120	13	12.5	140	200	Air	C
ML-121	10	11.5	140	100	Oil	R-C
ML-141	5.5	6.5	125	750	Oil	C
ML-170	13	12.5	200	200	Air	C
ML-180	13	12.5	200	200	Oil	R-C
ML-199	12	23	110	10000	Air	C
ML-222A	21.5	41	25	5000	Air	W
ML-322	6.3	.95	.8	600	Air	C
ML-5575/100	20	24	150	1000	Air	C
ML-5576/200	20	32	150	2500	Air	C

## New HIGH VACUUM RECTIFIERS

ML-142	3.8	6.6	100	250	Oil	R-C
ML-148	5.7	6.6	150	1000	Oil	R-C
ML-6908	12	23	150	10000	Oil	R-C

## New SWITCH AND MODULATOR TUBES

TYPE	CATHODE		A. F.	MAXIMUM RATINGS			
	VOLTS	AMPS		MU	PEAK ANODE VOLTS	PEAK CATHODE CURRENT AMPS	ANODE DISS. WATTS
DP-1 (Tetrode)	6.3	12	950	125000§	2	150	C
ML-6544 (Shielded Grid Triode)	6.0	60	90	25000	75	1000	F-A

### LEGEND:

- C... Convection
- R-C... Radiation-Convection
- W... Water
- F-A... Forced Air
- A.F... Amplification Factor
- ‡... D-C Cathode Current
- \*... Duty Cycle: 0.0033
- †... Duty Cycle: epy 3,500 volts  
b 4 amps  
Pulse Length 3 usec max  
Duty 0.0025 max
- §... Hold-Off Voltage

## Distributors

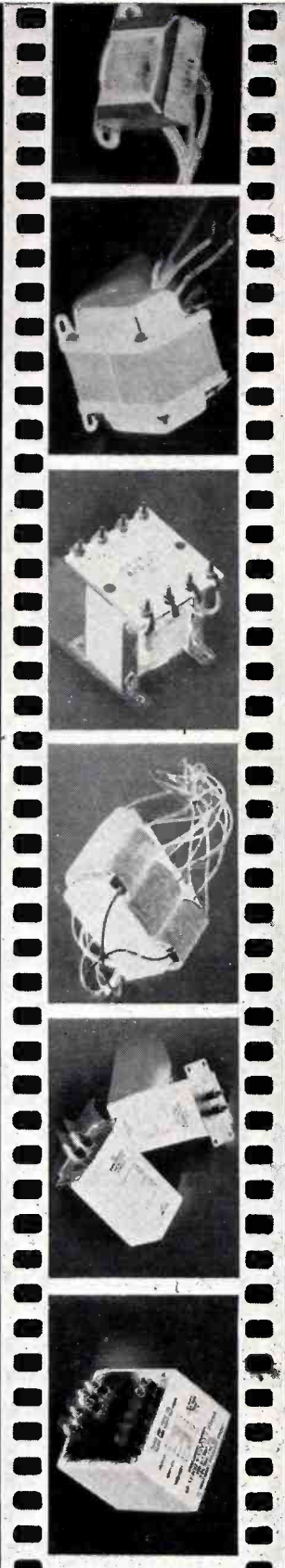
United States ..... Graybar Electric Company  
 Canada ..... Dominion Sound Equipments, Ltd.  
 Europe, South America, Africa, Asia ..... Westrex Corp.

Note: For complete technical data or prices write to Machlett Laboratories, Inc., Springdale, Conn., or nearest Graybar, Westrex, or Dominion Sound Equipment Office.



MACHLETT LABORATORIES, INC., Springdale, Connecticut

here's where we fit into your components picture



saturable reactors  
self-saturating transformers  
industrial transformers

**Chicago Electronic**  
ENGINEERING CO., INC.  
3223 WEST ARMITAGE AVENUE  
CHICAGO 47, ILLINOIS

**NEW!**  
**transistorized**  
**PLUG-IN COUNTING CIRCUITS**

AMAZING DESIGN LATITUDE-  
STOCK CIRCUITRY  
CUSTOM  
PACKAGING

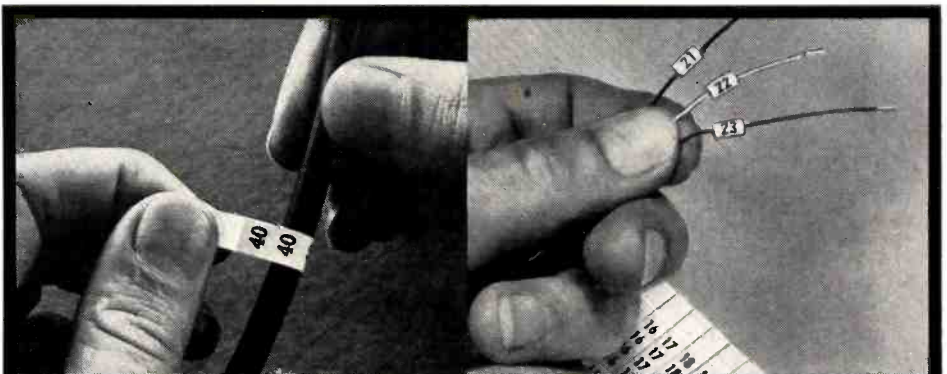


Substantial space and material savings with Walkirt's expanding line of subminiaturized units: Plug-In's ("P" Series) fit standard 7-pin miniature socket; easily retained with standard tube shield. Cartridge types ("C" Series) for permanent installations feature high space density stacking; miniature styling. Epoxy-Resin Embedded!

FROM THE ORIGINATORS OF THE PLUG-IN CONCEPT

THE **WALKIRT** co.

145 WEST HAZEL ST., INGLEWOOD 3, CALIF.



**E-Z CODE WIRE MARKERS**

**Positive identification for ANY gauge wire or cable**

*Meets MIL-D-10369B for fungus resistance*

An inexpensive, self-adhering, easily-applied wire marker, made of Vari-temp\* cloth or aluminum foil. Provides easy reading of wires from any angle.

Thousands of stock items, ranging from prices as low as 1/8¢ per wire lead. Stock lengths of 3/4" and 1 1/2". Ideal for use in original equipment assembly, in maintenance and installation work. Saves hours of labor, can be used anywhere. E-Z CODE markers are applied without touching and affecting adhesive quality.

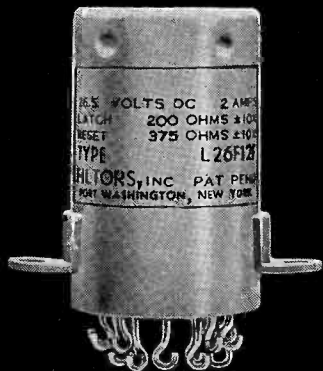
\*Vari-temp: temperature range from -300F. to +300F.

*Available nationally; write for free working samples and name of your local distributor*

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Division of Western Lithograph Co.  
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and electrically reset.  
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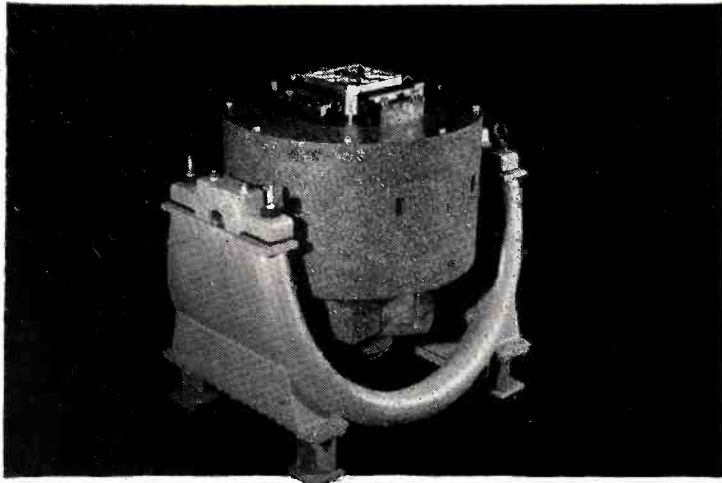
*Leading manufacturers of  
hermetically sealed  
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# TWO NEW CALIDYNE SHAKERS

...for Vibration Testing Systems



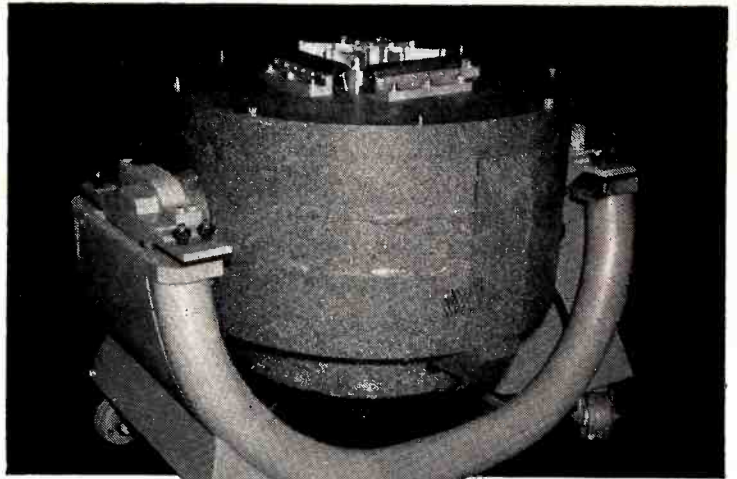
**MODEL 174 SHAKER**

up to 1,500 lbs. force output

CALIDYNE'S Model 174 Shaker featuring high frequency operation and low input requirements has been so designed that it can be utilized in any one of six CALIDYNE Vibration Test Systems.

The versatility of the Model 174 Shaker extends the range of vibration testing for which this shaker can be used. It further advances CALIDYNE Systems of vibration control, enabling equipment manufacturers to: create vibratory forces over a wide range, measure them, use them for testing and measuring the test results.

Complete performance data on each of these 6 CALIDYNE Series 174 Shaker Systems are contained in New Bulletin 17400.



**MODEL 177 SHAKER**

up to 5,000 lbs. force output

The Model 177 is one of a new series of "wide-band" shakers designed for higher frequency operation and lower input requirements. It is the Basic Unit for five completely integrated CALIDYNE Vibration Test Systems. Oscillatory linear forces up to 5000 lbs. are generated and precisely controlled over wide ranges for vibration research and test of products.

A separate Bulletin 17700 details the specifications, performance data, basic components and accessories of the new Model 177 CALIDYNE Shaker and its five Shaker Systems.



Typical vibration testing applications of these 2 new CALIDYNE Shakers include:

1. **Brute Force Shaking** at frequencies simulating the worst conditions of ultimate operation.
2. **Structural Response Testing** to determine mode shape, frequency and damping characteristics.
3. **Fatigue Testing** for high stress providing deflections many times greater than normal usage.
4. **Random Vibration Testing** for more exact simulation of true environment.

In addition to these systems we manufacture Shaker Systems producing Force Outputs of from 25 lbs. to 17,500 lbs.

For engineering counsel in applying the destructive force of vibration to your own research and testing problems, call us here at CALIDYNE — (Boston) Winchester 6-3810.



# THE CALIDYNE COMPANY

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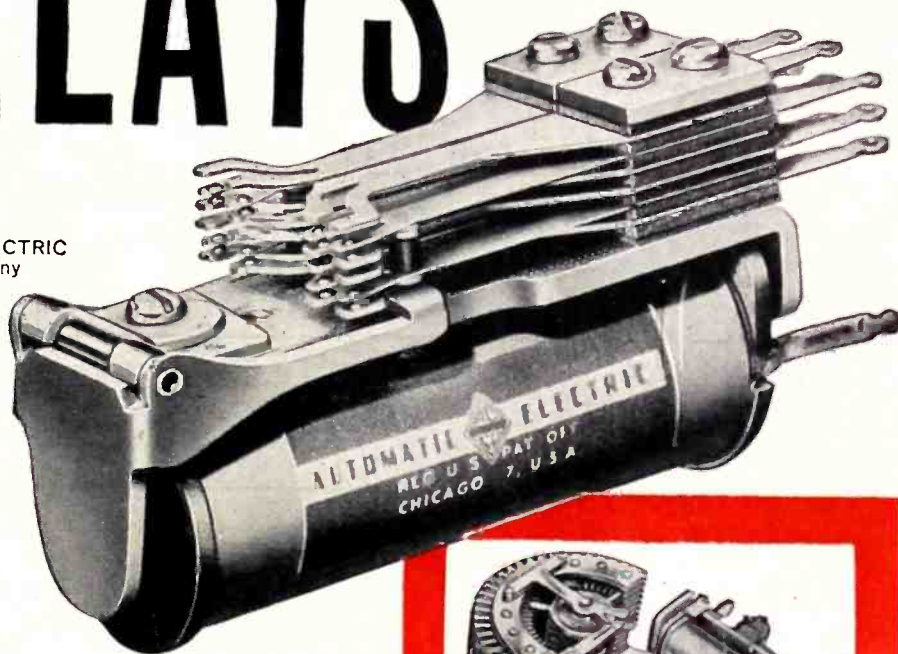
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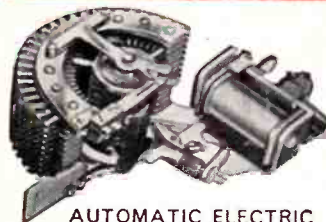
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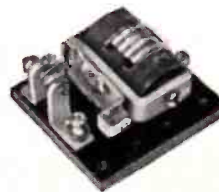
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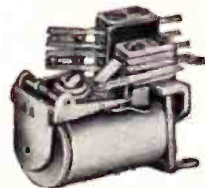
West Chicago, Ill.



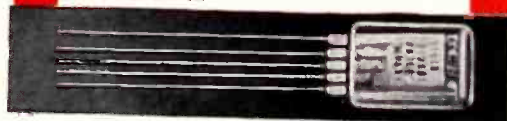
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Type 45 Stepper  
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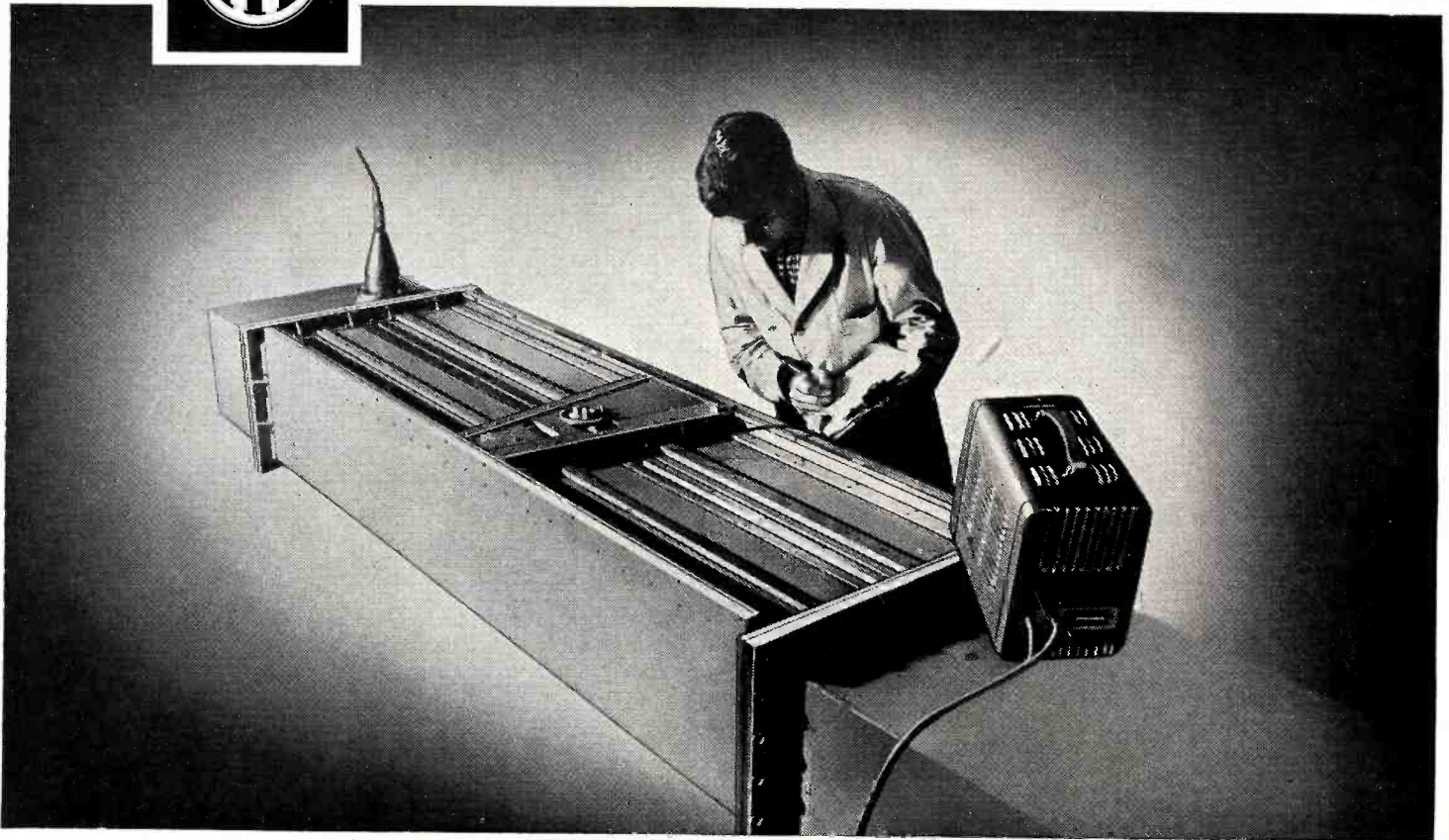
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# SINGLE SOURCE FOR ANTENNA



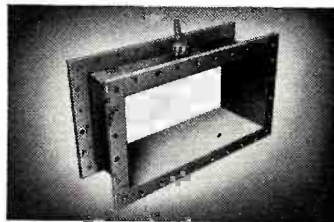
## WAVEGUIDE AND COMPONENTS



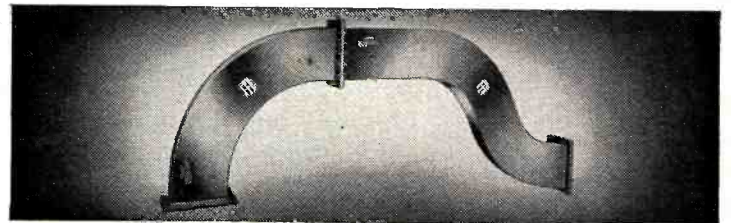
Slotted line for WR2100



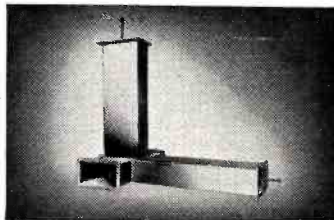
12 ft. section WR975 waveguide



Close-loop directional coupler



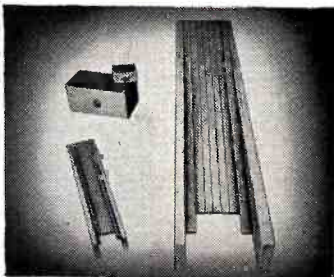
Waveguide bends



E-H plane tuner



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Loads and short circuit plungers

I-T-E developed this complete line of large waveguide, waveguide components and test equipment to fill an urgent need in the field of multi-megawatt radar and scatter communication systems. It is currently being supplied in quantity for both military and commercial applications and is available in either standard or special configurations to meet your requirements.

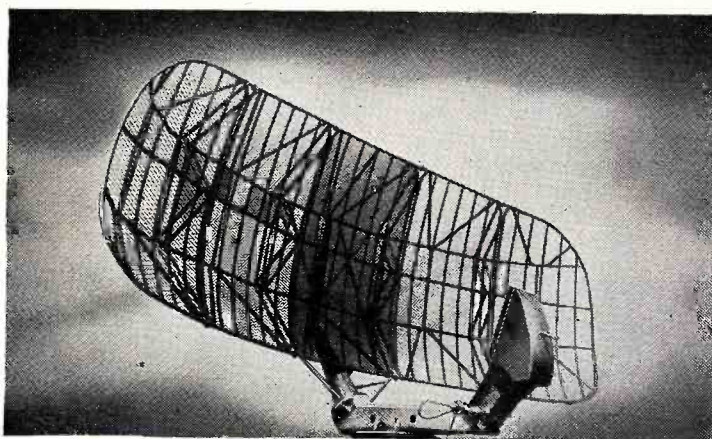
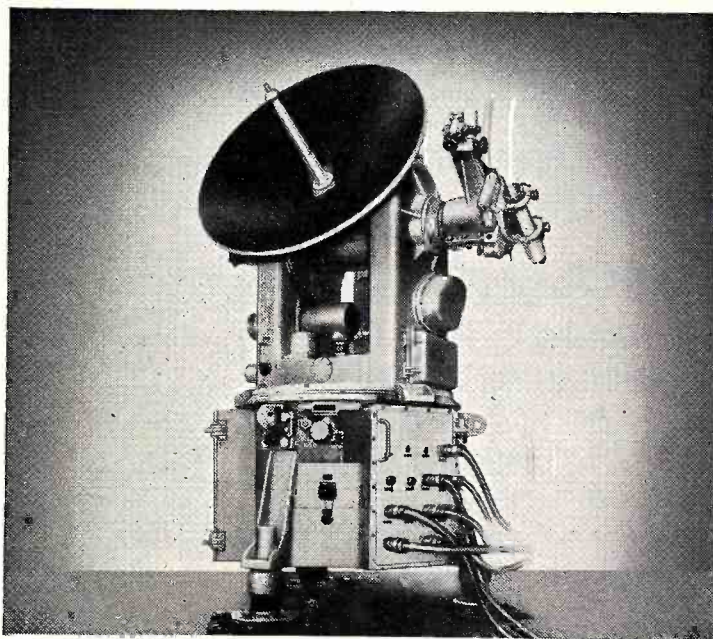
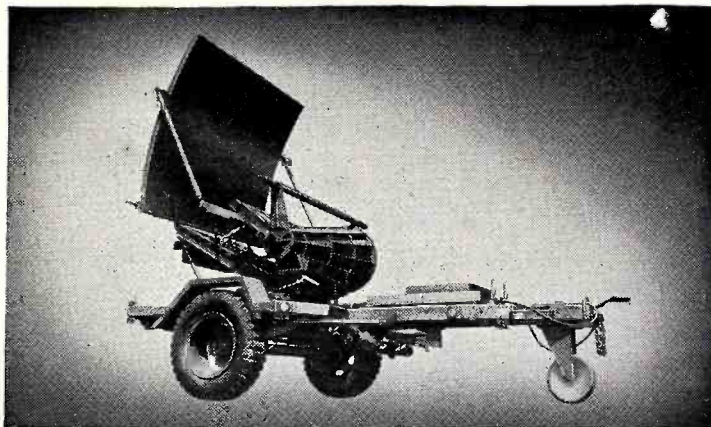
This equipment is built under rigid design and quality standards and by means of unique fabricating techniques. Thus, it assures you the maximum of economy and system reliability.

# SYSTEMS AND COMPONENTS

## ANTENNA SYSTEMS

I-T-E is equipped with personnel and plant facilities to provide complete engineering and manufacturing for your antenna requirements. Scope of service ranges from applied research through development, design, fabrication, assembly and final test of the equipment you need. Experience covers antenna systems for radar and communications applications—Government or commercial—plus reflectors, lenses, feeds, pedestals, servo systems and the other essential types of antenna components.

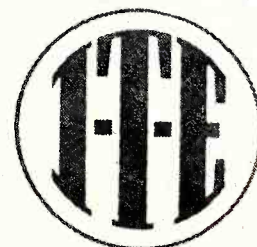
Shown are a few of our recent projects. For complete information on all our products, write for new, 20-page Bulletin SP-200.



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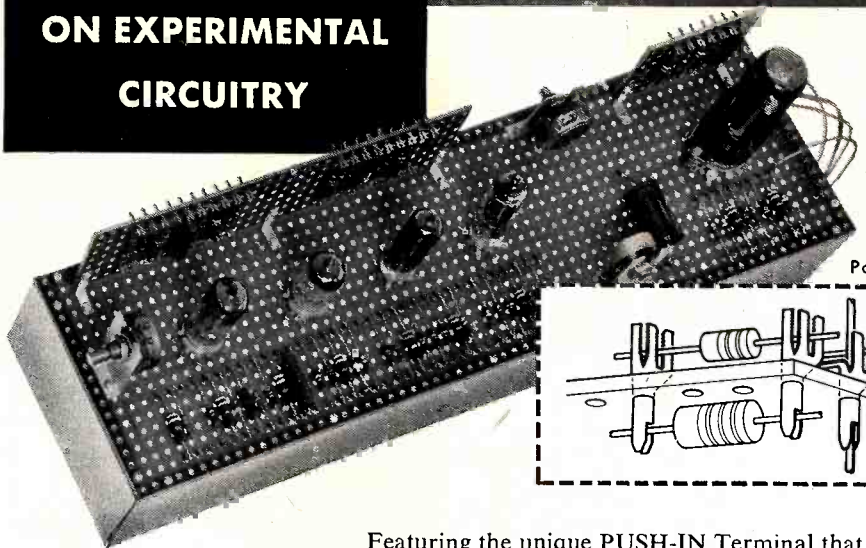
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*Kanthal DR resistance wire*  
**SAVES YOU UP TO 20% because...**

- ... it is lighter in weight (more feet per pound), and the price per pound is low. Total savings approximately 20%.
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Also inquire about KANTHAL NIKROTHAL 6(60/16) nickel-chromium alloy for wire wound resistors. Savings up to 7%.



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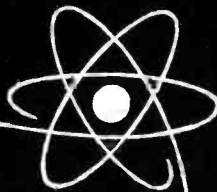
**COMPLETE SYSTEMS**

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Precious Metals



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Technic, Inc. equips you with controlled apparatus and electroplating solutions to maintain exacting standards and close tolerances. Typical benefits are the spectacular economies Technic effects in handling gold — where often electroplaters lose up to \$60,000 or more of every \$100,000 worth through outmoded equipment, inefficient methods and solutions.

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**TECHNIC BIBLIOGRAPHY**

Technic publications, authoritative in our field: "Electroplated Gold"; "Precious Metal Electroplating Data: Gold, Rhodium, Palladium, Platinum"; "Electroplated Platinum"; "Electroplated Palladium"; "Electroplated Rhodium"; "Analysis of Gold & Gold Alloy Solutions".

*Consult us without obligation; whether in respect to a new installation and electroplating solutions, or an existing system now in use. Write for Technic publications in your field of interest.*

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provide full range instrumentation

Here are *complete* recording systems—designed to give you the greatest flexibility in measurement problems. For example:

- A greater range of signals can be recorded with optimum resolution than with any other direct writing Oscillograph. New Brush Oscillographs have the widest chart speed range available—from 10" per day to 10" per second.
- The units are designed for physical interchangeability. The 4 and 6-channel Oscillographs are mounted in identical chassis. Systems can be mounted in standard 19-inch racks, or bench top or floor consoles.
- Coordinated *system* design means that one system can meet many requirements. You can cover the full range of direct writing Oscillograph application with Brush equipment.
- Accessories available: event markers, timing markers and remote control units.

## WHAT IS YOUR MEASUREMENT PROBLEM?

These Brush instruments can simplify your testing and development work.

**FOR ELECTRICAL MEASUREMENTS**  
Amplifiers for systems to measure and record voltages and currents.

BL-530 Dual Channel D. C. Amplifier  
BL-550 D. C. Amplifier, High Gain  
BL-560 Servo-Analyzer  
BL-905 A. C. Amplifier, High Gain  
BL-954 A. C. Pre-Amplifier, High Gain  
BL-533 Single Channel D. C. Amplifier  
BL-536 Multichannel D. C. Amplifier  
BL-266D Fault Recorder  
BL-288 Event Recorder

**FOR PHYSICAL MEASUREMENTS**  
Amplifiers for measuring stress, strain, torque, force, pressure, etc.  
BL-520 Universal\* Amplifier  
BL-350 Input Box (Resistive)  
BL-345 Input Box (Inductive)  
Tension Analyzer\*

**FOR RESISTANCE-WELDING MEASUREMENTS**  
For measuring and recording welding variables.

BL-325 Welding Analyzer\*

**FOR SOUND MEASUREMENTS**

BL-1516 Strain Gage Apparatus  
BL-1015 Low Frequency Beat Frequency Oscillator  
BL-1602 Frequency Distortion Measuring Bridge  
BL-1609 1/3 Octave Filter Set  
BL-1014 Beat Frequency Oscillator  
BL-1606 Vibration Pickup Preamplifier  
BL-2002 Heterodyne Voltmeter  
BL-2105 Frequency Analyzer  
BL-2109 Third Octave Spectrum Analyzer  
BL-2304 High Speed Level Recorder  
BL-2370 Polar Diagram Recorder  
BL-2601 Microphone Amplifier  
BL-3302 Frequency Response Recorder

**DIRECT WRITING OSCILLOGRAPHS**

**Portables**

BL-201 Single Channel Direct Inking  
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BL-221 Single Channel Direct Inking and Electric  
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BL-262 Double Channel Direct Inking and Electric  
BL-254 Four Channel Direct Inking  
BL-256 Six Channel Direct Inking  
BL-264 Four Channel Direct Inking and Electric  
BL-266 Six Channel Direct Inking and Electric  
BL-268 Eight Channel Direct Inking and Electric

BL-4002 Sound Absorption Measuring Equipment

BL-4109 Artificial Ear  
BL-4111 Condenser Microphone  
BL-4119 Microphone Calibration Apparatus  
BL-4211 Constant Sound Pressure Source  
BL-4210 Artificial Voice  
BL-4308-4309 Miniature Accelerometer  
BL-4707 Automatic Frequency Response Tracer

**INDUSTRIAL INSPECTION EQUIPMENT**

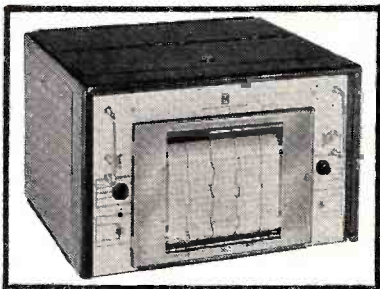
BL-110 Surfindicator\*  
BL-144 Metal Monitor

**PRODUCTION INSPECTION EQUIPMENT**

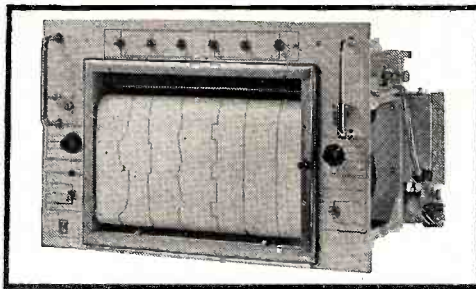
BL-1504, BL-1506 Deviation Test Bridge  
BL-2423 Megohmmeter and D. C. Tube Voltmeter

(\*Trade-Mark)

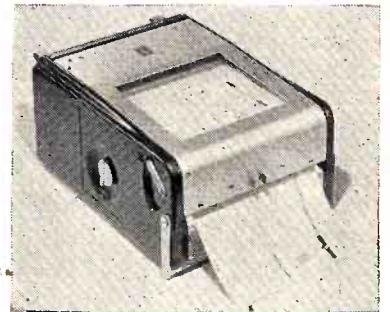
## OSCILLOGRAPHS



Model BL-254, Four-Channel.



Model BL-266, Six-Channel.

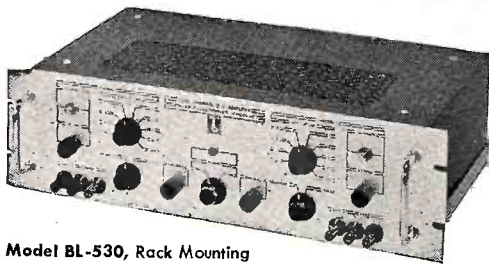


Model BL-274, Portable Four-Channel

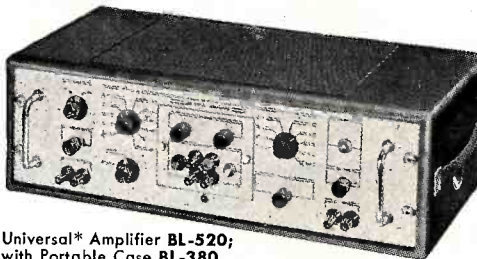
**Oscillographs** for standard rack or bench top console. The 4-channel unit can be expanded to six channels to meet your changing requirements. Electrically controlled chart drive transmission—standard in all multi-channel oscillographs—permits instantaneous switching and remote control. Choice of 8 or 16 chart speeds. Choice of ink or electric.

Portable Oscillographs feature light weight and small size; they are self-contained. Equipped with electrically controlled chart drive transmission—16 chart speeds available.

## AMPLIFIERS



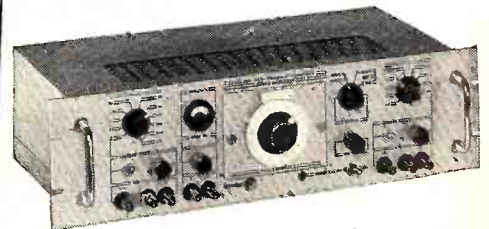
Model BL-530, Rack Mounting



Universal\* Amplifier BL-520;  
with Portable Case BL-380.

**Brush Amplifiers** feature low drift scale expansion, choice of single ended or balanced inputs. May be operated on a wide range of line voltages and frequencies. New Universal\* Amplifier can be used with *both* resistive or inductive transducers. When used with Brush Direct Writing Oscillograph, permits measurement and direct recording of physical phenomena such as strain, stress, torque, force, etc. Amplifier includes direct coupled section that may be used separately for voltage and current measurements.

## SERVO-ANALYZER AMPLIFIER



New amplifier, coupled to a Brush direct writing oscillograph, provides a package unit to record performance of servo systems in carrier frequency range of 50 to 10,000 cps. Offers exceptional frequency response, flexibility, high accuracy.

# BRUSH ELECTRONICS

3405 Perkins Avenue, Cleveland 14, Ohio



# COMPANY

DIVISION OF

**CLEVITE**  
CORPORATION

# BRUSH ELECTRONICS

## VIBRATION & NOISE INSTRUMENTATION

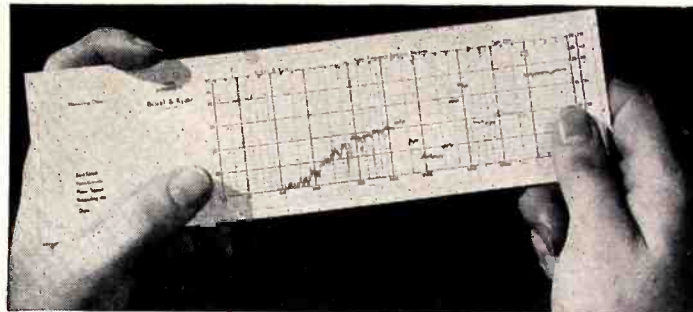
Chart record produced by the Brush Spectrum Recorder presents a complete frequency and level analysis of noise and vibration. It is an example of the way Brush instrumentation can aid *your* analysis of noise, vibration or strain.

- All sounds from 14 cycles to 36,000 cycles per second automatically scanned and recorded by the Brush Spectrum Recorder

to eliminate laborious plotting of data.

- Measurements made in one-third octave steps, to positively identify frequencies.
- Complete recording through the complete frequency range made in 21 seconds, to save valuable engineering time.

The Spectrum Recorder is one unit in the most com-



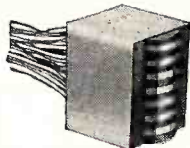
plete line of noise and vibration instrumentation available (manufactured in Denmark by Bruel & Kjaer). (See box opposite page). Thus Brush can offer you matched systems, and offer application assistance on complete projects.



## MAGNETIC HEADS

Brush offers single channel record-reproduce and erase heads, multichannel record-reproduce heads, miniature record-reproduce heads and erase heads.

Multichannel heads available in standard designs in encased assembly or cartridge assembly up to 26 channels. New high precision models offer extremely close tolerances.



### MULTICHANNEL HEAD DESIGN FEATURES

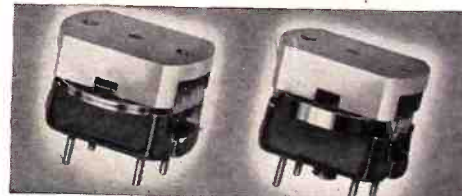
- All gaps in precise alignment.
- Individual channels are closely held in precisely machined metal brackets or cast into one integral block of specially selected synthetic resin.
- Complete assembly is non-microphonic and impervious to moisture.
- Mu-metal shields between individual channels.
- Ground lead supplied for shields and pole pieces.
- Wide range temperature operation.
- Special design features may be supplied to meet your requirements.



### SINGLE-CHANNEL REDHEADS

Halftrack  
BK-1090 Record/Reproduce  
BK-1091 High Impedance  
BK-1110 Erase

Fulltrack  
BK-1250 Record  
BK-1251 Reproduce  
BK-1252 Erase



### CARTRIDGE TYPES

The BK-900 series heads were designed for single-channel recording on any magnetic medium.

## HEADPHONES

Brush crystal headphones have Bimorph® crystal drive element of high impedance, offer wide range response with uniform output, are lightweight, rugged, shock-proof. Brush also offers a complete line of cartridges for acoustic applications.

Model BA-200 Ext. range headphones      Model BA-200 Gen. purpose headphones  
Model BA-206 High fidelity headphones      Model BA-201 Single phone



Model BA-200. Designed for GENERAL PURPOSE applications including laboratory, studio and skilled amateur home use. High impedance; ideal for multiple installations.



Model BA-206. Designed for use where high fidelity and smooth frequency response are of paramount importance. Features exceptionally flat frequency response.

## PIEZO-ELECTRIC ELEMENTS

for electro-acoustical and electro-mechanical applications: Plates of Rochelle Salt; Ammonium Dihydrogen Phosphate (ADP); Lithium Sulphate; Barium Titanate (Brush Ceramics A & B); Dipotassium Tartrate (DKT); Cylinders, curved plates, bowls and other shapes of Barium Titanate (Brush Ceramics A & B);

For complete information write Dept. KK

Bimorphs\* of Rochelle Salt; Ammonium Dihydrogen Phosphate (ADP); Barium Titanate.

ELECTRO-OPTIC ELEMENTS — Unpolished blanks of Ammonium Dihydrogen Phosphate (ADP); Potassium Dihydrogen Phosphate (KDP) for electro-optic shutters, etc.

# BRUSH ELECTRONICS

3405 Perkins Avenue, Cleveland 14, Ohio



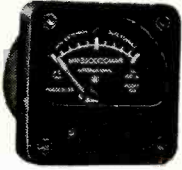
# COMPANY

DIVISION OF





## RUGGEDIZED METERS



1 1/2" Square

Meets MIL-M-10304 (SIG. C.) Accurate within ±3% of full scale deflection. Basic d-c ranges 0-100 d-c ua, 0-1 d-c ma, and 0-10 d-c mv. RF and VU meters and other ranges also available.

d-c ma, and 0-10 d-c mv. RF and VU meters and other ranges also available.



## SUB-MINIATURE ROTARY SWITCH



\* Wafer size 1" x 7/8". Twelve positions per deck . . . one to three decks. One, two, three or four poles per deck. Shorting or non-shorting contacts. Positive indexing with 30° spacing.



## from JAPAN

Prompt quotations on your electronic component requirements

**SONY C37A Condenser Microphone**—World's most perfect microphone. 20-18,000 ± 2 db. Uni- and omnidirectional. Gold-sputtered plastic diaphragm.

\$300

**1/5 SONY - 10 Dynamic Microphone**—50-12,000 cycles

\$19.95

**2 and 3 Channel Magnetic Tape Heads**

**Phono Turntables and Tone Arms**

## INTERSEARCH

7 ARCADIA, CINCINNATI 8, OHIO

## SPECIALISTS

**in Sub-Miniature Panel Meters**

**FIRST  
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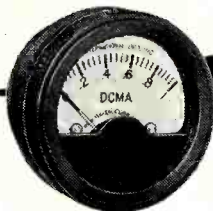
in U.S. to manufacture 1" diameter meter.  
to produce 1" and 1 1/2" illuminated meters.  
to produce 1 1/2" self-contained DB and VU meters.  
to produce Miniature Side Indicators.

## 1" ROUND

MODEL 100



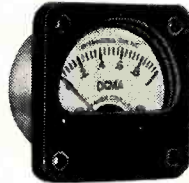
1" barrel diameter. Full 90° scale arc, scale length .770". VU, DB and illuminated meters also available with external accessory attached.



MODEL 150

## 1 1/2" ROUND and SQUARE

1 1/2" barrel diameter. Full 90° scale arc, scale length 1.322". Model 153 meets MIL-M-3823 requirements. Also available: self-contained VU and DB meters — illuminated meters with lamp housing attached.



MODEL 153

## SIDE INDICATORS\*

- GREATER READABILITY
- REDUCES PANEL AREA 1/3 OVER CONVENTIONAL METER INSTALLATIONS OF SAME SCALE LENGTH
- HORIZONTAL OR VERTICAL MOUNTING

THREE SIZES AVAILABLE:

MODEL 1120—Scale length 1.3".

MODEL 1135—Scale length 2.1".

Front external zero adjuster.

MODEL 1145—Scale length 2.75".

Front external zero adjuster.

International Instruments' components lead the way for miniaturization through practical engineering design.

\*Pat. Pending

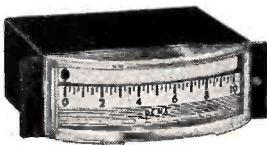
ENGINEERING DATA SHEETS COMPLETELY DESCRIBING THESE INSTRUMENTS ARE AVAILABLE. WRITE FOR YOUR COPIES TODAY.



MODEL 1135  
Single Horizontal Mounting



MODEL 1120



MODEL 1145  
Single Horizontal Mounting



# international instruments

INCORPORATED

P.O. BOX 2954, NEW HAVEN 15, CONN., CABLE "INTERINST"

## Silver-Zinc BATTERIES

for critical uses

### AUTOMATICALLY ACTIVATED:

A very recent development in missile auxiliary power, this design is remarkably simple and reliable. Having inherently precise voltage regulation, less than 1-second elapses between activation signal and full output under load.

Examples:

Model P3A: Simultaneous output of 360v @ 100 ma, 6.8 v. @ 20 amp. Hermetically sealed, —65°F. to 212°F. operation, 9.8 lbs.

Model P13A: 56 v @ 245 amp. Hermetically sealed, only 23 lbs. Inherent ± 1.0 v regulation.

All automatic models are "special," but usual requirements are delivered in 60-90 days.

### SECONDARY (RECHARGEABLE)

All cells shipped dry-charged. Range of current standard single-cell types:

Ampere hours: 0.5-50  
Voltage output: 1.5 v-nominal  
Current output: Up to 1,100 amp  
Size & Weight: Equal to the best silver units obtainable.

Batteries are readily made up of individual cells as required, encased in stainless steel box.

Manually-activated primary (one-shot) batteries are also available.

Development & Manufacture of Precision ElectroChemical and ElectroMechanical Devices



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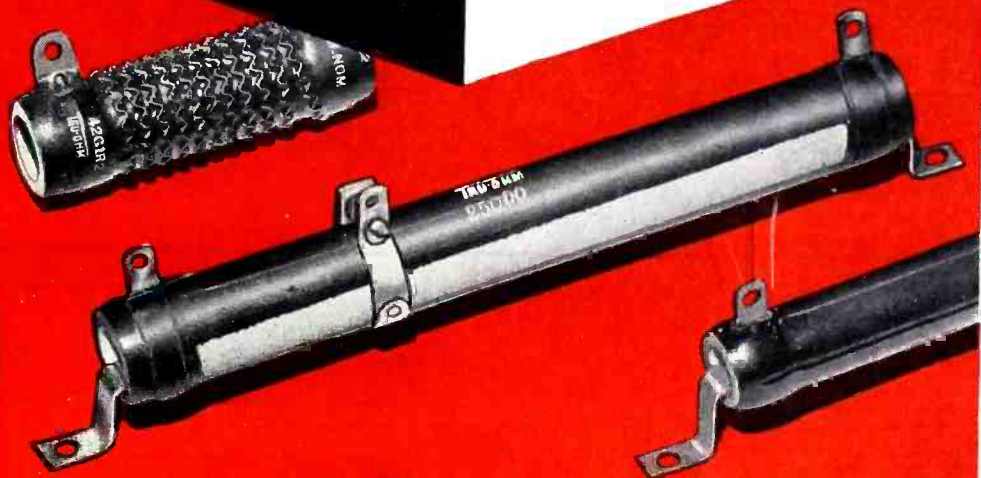
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# TRU

# OHM

# PRODUCTS

## AMERICA'S **TOP** LINE OF RESISTORS and RHEOSTATS



Find out why TRU-OHM is the world's largest producer of wire-wound resistors. We have the volume because we deliver . . . on time . . . the finest resistors and rheostats to meet any and every need . . . and at prices that will please you.

We have a complete line of resistors in stock . . . or we can rapidly design resistors for special needs. Your inquiry is invited.

### TRU-OHM Power Rheostats

From 25 watts to 150 watts, we have rheostats for all applications . . . singly, in tandem rheostat assemblies . . . in a variety of types.



## TRU-OHM PRODUCTS

Division of  
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General Sales Office: 2800 N. Milwaukee Avenue, Chicago 18, Ill.  
Factory: Huntington, Indiana

"Largest producers of wire-wound resistors in the U.S.A."

MANUFACTURERS: Power Rheostats, Fixed Resistors,  
Adjustable Resistors, "Econohm" Resistors, "Tru-rib" Resistors

We always  
ship on time  
. . . and we  
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Our latest catalog is available  
. . . write for yours today!

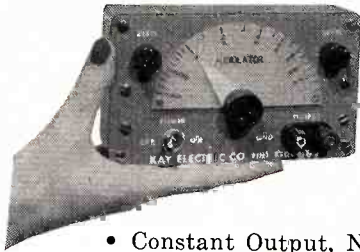


# Announcing A Complementary New Line Of ALL-TRANSISTORIZED INSTRUMENTS

BY

# KAY

DESIGNED FROM THE TRANSISTOR OUT . . .



KAY

## Audiolator

All-Transistorized Beat-Frequency Audio Oscillator

### FEATURES

- Constant Output, No Line Voltage Influences
- Built-In Stability By Means of Feedback
- Output Constant with Frequency: 1 db over range
- No Hum • Battery Power Supply—Long Life
- No Grounds Needed—Place Across Any Transmission System
- Excellent for Field Service, Military, Commercial and Domestic Hi-Fi, Industrial Applications

### SPECIFICATIONS

Frequency Range: 50 cycles to 15 KC  
Output Voltage: 1 volt at 600 ohms  
Output Impedance: 600 ohms  
Output Flatness: 1 db over entire range  
Attenuator: Continuously variable from 1 volt to 40 db below 1 volt  
Δf dial: 0 adjust—fine frequency control. Constant frequency shift over entire range  
Power Supply: Mercury or penlight cells—300 hrs. life  
Dimensions: 6" x 2" x 3 3/4"  
Weight: 2 lbs.  
Price: \$149.50 f.o.b. Pine Brook, N. J.

KAY

## Transvolter

Model Video  
All-Transistorized, Broad-Band  
Audio-Video Voltmeter

### FEATURES

- Inherent stability due to feedback amplifier design
- Broad-Band frequency response 10 cycles to 10 mc
- Inherent advantages with use of transistors instead of vacuum tubes—small size—light weight—long life—rugged use—lower power consumption—high conversion efficiency
- Low level measurement over frequency range
- May be used as a humless audio-video amplifier

### SPECIFICATIONS

Frequency Range: 10 cycles to 10 mc. Direct Reading in volts and db  
Amplifier Frequency Response: Flat ± .5 db over range  
Accuracy of Measurement: ±5% of full scale reading  
Voltage Range: 1 Millivolt to 1 volt full scale—7 ranges  
Sensitivity: Will measure down to 250 Microvolts  
Input Impedance: Capacity 5 micromicrofarads; Resistance Component 0.5 Megohms at 1 mc  
Audio-Video Amplifier: Maximum output .25 volt at 75 ohms, Gain up to 40 db  
Price: \$495.00, f.o.b. Pine Brook, N. J.

KAY

## Transiplay

Transistorized,  
Miniature Power  
Supply

### FEATURES

- Stable Metered Output
- Continuously Variable Output
- Low Impedance
- No Ripple
- High Current
- Positive or Negative Bias Available

### SPECIFICATIONS

Input Voltage: 105-125 V, A.C., 50-60 cps  
Output Voltage: 0.5V—7.0 V, D.C., Continuously variable  
Output Current: Maximum 300 Ma  
Impedance (Internal): 0.5 ohms  
Ripple: Less than 1 millivolt at full load  
Regulation: 50 Millivolts output variation over input voltage range  
Weight: 3 1/2 lbs.  
Dimensions: Width 5", Height 6 1/2", Depth 6 1/2"  
Price: \$125.00 f.o.b. Pine Brook, N. J.

KAY

## Transifier

Small, Modular,  
Plug-in, Wide-Band  
Transistorized Video Amplifier

### FEATURES

- Broad-Band Response to 15 mc
- Completely Transistorized—Small, Self-Contained, Compact Portable Unit
- Signal Gain Controlled by Overall Feedback—Built-In Stabilization
- No Hum
- Long Stable Life—Powered By Three Penlight or Mercury Cells
- Units May Be Cascaded to Provide Additional Gain

### SPECIFICATIONS

Frequency Response: 10 db position: 3 db down at 20 cycles and 15 mc—20 db position: 3 db down at 20 cycles and 10 mc  
Gain: 10 db and 20 db switchable  
Input Impedance: Capacitance 15 micromicrofarads—Resistive Component—20,000 ohms at 1 mc to 15,000 ohms at 10 mc  
Output Impedance: 75 ohms, approximately  
Maximum Output Voltage: 0.15 volts 10 db position 0.30 volts 20 db position  
Price: \$85.00 f.o.b. Pine Brook, N. J.

KAY

## Minilator

Multi-Crystal  
Controlled Transistor  
Oscillator

### FEATURES

- Transistorized for Long-Life—Self-Contained Mercury Cells (For Replacement, Ordinary Penlight Cells May Be Used)
- Selection by Switch of 1 mc, 2 mc, 5 mc
- External jack for any crystal from 1 mc to 5 mc
- Stable; Adjustable to WWV Frequencies
- Clean Waveform with Stabilizing Diode
- Amplitude Feedback\*
- Portable, Light-Weight, Small Cast-Aluminum Case
- Low Priced—Many Uses

### SPECIFICATIONS

Output: 0.25 volt at 1000 ohms impedance level  
Dimensions: 2 1/4" x 1 3/4" x 4 1/2"  
Weight: 12 oz.  
Price: \$95.00 f.o.b. Pine Brook, N. J. Pat. Pend.

KAY

## Transiprobe

All-Transistorized,  
Low-Capacity  
RF Probe

### FEATURES

- First transistorized broad-band probe, 20 cycles to 15 mc
- Low power dissipation, all transistorized
- Built-in stability, amplifier feedback
- Open design for easy manipulation
- No hum

### SPECIFICATIONS

Frequency Response: 20 cycles to 15 mc, 1 db down at 50 cycles and 12 mc, 3 db down at 20 cycles and 15 mc  
Output Impedance: Nominal 50 ohms  
Input Impedance: Capacitance, 4 micromicrofarads; resistive component, 100,000 ohms  
Gain: 1:1 (Unity gain), held constant by feedback amplifier  
Maximum Input Voltage: 0.3 volt peak-to-peak  
Power Supply: Mercury cells, 800 hour life; constant supply over life of cells.  
Separate power supply and connecting cables provided with probe  
Price: \$125.00, f.o.b. Pine Brook, N. J.



# KAY

ELECTRIC COMPANY

For Literature and Complete Specifications, Write

14 Maple Avenue, Pine Brook, N. J.  
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# KAY Electronic Test & Measuring Instruments

• Sweeping Oscillators • Noise Figure Measurement • TV Picture & Sound Signal Sources • Marker Generators • Pulsed Carrier Generators • TV Transmitters • Color Generators • Signal Generators • Attenuators • Sound Spectrographs • Gain and Loss Test Sets • Spectrum Analyzers • Vibration Analyzers • Vacuum Tube Voltmeters • Transistorized Test Instruments • Power Supply • Voltmeters • Probe • Video Amplifier • Crystal Oscillator • Audio Oscillator

## SWEEPING OSCILLATORS



Vari-Sweep

INST.	RANGE	TUNING	WIDTH	OUTPUT	PRICE
MEGA-SWEEP	50kc-1000 mc	continuous	0-40	100mv	\$465
CALIBR. MEGA-SWEEP	50kc-1000 mc	single dial	0-50	100mv	495
MEGA-SWEEP 111A	10mc-950 mc	zero level	0-40	.15V rms 70 ohms	575
MEGA-SWEEP 112A	450mc-900 mc	base line		.3V rms 300 ohms	
VARI-SWEEP	800mc-1200 mc	single dial	0-40	.3V rms 70 ohms	575
LIGNA-SWEEP C	2-220 mc Fund	continuous	Up to 30mc plus	1.0V rms 70 ohms	695
ULTRA-SWEEP	TV, FM, Video	continuous	Up to 15mc plus	1.0V rms 70 ohms	350
	450-900 Fund	continuous	0-60 mc	3.0V rms 70 ohms	895

## SWEEPING OSCILLATORS WITH MARKS



Rada-Sweep Sr

INST.	RANGE	TUNING	WIDTH	MARKERS	OUTPUT	PRICE
MARKA-SWEEP	50kc-20mc	3 ranges	complete	6 crystals	1.0V P.-P.	\$525
MODEL VIDEO		50kc-20mc	range		70 ohms	
MARKA-SWEEP						
MODEL VIDEO TTV	50kc-8mc	cont. variable	8mc	5 crystals	1.5V rms	695
		CW signal		1 variable	70 ohms	
MARKA-SWEEP						
MODEL VIDEO 50	50kc-50mc	contin.	4-50mc	5 crystals	1.0V P.-P.	695
			contin. variable			
VARI-SWEEP						
MODEL RADAR	10-145 mc Fund	contin.	30mc+	11 crystals	1.0V rms	950
				1 variable	70 ohms	
VARI-SWEEP						
MODEL IF	4-120 mc Fund	contin.	30mc+	11 crystals	1.0V rms	950
				1 variable	70 ohms	
RADA-SWEEP SR	1-260 mc Fund	6 switched bands	30-70mc	24 crystals	0.5V rms	545
					70 ohms	less crystals
MEGA-SWEEP						
MODEL MARKER	10-500mc	contin. center	50kc-40mc		0.15V rms-70 ohms	745
	400-950mc				0.07V rms-70 ohms	
KILO-SWEEP	50kc-2mc	contin.	contin. to 100kc	6 crystals	.5V rms	575-700
	-5mc				70 ohms	
	-10mc					
SONA-SWEEP	5kc-200kc	contin.	20kc	6 crystals	.5V rms-70 ohms	575
RADA-SWEEP	30 & 60"mc	center	20mc or 3mc	9 crystals	.25V rms-70 ohms	395
RF-P MARKA-SWEEP	IF + 12 channels	switchable	15mc	picture and sound	.5V rms-70 ohms	695



Marka-Sweep Model Video 50

## NOISE FIGURE MEASUREMENT . . . NOISE GENERATORS



Mega-Node Sr

INST.	RANGE	NOISE FIG. RANGE	PRICE
MEGA-NODE	5-220 mc	0-16db @ 50 to 300 ohms	\$325
MEGA-NODE SR	10-3000 mc	0-20db @ 50 ohms	\$790
MICROWAVE	1200-26,500 mc	Fluorescent Tube 15.8 ± .25 db	\$295-\$695
MEGA-NODES		Inert Gas Tubes 15.2 ± .1 db	(with power supply)
RADA-NODE	5-26,500 mc	0-21db ± .25 db	\$1,395 covering
		IF strips @ 30 and 60 mc	range 5mc to 400mc

## SOUND ANALYSIS



Echo-Vox Sr

INST.	DESCRIPTION	FREQ. RANGE	PRICE
VIBRALYZER	Vibration Frequency Analyzer	5-4400 cps.	Displays amplitude vs frequency vs. time provides permanent record
SONAGRAPH	Sound spectrograph for frequency analysis of audio energy	85-8000 cps.	Records frequency and intensity to time
SONALATOR	Dynamic translator for visible speech display	100-4000 cps.	Displays frequency vs. time on oscilloscope
ECHO-VOX, SR	Provides variable periods of time delay at audio frequencies	40-12,000 cps.	20 to 1600 millisecond delay range
SONA-STRETCHER	Speech stretcher for slowing speech to 1/2 normal tempo	100-4000 cps.	
AUTO-VOX	Variable audio time delay. Dual Channel Input.	40-12,000 cps	Negative to positive passing through zero. Delay range -100 to +720ms

## OTHER INSTRUMENTS



Microtter

INST.	RANGE	RANGE OF MEASUREMENT	FEATURES	PRICE
KILO-Q	20 cps-1 mc	Q, 0-12.5, 0-25, 0-50, 0-125, 0-250, 0-500	60 mmf.-1 mf Cap. Range	\$895
MICROTTER 50 VTVM	100 cps-50 mc	Full Scale: 1 millivolt-1V.7 ranges	May be used as 50mc video amp.	495
TRANSALYZER	50 kc-50 mc	Measures Alpha and Alpha Cutoff-Collector and Emitter Current, 3 Voltages-Emitter to Base, Emitter to Collector and Base to Collector	Contin. tuned sweeping oscillator	1595
MEGA-MATCH	10 mc-1000 mc		Displays reflected energy. Check matching impedance	895
UTILATOR	4.5-220 mc	Fundamental Freq. Utility Oscillator	0.7V rms into 75 ohms metered	295
GAINSET	Complete Equipment for Making Precision Measurements of Systems		AGC'D	1995
MEGA-PIX	TV Sound-Picture	Color or Black and White Transmitter	.25V output into 70 ohms. Specify Channel!	550
RADA-PULSER SR	Carrier Freq. 12-80mc	CW & RF Pulse-.2V rms into 70 ohms	Rise Decay 0.03 Microseconds	745
		Video Pulse-.5V rms into 50 ohms	Pulse Width .2-20 Microseconds contin. Rep. Rate 400-4000 PPS	

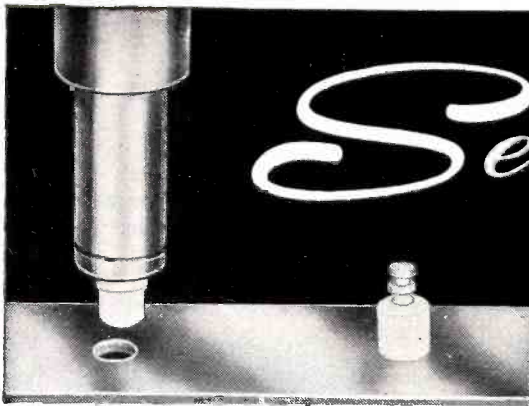
## KAY ELECTRIC COMPANY

DESIGNERS & MANUFACTURERS OF PRECISION ELECTRONIC TEST AND MEASURING EQUIPMENT

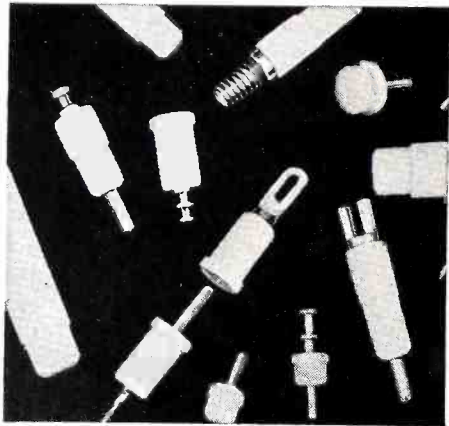
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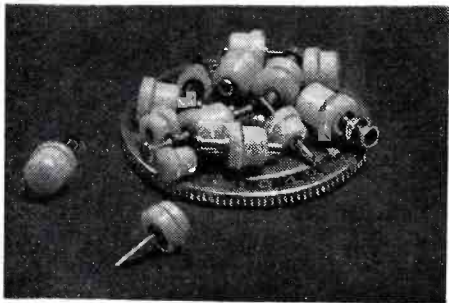
CAldwell 6-4000



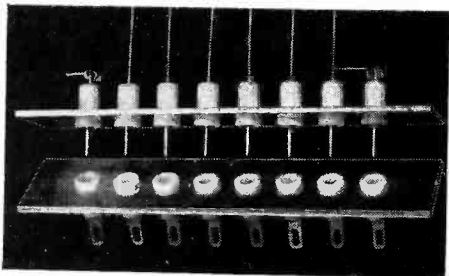
# Sealectro "PRESS-FIT" \* TEFLON † TERMINALS



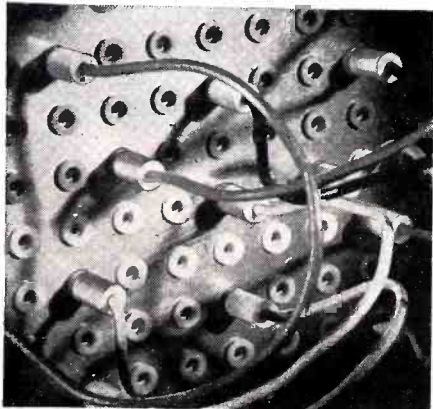
Miniature "Press-Fit" terminals. Hundreds of different types and sizes.



Subminiature terminals. A dozen fit on a quarter!



"Press-Fit" terminals. (Below) Test-Point Breakaway connections with two-piece jacks and plugs used for patch-cord board.



• Let Sealectro solve your terminal problems with original, genuine, tried-tested-perfected Teflon "Press-Fit" terminals and proper installation. Take advantage of real engineering collaboration. Use our specialized and outstanding production facilities for variety, uniformity, and fastest deliveries.

## MINIATURES

One-piece stand-offs and feed-thrus. Simplest, fastest, cheapest installation. No threads, nuts, washers required. Eliminate breakage, shattering, vibration, fungus, corrosion and other drawbacks. Choice of lugs and metal finishes. Hundreds of standard types.

## SUBMINIATURES

Smallest insulated terminals available for miniaturization programs. Despite diminutive size, these terminals withstand severest-service conditions as found in guided missiles, radar, communications gear, electronic computers and industrial electronics. Wide choice of types and lugs.

## CONNECTORS

Two-section (male and female) terminals for breakaway connections such as for multiple plugs and receptacles, plug-in crystal diodes and similar components, flybacks, plug-in coils and forms, etc. Jack and plug members "Press-Fit" into chassis holes, casings, strips, etc.

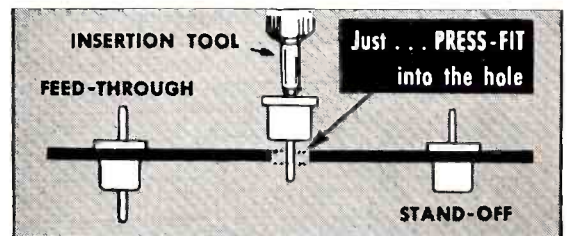
## TEST-POINT JACKS

Rugged miniature test-point jacks featuring either (SKT-8 and SKT-9) stamped brass or (SKT-10) machined beryllium-copper contact members. Take standard instrument test probe or a companion plug. Ideal for test points on metal panels, permitting connections to circuitry or components for external testing. Used on metal panels for cost-reducing and unbreakable patch-cord boards.

## IN EIGHT COLORS!

Sealectro "Press-Fit" terminals are available in eight RETMA color-code colors—brown, blue, red, orange, yellow, green, gray and white, for color-coding as well as for added eye appeal in any assembly.

Install them  
FAST and  
TO LAST!



Fastest, simplest, cheapest installation in three steps: (1) Punch or drill hole with standard machining; (2) Countersink entrance edge according to Sealectro's time-tested specs; (3) With insertion tool in

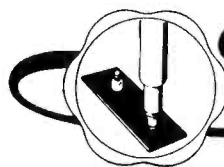
chuck of drill-press or arbor press, center over hole and apply pressure. Press-Fit, that's it! And genuine "Press-Fit" terminals stay put—for good!

*Samples  
and Data . . .*

Write on business stationery for sample terminals, as well as helpful engineering literature. Our local field engineer will gladly call if you wish.

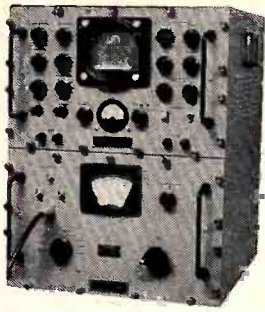
\* Reg. Trademark, Sealectro Corporation.

† Reg. Trademark, E. I. Du Pont de Nemours & Co.



**Sealectro**  
CORPORATION

Manufacturers of "PRESS-FIT" TERMINALS  
610 FAYETTE AVE., MAMARONECK, N. Y. • MAMARONECK 9-7800



### LA-18 SPECTRUM ANALYZER

Bench-size Spectrum Analyzer featuring high stability and wide range in small size. Continuous coverage, 10.0 to 16,000 mc calibrated without external heads. 3.0—32,000 mc usable range. 0.5 to 25 mc spectrum width, 7.5 kc resolution. Internal spectrum calibrator. Bulletin LA-18



### LA-61 FREQUENCY METER

Highly accurate UHF Frequency Meter featuring internal calibration, rugged construction.

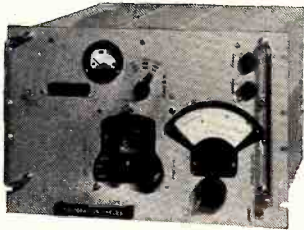
Frequency range 500 to 2000 mc in two bands, 0.001% accuracy, precision high-speed semi-direct calibration, 0.0001% oven-controlled crystal standard. Standard 19" panel 12 1/4" high, rack or table mounting. Bulletin LA-61



### LA-593 PULSE GENERATOR

Light, compact, double-pulse generator for general field or laboratory use. Bench or rack mounting.

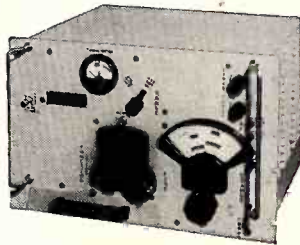
20-200,000 pps internal trigger, 0-200 kc external; 1.5 to 2500 microsecond delay, 0.5 to 2500 microsecond pulse width, one or two pulses. Output impedances 2000, 200 or 75 ohms. Approx. 0.1 microsecond rise time. Bulletin LA-593-D.



### LA-5 FREQUENCY METER

Convenient field instrument designed and built to military standards for fast and accurate frequency measurement.

Frequency range 10 to 100 mc in three ranges, color-coded scales for use by production line personnel, semi-direct calibration, accuracy 0.001%, internal oven-controlled crystal standard, 0.0001%, input less than 500 microvolts. Standard 19" panel, 12 1/4" high, rack or table mounting. Bulletin LA-5-6.



### LA-6 FREQUENCY METER

VHF frequency meter matching LA-5 in appearance, identical in operation.

Frequency range 100 to 500 mc in two color-coded ranges. Internal high-speed semi-direct calibration, with accuracy of 0.001%, internal oven-controlled crystal standard 0.0001%. Input less than 500 microvolts. Standard 19" panel, 12 1/4" high, rack or table mounting. Bulletin LA-5-6.



### LA-239C OSCILLOSCOPE

General purpose, wide band oscilloscope, covering 5 to 20 mc, military standard construction, nomenclature AN/USM-50.

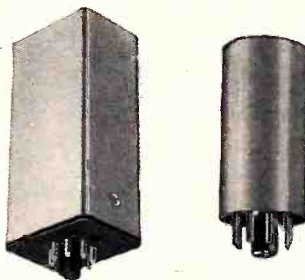
Frequency range 5 cycles to 15 mc flat, 0.03 v/cm sensitivity, internal voltage calibration, Z axis timing markers 0.2 to 2000 microseconds, internal trigger generator. Sweep speeds to 14 cm per microsecond. Ruggedized construction, standard rack mount. Bulletin LA-239C.

**NEW!**

### LA-259 OSCILLOSCOPE

Five-inch militarized high-performance oscilloscope incorporating all the features of the famous LA-239C PLUS:

- 5 inch flat-face screen
- DC to 15 mc response
- Verified dual-accuracy calibration
- Simplified read-out



### CRYSTAL OVENS

Standard and miniatures, to  $\pm 0.025^{\circ}\text{C}$ , in more than 20 catalog types. MIL-T-945A Specs for airborne or other severe use. Over 30,000 in use. Write for special catalog.



### ROBOTESTER

Automatic tape-controlled equipment tester checks 1 ohm to 10 megohms from any of 240 points to any other. Change over in seconds; sets up in as little as an hour. Up to 100 tests per minute.

Representatives in Albany, Baltimore, Chicago, Denver, Dayton, Euclid, O., Fort Worth, Hartford, Los Angeles, San Carlos, St. Louis, Ottawa, W. Orange, N. J.

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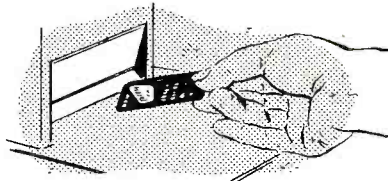
**Cal-Matic®**  
DISPENSER



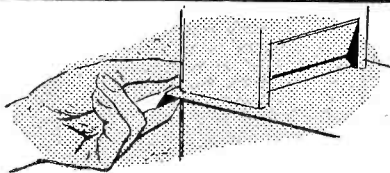
In-and-out-and-on . . . nameplates ready to apply in a fraction of a second!



1 Drop off dry protective backing



2 Place nameplate between rollers, face up.



3 Nameplate automatically delivered from dispenser—ready for application.



4 Place nameplate on instrument, and roll with Speedy Roller



. . . flexible, thin section, pressure sensitive aluminum foil nameplates adhere permanently to any surface . . . curved, painted, crinkle finishes, irregular . . . without fasteners.

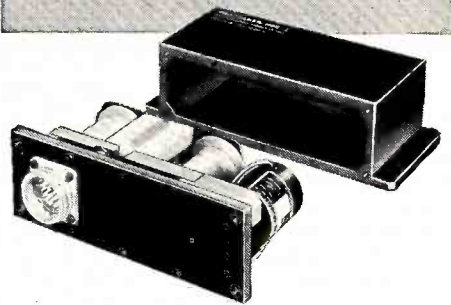
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Bayside 4-4000 • Teletype: NY 4-1975 • WUX:LPT

SAFETY SIGNS • CABLE, PIPE & WIRE MARKERS • ALUMINUM FOIL NAMEPLATES

**NEW Programmer MPR-13**

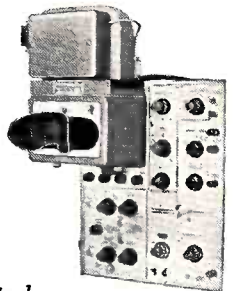
Extremely small and rugged...  
For Missile, Instrumentation  
and Automation Application



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Camera Recording  
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A Complete System for  
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# Potentiometers — Trimmers — Relays

*Ace delivers reliability in sub-miniaturization*

**Maximum performance** — advanced designs, special materials, and unique winding and manufacturing techniques are combined to give you "heavyweight" performance in the "featherweight" class.

**Sustained reliability** — rigid quality controls and testing assure highest standards of performance-reliability over extended

## ACEPOT\* Sub-miniature precision wire-wound potentiometers . . .



actual size

This outstanding unit provides extremely high resolution and linearity yet is only 1/2" in size.

Size	1/2" x 1/2"
Weight	0.25 ounce
Resistance Range	10 Ω to 250K ± 2% std.
Linearity	± .3%
Temperature	-55° C. to 125° C. **
Winding Angle	325° std. ≥ available
Resolution	Extremely high
Torque	.035 oz./in. @ 20° C. ***
Power	2 W for 60° C. rise
Mounting	Threaded bushing, servo, flush, flanged. Ganged up to 6 cups.

The above are standard. Modifications are available. Fully sealed against dust, moisture, humidity. Anti-fungus treated. Meets applicable JAN-MIL specs including shock and vibration.

\*\* X-500 rated for higher temperature range —55° C. to 150° C.

\*\*\* Jewel Bearing Acepot torque of .001 ounce/inch

## ACEOHM\* Sub-miniature, high temperature, humidity-proof trimmers . . .

Specially designed for dependable operation in circuits subject to extreme environmental conditions.



actual size

Size	1 1/8" x 5/16" x 3/8"
Weight	0.2 ounce
Resistance Range	10 Ω to 50K
Usable Potentiometer Range	95-100%
Power Rating	1 W @ 50° C. (flush mount design) derated to 0.5 W @ 150° C.
Temperature	-55° C. to 150° C.
Resolution	High; to 0.15%
Dielectric Strength	1 minute @ 1M V. DC per JAN-R-19
Load Life	1M hours in accordance with JAN-R-19

35 turn adjustment for precision settings. Excellent shock, vibration, acceleration characteristics. (Meets or exceeds MIL-E-5272A.)

## ACERELAY\* Sub-miniature, hermetically sealed relays . . .

Bifurcated contact design assures positive reliability both in power and dry circuit work.

Size	3/4" x 7/8" x 3/8"
Weight	0.75 ounce
Contacts	bifurcated *
Contact rating	3 amp @ 28 V DC 1 amp @ 115V AC
Coil resistance	to 10,000 Ω
Vibration	5-2000 CPS @ 20G
Shock	50G
Life	500,000 operations minimum
Header types	plug in, wire leads, solder hook
Mounting	socket, top studs, side studs, bracket
Temperature	to 125° C.

Entire relay hermetically sealed — coil assembly hermetically isolated from contact assembly.

\* Double pole double throw, break before make, make before break.

periods. Ace designs have been proved in use by leading manufacturers.

**Prompt delivery** — modern mass production techniques and extensive facilities guarantee delivery to meet your requirements. Prototype orders are expedited in a special order department.

## ACETRIM\* Sub-miniature precision wire-wound trimmers . . .

A wide range of resistances is available in this low-cost, space and weight-saving trimmer.

Size	1/2" x 1/2"
Weight	0.25 ounce
Resistance Range	10 Ω to 150K ± 5% std.
Linearity	± 3%
Temperature	-55° C. to 125° C. (to 150° C. on special order)
Winding Angle	325° std. ≥ available
Torque	.035 oz./in. @ 20° C.
Power	2 W for 60° C. rise
Mounting	Threaded bushing, printed circuit, flush, flanged, ganged



actual size



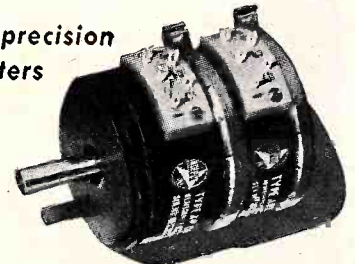
with tabs for printed circuits

The above are standard. Modifications are available.

Fully sealed against dust, moisture, humidity. Anti-fungus treated. Meets applicable JAN-MIL specs including shock and vibration.

## ACEPOT\* Nonlinear precision wire-wound potentiometers

Ace designs, plus precision mechanical construction, give highest possible linearity and close conformity. Available in all AIA sizes to meet your unique nonlinear requirements.



	Sine-cosine	Double Sided Square-law
Size	3"	3"
Resistance	20K ± 5% driving	25K ± 5% driving
Conformity	1/2% pk-pk	± 0.25%
Function angle	360°	± 180°
Power	4 watts	3 watts
Mounting	Servo	Servo

Other nonlinear configurations to meet your specific requirements available in prototype and production quantities.

## Call or write for information

Complete Fact File and Application Data Sheets available. New developments, and improvements of existing types, are part of a continuous program. Engineering assistance on designs and applications available immediately.

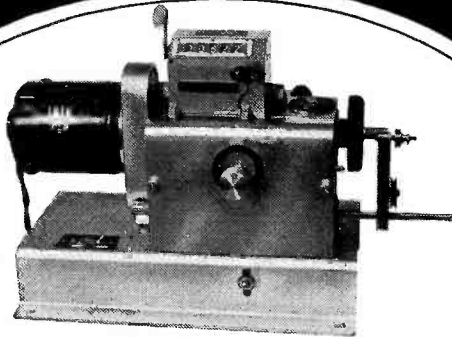
\* trademarks applied for

## ACE ELECTRONICS ASSOCIATES, INC.

Dept. E2, 101 Dover Street, Somerville 44, Massachusetts  
Telephone: SOMerset 6-5130 • MONument 6-4800  
Engineering Representatives in principal cities.

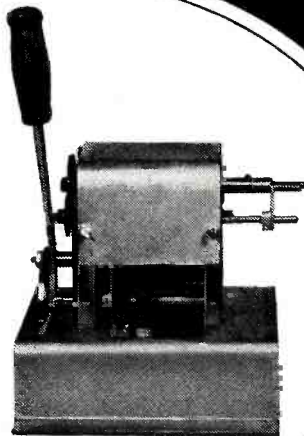
**Outstanding production speed...superior trouble-free performance**

From a complete line of high speed coil winders for every possible application: Model CHS bobin winder features continuous speed adjustments up to 13,000 RPM. Customers report production of over 7000 space wound coils per day by Model MP.



**MODEL CHS**

Compact, dependable. Meets any demand for high speed coupled with precision performance.



**MODEL MP**

For the most rapid production of hand wound or space wound coils of relatively few turns. Traverse easily adjusted; non-linear windings may be produced.

We'll be pleased to send you complete information. Write or phone:

*Coil Winding Equipment Co.*

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# ELECTRONICS

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INDUSTRY  
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WITH

A  
TECHNICAL  
EDITION

AND  
2 BUSINESS  
EDITIONS

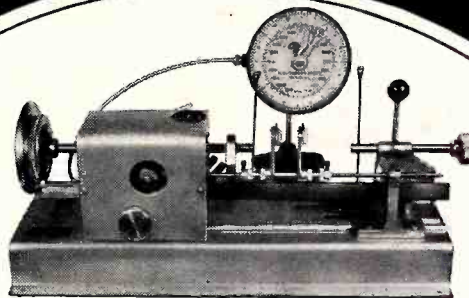
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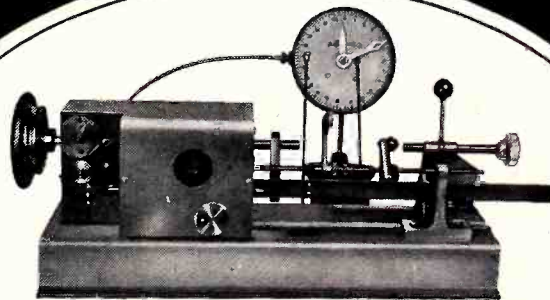
**All-purpose, versatile...  
ideal for laboratory and  
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From a wide variety of fine coil winding equipment for every need: Model W, available with adjustable cam traverse, winds every coil pattern except toroids. WX has a continuously variable feed or gain control; allows rapid set-up without changing gears.



**MODEL W**

The Models W and WX are the only commercial machines capable of winding Lattice-Bobbin-Interleaved-Single Layer-Bank-Interwoven coils.



**MODEL WX**

The perfect machine to cut costs and still provide exact set-up gear ratios for standard production machines. The Model WX and W are equally suitable for high production.

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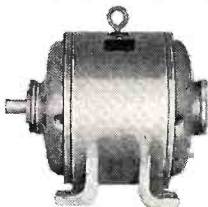
# ESCO

## individually designed fractional and integral horsepower motors and generators



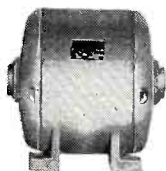
When "standard" won't do, call ESCO. For over 46 years, ESCO design engineers have met the most exacting requirements for over 18,000 different designs. Every unit specially engineered to individual requirements — Mechanical and

electrical specifications to order (see below) . . . Base, face or flange mounting for any operating position . . . Lubricated-for-life bearings . . . Every unit dynamically balanced . . . Every unit tested under specified load conditions.



### MOTORS

(to 30 H.P.)  
**Alternating Current**  
Squirrel Cage Induction  
Wound Rotor Induction  
Synchronous  
Single Phase  
Polyphase  
Standard Frequencies  
High Frequencies  
**Direct Current**  
Series  
Shunt  
Compound  
High Voltage  
Standard Voltage  
Low Voltage  
**Special Applications**  
Torque Motors  
Brake Motors



### CONVERTORS

(to 20 KW)  
Phase Convertors  
Frequency Convertors



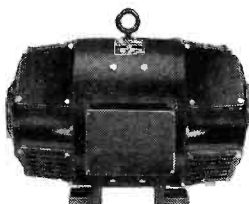
### GENERATOR SETS

(to 20 KW)  
High Frequency (to 30,000 cy)  
400 Cycle  
Frequency Changers  
Phase Convertors  
Low Voltage DC  
High Voltage DC (5000 V)  
DC to DC; AC to AC  
AC to DC; DC to AC  
High to Low Frequency  
Low to High Frequency  
Telephone Ringing  
Moving Picture



### GENERATORS

(to 20 KW)  
**Alternating Current**  
Single Phase  
Polyphase  
Standard Frequency  
High Frequency  
Inductor Alternators  
Permanent Magnet  
**Direct Current**  
Low Voltage  
Plating  
High Voltage



### DYNAMOTORS

DC to AC  
DC to DC

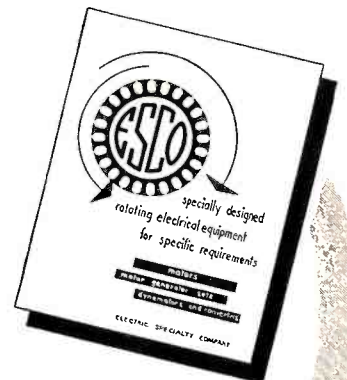
**DESIGN FACTORS:** Every special need is prompted by requirements which cannot be met by standard units. As a check list for yourself and to assist our engineers in answering your inquiries, please include details of any critical requirements listed below:

#### ELECTRICAL CHARACTERISTICS:

**MOTORS** — Horsepower • Torque • Speed • Duty Cycle • Power Supply Voltage • Power Supply Frequency & Phase (AC)  
**GENERATORS** — Voltage limits or adjustable range • Frequency limits or adjustable range (AC) • Watts or KW output • Number of phases (AC) • Load Power Factor (AC) • Speed • Type of Driving Motor • Excitation

**MECHANICAL CHARACTERISTICS:** Where critical, please indicate size, weight and mounting limitations; shaft lengths, keyways or splines, etc.; material; insulation; finish; environmental conditions or other special requirements.

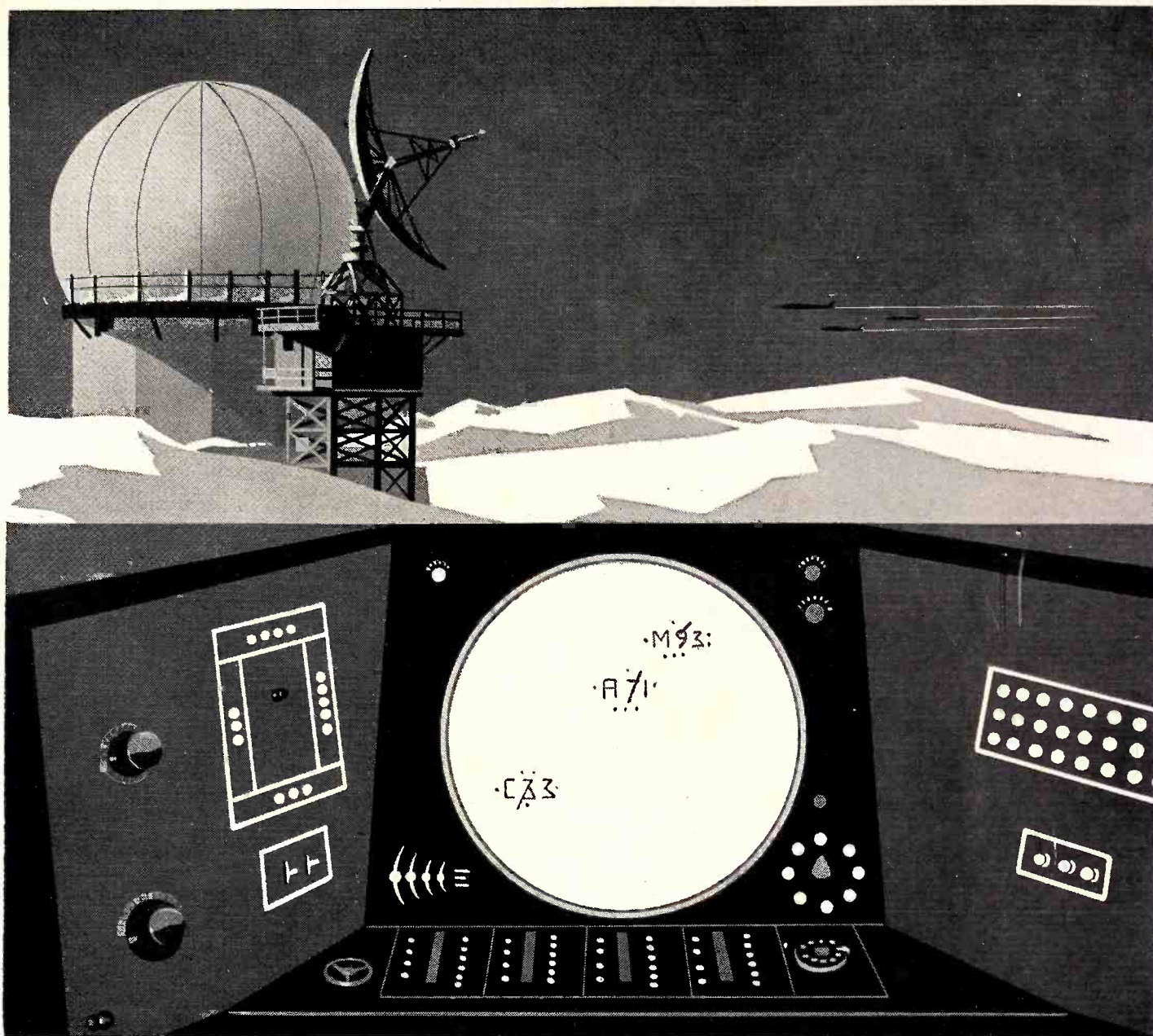
Write today for free catalog 56 PD . . . we may already have the particular motor or generator you need!



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• Giant search antennas made by AMF form a vital part of the nation's air surveillance network • And converting the incoming radar signals into instantly understandable information are brain-like AMF Electronic Data Display Systems. The ultimate in "readout" equipment, these compact console units accept either analog or digital information, instantly convert, coordinate, and display the data on the face of a cathode-ray tube. Incoming signals can be interleaved with synthetic symbols for immediate reference, and any segment of the display can be offset and enlarged whenever desired. • See for yourself why, for radar control of air, ground, and harbors, or for general-purpose computer reading, AMF has the experience and equipment you can use.

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# REON MOLDED COMPOSITION VARIABLE RESISTORS

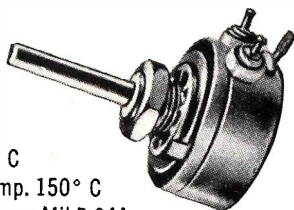
## MODEL R



3 watts at 70° C  
Max. oper. temp. 150° C  
2 watts—RV4 per Mil-R-94A  
Multiple Gangs, Switch  
Water sealed units available

1 1/8" OD

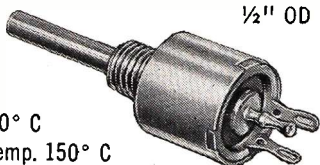
## MODEL K



1 watt at 70° C  
Max. oper. temp. 150° C  
1/2 watt—RV5 per Mil-R-94A  
Water sealed shaft standard  
Smallest 1 watt control available  
Multiple and switch controls not available

3/4" OD

## MODEL D



1/2 watt at 70° C  
Max. oper. temp. 150° C  
1/3 watt—RV6 per Mil-R-94A  
Axial lugs and miniature design ideal for printed circuitry  
Multiple and switch controls not available

1/2" OD

## NEW UNIQUE DESIGN SURPASSES T, V, Y CHARACTERISTICS PER MIL-R-94A

### MOLDED Resistance Element

The Reon **MOLDED** resistance track is a thick homogeneous composition material molded at high temperatures and pressures to insure:

- Long operational life.
- Low noise, becoming less with usage.
- Better performance under extreme environmental conditions.

The Reon **MOLDED** composition resistor is not a film, paint, ink or carbon.

King Size Track provides three (3) times the resistance area for low current density and long term stability.

### The Reon **MOLDED** Resistance Path Insures:

- 100,000 rotational cycles under 3 watts load.
- Less than 2% change after Mil moisture test.

### Perimeter Cooling Offers:

- Higher wattage ratings over similar types.
- Lower hot spot.
- Superior heat dissipation.

Ohmic Range: 50 Ohms to 10 Megohms,  
Tolerances: 5%, 10%, 20%.  
Tapers: Linear, Audio, CCW Audio, specials.  
Bushings: Standard, round and locking.  
Shafts: Round, Flatted, Slotted, Watersealed.

## MAGNETIC AMPLIFIERS MILITARY and INDUSTRIAL

**Computing-Types**, for missile and industrial control equipments.  
Input, 100 microamperes, DC  
Output, 10 volts, DC  
Gain, to 10,000 per stage  
Temperature, to 100° C

**Precision-Types**, for specialized missile, automatic pilot, industrial controls.  
Accuracies, to 0.25%  
Gain, to 1,000,000 per stage  
Linearity, better than 1%  
Temperature, to 85° C

**Servo-Types**, to drive small aircraft and industrial AC instrument servo motors.  
Input, Single ended or Push-Pull, DC.  
Output, Phase Reversing AC, operates both motor control windings.  
AC, operates both motor control windings.

Temperature, to 125° C

**Construction**, these magnetic amplifiers are wound on nickel-steel alloy, tape-wound, toroidal cores for maximum performance. These amplifiers use silicon rectifiers, precision resistors. They are self-contained, designed to operate from 60 and 400 cps. (different models). They are supplied in epoxy-steel encapsulations for high resistance to shock and vibration.

## ACROMAG COMPANY PRECISION MAGNETIC AMPLIFIERS

22,519 Telegraph Road  
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Telephones ELgin 6-7211 and ELgin 6-7212

## "DOES the JOB" TESTING UNMOUNTED COILS ...since 1946.

FULLY  
GUARANTEED

- Non-shocking
- Sensitive
- Rugged



115 Volts  
60 Cycle  
10 Watts

Size  
6 1/2 x 6 1/2 x 1 3/4

**Electronic  
SHORTED TURN  
INDICATOR**

MODEL	MANDREL SIZE	PRICE
101-D	5/32" x 7/32" x 2"	\$175.00
101-E	7/64" x 7/64" x 1 3/8"	185.00
101-F	To Order	200.00

Shipping Weight: Approximately 12 Pounds

# KARTRON

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HUNTINGTON BEACH, CALIF. LEHIGH 9-4606

## REON PRECISION WIRE WOUND RESISTORS

### MIL TYPES

mil style	Reon style	Dimensions Dia.	L	watts
RB09AE	TGB	15/32	7/16	1/8
RB15AE	TJC	9/16	15/32	1/4
RB16AE	TKC	9/16	5/8	1/3
RB17AE	TLC	9/16	1	1/2
RB18AE	TMC	9/16	1-1/4	1/2
RB19AE	TNC	9/16	2	1

### SUB MINIATURE ENCAPSULATED TYPES

Dia.	Reon Series
3/32	TC060
1/8	TC080
5/32	TC100
3/16	TC120
7/32	TC140
1/4	TC20
3/8	TC30
1/2	TC40

### TYPICAL SPECIFICATIONS:

- Mil-R-93A (Amend. 4)
- Mil-R-93B (Prop.)
- Mil-R-9444
- RETMA
- Tolerances ± 1% to ± 0.01%
- Full rated load to +125° C
- Hot Spot 150° C
- Temperature cycling -65° C to +125° C
- Matched Resistors, Networks

Only Representative types shown. Write for further details and complete catalog.

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WEST COAST OFFICE AND WAREHOUSE — ELECNAR CO.  
3903 WARNER BOULEVARD, BURBANK, CALIFORNIA • Victoria 9-2874

# GRAYHILL Switches • Test Clips • Molded Parts

## Grayhill Miniature Tap Switches

### SERIES 5000

For Commercial Applications

### SERIES 12

For Military Applications

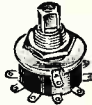
Available 1 to 6 decks—2 to 10 contacts per deck.

Shorting (make before break) or Non-shorting (break before make). Switch rotates 360° with 10 positions—stops provided with 9 or less positions.

Bushings,  $\frac{1}{4}$ " long— $\frac{3}{8}$ "—32 thread Diameter of switch 1-1/32"

Rated to break—1 amp., 115 V., AC., non-inductive.

To carry—5 amps., 115 V., AC.



### SERIES 24

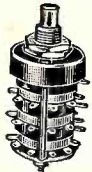
Positive Detent Action and better feel for precision requirements. Available 1 to 6 decks—2 to 10 contacts per deck.

Shorting (make before break) or Non-shorting (break before make). 360° rotation with 10 positions—stops provided for less than 10 positions.

Bushings,  $\frac{1}{4}$ " long— $\frac{3}{8}$ "—32 thread Diameter of switch 1-1/32"

Rated to break—1 amp., 115 V., AC., non-inductive.

To carry—5 amps., 115 V., AC.

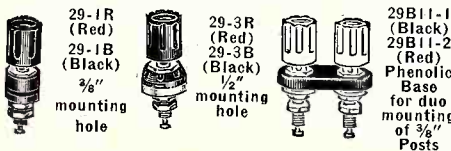


## Spring Return Rotary Switch

Similar to Series 24 except with spring return to center position. Provides momentary contact on either side of center position only. Available in 1 to 3 decks, either shorting or non-shorting type.



## Series 29 Binding Posts



- Metal parts—Nickel Plated
- Molded parts—Phenolic to MIL-P-14
- Washers—Non-turn "D"
- Cross-hole—Flush
- Integral solder lug
- Color—Red or Black as specified

## Grayhill Diode Holder

Provides a tight snap fit within gold-plated phosphor bronze, spring tension clips. Molded phenolic base has non-turn projection.

Clips—.635" center to center. Overall dims.—lgth.—15/16", width—3/8" height—3/8"

No. 17-1—Molded Diode Holder



## Grayhill Push Button Switches

### SERIES 2000—Snap Action

For Manual Operation

Audible click when actuated Momentary contact, single pole, single throw type.

O.D.— $\frac{7}{8}$ " dia. x 1-59/64" high Bushings, 7/16" long—15/32"—32 thread.

Rated—10 amps., 115 V., AC., non-inductive.

1 amp., 115 V., DC.

Rated Life—Approx. 50,000 operations

No. 2201—Normally open

No. 2202—Normally closed



### SERIES 4000—Momentary Contact

Momentary contact, single pole, single throw type.

O.D.—51/64" dia. x 1-17/32" high Bushings, 3/8" long—15/32"—32 thread.

Rated—1/2 amp., 115 V., AC.—non-inductive.

Rated Life—Approx. 800,000 operations.

No. 4001—Normally open

No. 4002—Normally closed



### SERIES 23

Miniature Momentary Contact

Momentary contact, single pole, single throw.

O.D.  $\frac{1}{2}$ " dia. x 1-3/64" high Bushings,  $\frac{1}{4}$ " long—5/16"—32 thread

Rated—1/4 amp., 115 V., AC., non-inductive.

Rated Life—Approx. 500,000 operations.

No. 23-1—Normally open.



### SERIES 30

Midget Silent Action

Sub-Miniature, non-snap, momentary contact, single pole, single throw type.

O.D.  $\frac{3}{8}$ " dia., 63/64" high. Mounting Bushing  $\frac{1}{4}$ " x 32 thread.

Rated .10 amp., 115 V., AC., non-inductive.

Rated Life—Approx. 300,000 operations.

No. 30-1—Normally open.



## Grayhill Printed Circuit Test Jacks

### SERIES 31

For use on printed circuits as a test point to feed AF, RF, and Pulse signals, check and feed DC voltages, monitor signals during test, alignment, etc. For use with standard .081"-.0825" phone tip plugs. Rivets to board like an eyelet.

Dims.— $\frac{1}{4}$ " high, rivet dia.—.114"

No. 31-1—For 1/16" board

No. 31-2—3/32" board

No. 31-3—For 1/8" board



## Plastic Sleeves

for Series 31 Test Jacks

Snap-on, plastic insulators lock in place over Grayhill Test Jacks.

Dimensions Dia.—.245" Height—.290"

No. 31B—Plastic Sleeves, available in 8 colors for coding.



537 Hillgrove Avenue, La Grange, Illinois  
Phone: Fleetwood 4-1040

## Grayhill Test Clips



### SERIES 16

Completely insulated.

Even hinge pin is insulated.

Low contact resistance (approx. .0015 ohm)—

.008" silver overlay on contact surfaces

Terminals—silver plated

Finger grips—molded phenolic



No. 2-0 Threaded Stud



No. 2-1 Banana Plug



No. 2-4 Threaded Stud with Insulating Washers



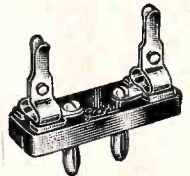
No. 2-6 Pin Plug

### SERIES 2

The basic spring clip is available in several styles of mounting as illustrated. Mounted on panel of test equipment, they permit fast lead connections without manual opening and closing of jaws or clamps. Also useful in bread board work and laying out of harnesses.

## Grayhill Plug-In Adapter

Designed for testing resistors, capacitors, and similar pig-tail type components on standard test equipment. Banana Plug spacing— $\frac{3}{4}$ " centers. No. 2-2 Plug-In Adapter.



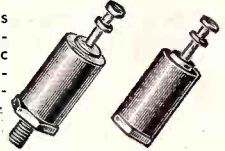
## Grayhill Stand-Off Insulators

Mica-filled phenolic bodies for low loss at high frequencies, high dielectric strength, low moisture absorption and fungus resistance. Silver plated brass solder terminals. Front o panel length—15/16"

Diameter 5/16"

No. 18-1—Female, No. 4—40 Thread

No. 18-2—Male, No. 4—40 Thread



## Grayhill Coil Forms

Molded of mica-filled phenolic for low loss at high frequencies, low moisture absorption, high dielectric strength and resistance to fungus growth. Tinned Copper wire leads. Patented anchor posts.

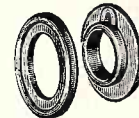
Dimensions—Length—.500" to 1.000"

Dia.—.125" to .250"

Lead wire diameter—.025" to .040"



## Grayhill Mating Insulating Washers



To insulate jacks with  $\frac{3}{8}$ " dia. bushings from mounting panel. Back of panel washer has indexing hole fitting non-turn tab of the jack. Shoulder dimensioned for 1/16" min. panel thickness.

No. 21B78-1 Indexing Washer, Natural Mica-filled Phenolic

No. 21B78-2 Indexing Washer, Black Electrical Grade

## Grayhill Molded Insulating Washers

Available in sizes for No. 6 to  $\frac{3}{8}$ " screw in natural mica-filled phenolic or black electrical grade insulating material.



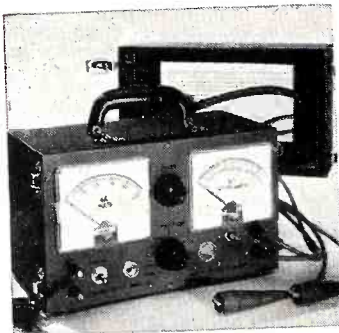
# Test with confidence

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN . . . ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK . . . LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

**SLAUGHTER CO.**  
PIQUA 3, OHIO

## High-Voltage Leakage Tester

checks insulation for leakage



. . . grounds  
. . . arcing

MODEL

**122**

16 lb. Portable  
for lab and  
field work

0/2100 V.A.C. . . . 0/100/1000 MICROAMPS  
CAPACITY COMPENSATION . . . MEASURES  
A.C. RESISTANCE, CAPACITY, AND POWER  
FACTOR.

## Precision Stroboscope

with high intensity daylight lamp



. . . stable  
. . . accurate

MODEL

**162**

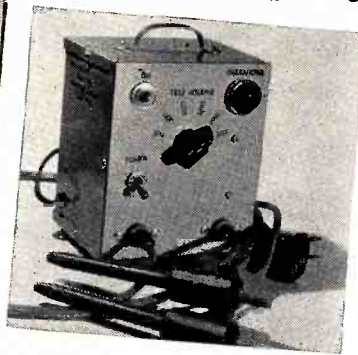
Interchangeable  
Heads . . .  
0.1% accuracy

FOR SPEED MEASUREMENTS TO 30,000 RPM  
FOR MOTION STUDIES . . . CAN BE SYNCHRO-  
NIZED WITH EXTERNAL SIGNALS . . . CAN BE  
TRIGGERED WITH EXTERNAL CONTACTS . . .  
CAN BE COUPLED TO COUNTER, SCOPE, OR  
OTHER EQUIPMENT.

**SLAUGHTER CO. • PIQUA 3, OHIO**

## High-Voltage Insulation Tester

with buzzer signal on breakdowns



. . . grounds  
. . . shorts

MODEL

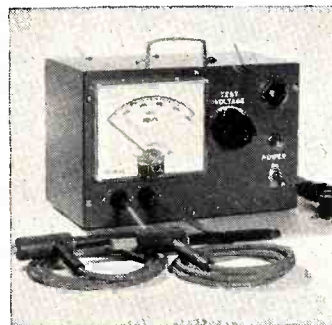
**101**

Watch what you  
are doing . . .  
not the tester

SIX TEST VOLTAGES . . . 500 to 2500 V.A.C.  
PRICED SO YOU CAN AFFORD TO SPOT A  
FEW ALONG YOUR ASSEMBLY LINES.  
FOR SAFETY

## Adjustable High-Voltage Tester

with buzzer signal on breakdowns



. . . grounds  
. . . shorts

MODEL

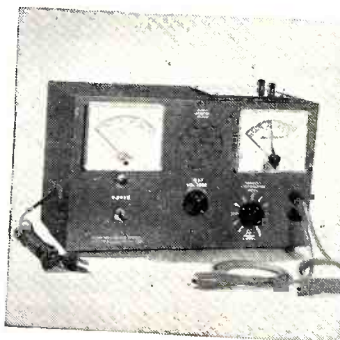
**106**

Voltmeter  
shows actual  
Test Voltage

ADJUSTABLE VOLTAGES TO 2500 V.A.C. REC-  
COMMENDED FOR BREAKDOWN TESTING AT  
FINAL ASSEMBLY AND INSPECTION.

## High-Voltage Leakage Tester

audibly signals excess leakage



. . . grounds  
. . . arcing

MODEL

**103**

Measures Leakage  
. . . not capacity  
current

TEST VOLTAGE ADJUSTABLE TO 2100 V.A.C.  
LEAKAGE LIMIT ADJUSTABLE . . . 0 TO 5 MA.  
DETECTS 20 MICROAMPERE ARCS . . . CAN-  
CELS CHARGING CURRENT CAUSED BY IN-  
HERENT CAPACITY. USED AT FINAL INSPEC-  
TION FOR BREAKDOWN AND LEAKAGE TESTS.

**SLAUGHTER CO. • PIQUA 3, OHIO**



Pilots Check Out

## NAVIGATION RECEIVER ACCURACY

### ARC Type H-14A Signal Generator Checks Omni/Localizer Equipment

ARC's H-14A Signal Generator provides a simple and dependable means of checking *omnirange* and *localizer receivers* in aircraft on the field, by sending out on the hangar antenna a continuous test identifying signal that blankets the field. Tuned to this signal, individual pilots or whole squadrons can quickly test their own equipment. Voice can be transmitted simultaneously with signal. The instrument will check 24 omni courses, omni course sensitivity, operation of TO-FROM meter and flag-alarms, left-center-right on 90/150 cps localizer, receiver frequency calibration, reciprocal course accuracy, and receiver output. The H-14A is also widely used for

making quantitative measurements on the bench during receiver maintenance. Input power is 160 watts, 115 volts 60 cps.

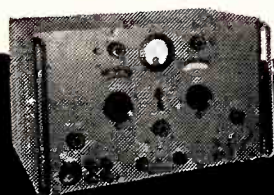
The H-16A Standard Course Checker measures the accuracy of the indicated omni course in ARC's H-14A or other omni signal generator to better than 1/2 degree. It features a built-in method of checking its own precision.

ARC's Type H-12 Signal Generator (900-2100 mc) is equal to military TS-419 U, and provides a reliable source of CW or pulsed rf. Internal circuits provide control of width, rate and delay of internally-generated pulses. Complete specifications on request.

Dependable Airborne Electronic Equipment Since 1928

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Miniaturized Automatic Direction Finders • Omni/Loc Receivers • Course Directors • UHF and VHF Receivers and Transmitters  
LF Receivers and Loop Direction Finders • 10-Channel Isolation Amplifiers • 8-Watt Audio Amplifiers  
Interphone Amplifiers • Omnirange Signal Generators and Standard Course Checkers • 900-2100 Mc Signal Generators



Type H-12  
UHF Signal Generator



Type H-16  
Standard Course Checker



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A complete line of Thyratrons for every type of application. Besides standard Cetron-Taylor models, special types are quickly available. Write for catalog 557.

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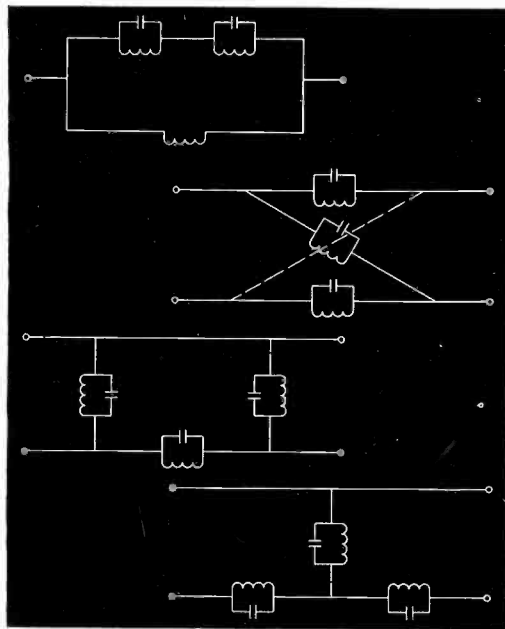
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BLUE PRINT LAMPS  
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# CONTINENTAL ELECTRIC COMPANY TAYLOR TUBES, INC.

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Telephone: Financial 6-1433  
TWX-CG 1113

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*Designed to meet any Requirements or Specifications*

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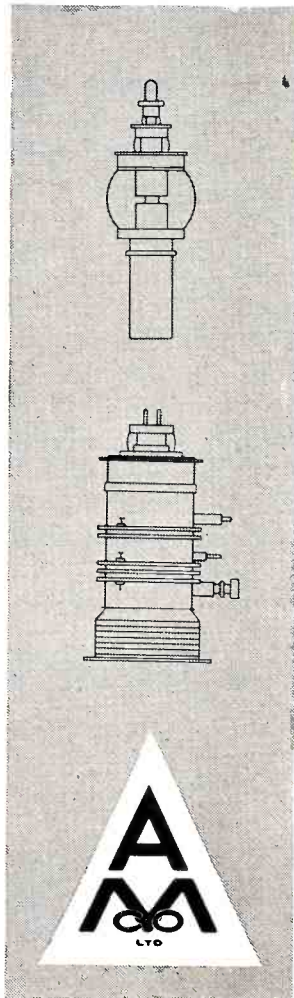
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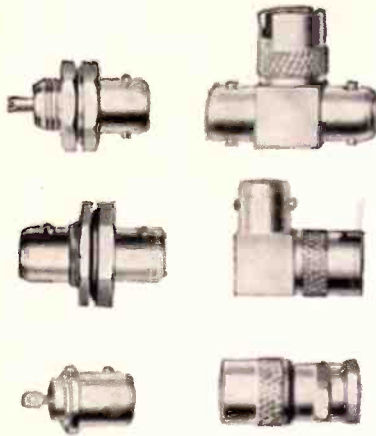
## Coaxial Cable RF CONNECTORS

meet all your circuit design,  
mounting and environmental requirements

### DM series

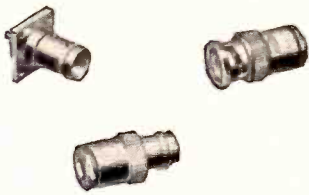
DESIGNED FOR SUB-MINIATURE APPLICATIONS

- Only half the size of standard BNCs
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- Teflon insulators permit use over wide temperature range with low electric loss
- .002" silver plating and gold flash affords excellent corrosion resistance



SHOWN ACTUAL SIZE

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BNC connectors are designed for use with miniature RF cables. Small, lightweight and weatherproof, all have the quick-disconnect bayonet locking feature. Teflon insulators assure low electric loss at high temperatures. Manufactured to MIL-C-3608 specs. Frequency limit: 10,000 mc.

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Low voltage, constant impedance connectors for use with medium sized cables. Provide excellent VSWR at frequencies up to 10,000 mc. Available in both weatherproof and non-weatherproof types. Screw type coupling ring locking. Maximum voltage: 500v. Meet MIL-C-71A specs.

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Write for your free copy of Catalog No. 301. It contains complete engineering data on all Dage RF Coaxial Cable Connectors. Remember, too, that Dage engineers will be glad to help on any connector problem.

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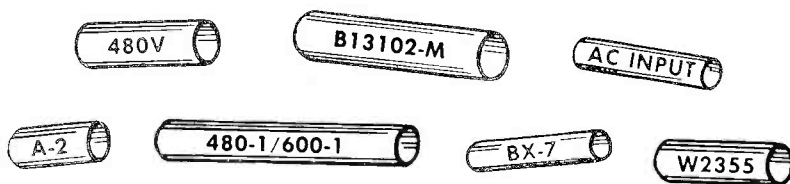
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Since we developed the COLD *Indeli-Dent*<sup>®</sup> process of heatless marking, we can supply as many markers at short notice, as you might conceivably need for your wire marking requirements. Usually we can give 24 to 48 hour service!

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When ordering or seeking information  
please mention Electronics Buyers' Guide.

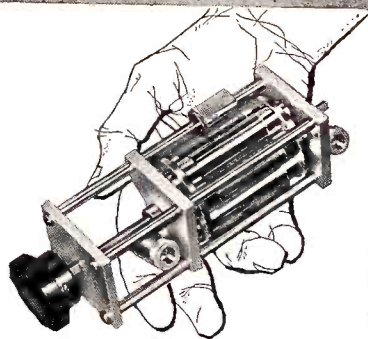
**PRECISION  
ATTENUATION**  
to 3000 mc!

**SINGLE "in-the-line"  
ATTENUATOR PADS  
and 50 ohm COAXIAL  
TERMINATIONS**



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This new group of pads and terminations features the popular Types C and N connectors, and permits any conceivable combination of the two styles.

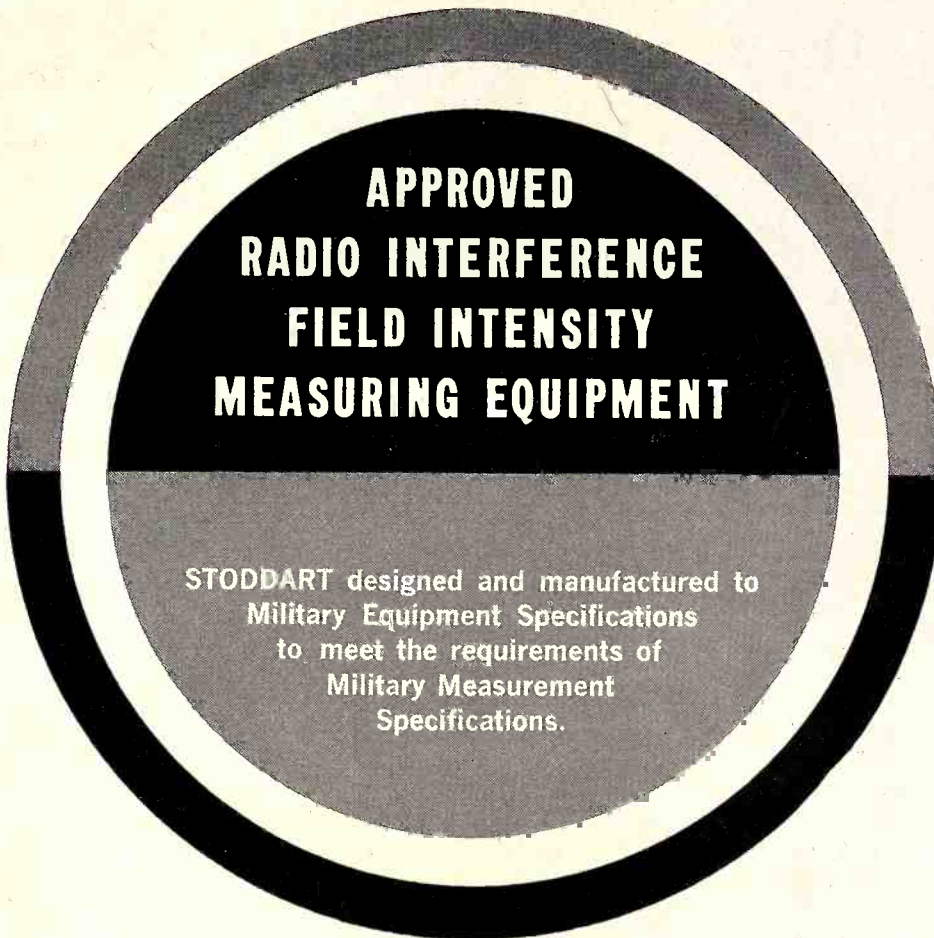


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*six-position*  
**TURRET ATTENUATOR**

- Frequency Range: dc to 3000 mc.
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- Available Attenuation: Any value from 1 db to 60 db.
- Accuracy:  $\pm 0.5$  db.
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**STODDART**  
Aircraft Radio Co., Inc.  
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**APPROVAL DATA**

STODDART & MILITARY TYPE	FREQUENCY	MIL-I-16910 (Ships)	MIL-I-6181	S. A. E.	A. S. A.	C. I. S. P. R.	
NM-40A (AN/URM-41)	30cps-15Kc	CLASS '1'	Not Req'd	Not Req'd	Not Req'd	Not Req'd	*MIL-I-6181C (Proposed) **Can be supplied to C.I.S.P.R. Recommendations S.A.E. (Society of Automotive Engineers) A.S.A. (American Standards Association) C.I.S.P.R. (Comite International Special des Perturbations Radioelectriques) (International Special Committee on Radio Interference)
NM-10A (AN/URM-6B)	14Kc-250Kc	CLASS '1'	Not Req'd	Not Req'd	C63.2 (Proposed)	Not Req'd	
NM-20B (AN/PRM-1A)	150Kc-25Mc	CLASS '1'	CLASS '1' *CATEGORY 'A'	Not Req'd	C63.2 (Proposed)	**	
NM-30A (AN/URM-47)	20Mc-400Mc	CLASS '1'	CLASS '1' *CATEGORY 'A'	APPROVED	C63.3 (Proposed)	**	
NM-50A (AN/URM-17)	375Mc-1000Mc	CLASS '1'	CLASS '1' *CATEGORY 'A'	Not Req'd	C63.3 (Proposed)	Not Req'd	

STODDART'S 5 self-contained Radio Interference Measuring Equipments, each designed for its specific frequency range, provide:  
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 5 different frequency ranges, at—  
 5 different locations, at—  
 1 time.

**FEATURES:**

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— Serving 33 countries in radio interference control —

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**AIRCRAFT RADIO CO., INC.**

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## PIPELINE TO PRECISION



*new!*

The Model WWVC STANDARD FREQUENCY COMPARATOR is a new instrument incorporating a highly sensitive crystal controlled radio receiver for utilizing the transmission of the National Bureau of Standards radio stations WWV and WWVH and is now available for precise audio and radio frequency standards work as well as accurate time interval measurements.

The model WWVC STANDARD FREQUENCY COMPARATOR is available in cabinet or for rack mounting using a 5 1/4" panel.

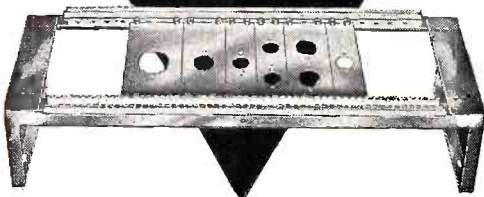
### NEW—Model SR-7 WWV RECEIVER

This receiver is the dual conversion type. Dimensions: 3-15/16" x 11" x 8 1/2" deep. Available in upright or vertical models, or as rack mounted model. Noise limiter, antenna trimmer and provision for an oscilloscope or head phone are incorporated.

### NEW—Model AK-8 ANTENNA KIT

This special antenna is designed to provide optimum response to signals from WWV and WWVH on 2.5, 5, 10, 15 and 20 mc. Includes modification kit for receiver with all wire, 50' of coaxial cable and suitable fittings to provide outstanding performance. Antenna is completely assembled; needs only one support for satisfactory operation.

## CHANGEABLE CHASSIS



### SPEED-CHASSIS

The Speed-Chassis is a flexible breadboard assembly with interchangeable socket arrangements which can be mounted on a relay rack if desired. Shield cover and panel are available to make successful breadboard assemblies both permanent and neat.

The NEW Half-Size SPEED-CHASSIS accommodates small breadboard where additional length of the full-size model is not needed. Stacking and place arrangements of either unit or units in combination are extremely varied. Both Chassis models are preassembled; controls may be mounted on either end.

*Send for specifications, prices and delivery*

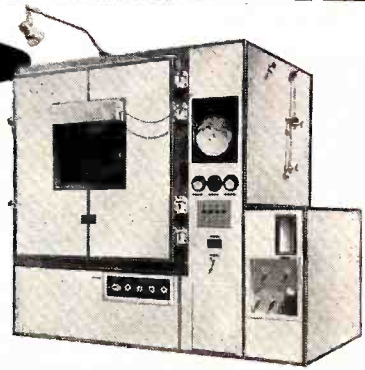


**SPECIFIC PRODUCTS**

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WOODLAND HILLS, CALIF.

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**TOP OPENING  
FRONT OPENING  
WALK-IN**

Write for  
Bulletin SS-55

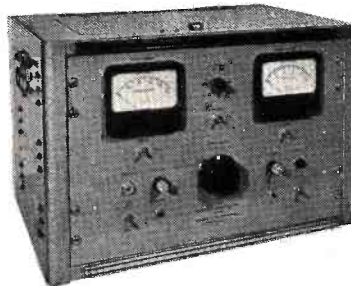
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## DEVELOPMENT ENGINEERING COMPANY

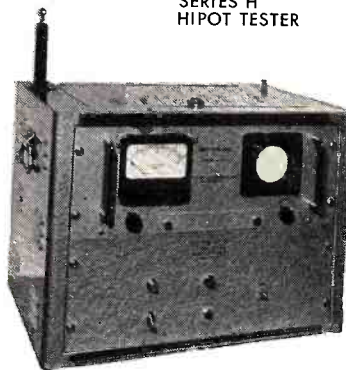
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HIPOT TESTER



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**FILTERS**  
**NETWORKS**

**TOROIDAL WAVE FILTERS**

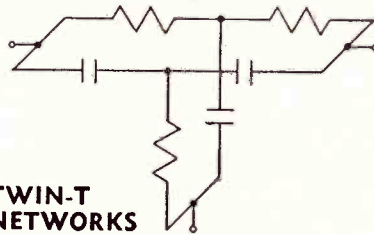
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Easily machinable stock shapes in wide variety of sizes with uniform, controlled density and maximum dimensional stability.

## **POLYPENCO TEFLON TAPE AND SPAGHETTI TUBING**

Dielectric materials with superior performance properties. Tape is supplied from stock in thicknesses of .001" to 0.125" in widths up to 12". Spaghetti tubing is available in AWG wire sizes #30 to #0. Both available in 10 fade-proof colors.

## **FERROTRON® Ferromagnetic Materials**

A superior powdered iron-filled plastic material for electromagnetic design. Available in rigid cores and flexible rod and tape.

## **POLYPENCO Q-200.5 (cross-linked polystyrene)**

UHF insulating material with outstanding electrical properties for electronic, communication and allied applications. Available in rod and plate.

*Nation-wide stocking and service points assure prompt delivery of your order. Let Polymer's Technical Service Department help on your design problems. Write today for further information.*

**THE POLYMER CORPORATION OF PENNSYLVANIA**

Reading, Pennsylvania

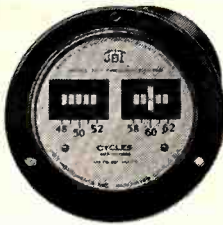
Export: Polypenco, Inc., Reading, Penna., U.S.A.

\*DuPont trademark





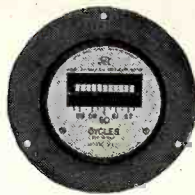
REED FREQUENCY METERS • ELAPSED TIME METERS  
TOGGLE, LEVER and ROTARY SWITCHES of Instrument and Test Equipment Quality  
for THE ELECTRONIC INDUSTRY



Model 30-F  
Dual Range, Double Window



Model 36-FX-21  
21-Reed Meter in 3 1/2" Case



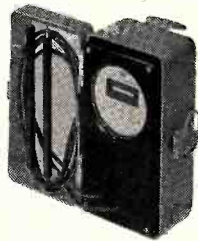
Model 34-FHXX  
9-Reed in 3 1/2" Sealed Case



Model 41-FX-42  
300-500 cycles and  
380-420 cycles, 4" case.



Model 15-FHAC  
2-Reed in 1 1/2" Sealed Case



Model 33-FP-9M  
Portable, Metal Case  
TS-328 A/U (400 cy. type) Shown

VIBRATING REED FREQUENCY METERS

Meters illustrated are typical panel mounting or portable—for use where constant or known frequency is important to efficient operation of equipment.

- Permanently Accurate within  $\pm 0.3\%$  or better at reference temperature, depending on the model. This accuracy is not affected by poor wave form, external magnetic disturbances, or voltage fluctuations.
- Size and Type for Every Service. Made in a wide variety of portable and panel case styles, reed groupings and frequency ranges from 12 to 650 cycles and above; 100-130 volts furnished unless otherwise specified.
- Rugged Construction of simplified, patented design, with no moving parts to wear out or get out of calibration. Ideal for field and mobile applications.
- Suitable for Electronic Circuits because of relatively low power consumption and J-B-T reeds with high Q and sharp, immediate response.

3 1/2" and 2 1/2" SEALED Types

3 1/2 inch FHXX Meters: sealed, glass-to-metal construction with solder terminals, meet or exceed the sealing and electrical requirements of JAN-I-6 and MIL-M-6A including the 3000 volt breakdown, and use the front mounting dimensions specified. Max. barrel diameter, 2 1/16"; 2 7/8" overall depth behind flange. While not regularly stocked, these meters are in volume production. New 2 1/2" meters Model 21-FHXX available on special order.

1 1/2" SEALED Types

Model 15-FHAC (illustrated above). 60 and 400 cycles, 2 reeds, 8-10 volts, for cathode follower circuit. Widely used on audio oscillators to standardize output. Meets intent JAN-I-6, MIL-M-6A and amendments on sealed meters. Barrel, 1 1/2" diameter; detachable flange, 2.094" diameter; solder terminals.

Model 15-FH Series (not illustrated) — Same case, sealed, 5 reeds, 58-62 cycles, 100-130 volts, or 390-410 cycles, 100-130 volts. Variations such as 6 reeds or 25 cycles available on special order.

ASK FOR CATALOG 657

ELAPSED TIME METERS

For Maintenance, Tube Life Data, and Operating Time Records—on Motor Generators, Transmitters, Receivers, Rectifiers, Test Set-ups, etc.

Model 31-EX (illustrated) also known as running-time or total time meter, registers in 1/10 hours to 9,999.9 hours, then automatically resets. Normally stocked for 60 cycles, 110-130 volts. 3 1/2" standard meter mounting. Variations such as 50 cycles; 230 volts; 0-99,999 hours; 3" rectangular case; and readings in minutes available on special order.



SEALED ELAPSED TIME METERS

Model 31-EHXX—Fully sealed meter, reading 0-9,999.9 hours, same as Model 31-EX above. Glass-to-metal construction, solder terminals, and 3 1/2" detachable flange, all match XX metal frequency meter case. 1000 volt breakdown.

Model 33-EHXX — Operates on 400 cycles, 110-125 volts, to read 0-9,999.9 hours in 1/10 hour steps. It is presently made only in 3 1/2" flange sealed metal case, 2 3/4" diameter, 4" deep behind panel. 1000 volt breakdown.

Model 21-EHXX—New. 2 1/2" flange, sealed, full size counter.

FREQUENCY — TIME METERS

Combination Reed-Type Frequency — Elapsed Time Meters—One Meter Does the Work of Two.

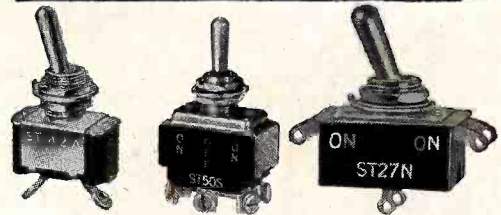
Model 31-FE (illustrated) pioneered by J-B-T, saves panel space and cost, and encourages periodic maintenance; 3 1/4" flange, metal case, 4 1/32" overall depth, standard. 3 1/2" case known as 31-FEX-1 supplied on custom orders. 5 reeds, 60 cycle range, standard; 7, 9, 11 reeds or 50 cycle range on special order.



DISTRIBUTOR SERVICE

Standard J-B-T items are available through authorized electronics parts distributors.

TOGGLE SWITCHES, AN, JAN, or MIL



J-B-T now manufactures over 100 models of toggle switches, designed for exceptional reliability, as in JAN-S-23 and Ordnance Standards DDAX. Variations with bushing seal are made at additional cost for MIL-S-6745 specialized AN Air Force requirements. Other types are being planned for pending MIL-S-3950. Improved enclosed designs are supplied on all models—there are no unused holes.

ST40, 42, 52 series—Solid coin silver contacts and racker arms, unique to J-B-T, add overload protection and keep contact resistance under .005 ohms. Nominal ratings 20 amp at 125 VAC, 10 amp, 250 VAC. See Bulletin TS-4B.

ST12, 13, 16, 17, 22, 23, 26, 27 series—Nominally rated 6 amp at 125 VAC, 3 amp, 250 VAC; threaded bushings 2 1/4" or 1/4" long. Current carrying parts heavily silver plated. See Bulletin TS-5B.

ROTARY SWITCHES

Shorting and Non-Shorting ... 14 or 20 Positions

... 1 to 6 Decks (more on special order) ... All moving contacts enclosed — eliminates dirt and corrosion ... sturdy construction with 3-post deck suspension, double-grip collector arms, and rectangular drive shaft through decks for precision indexing ...



MOLDED

test results available covering certain procedures of MIL-E-5272 A ... interchangeable, electrically and mechanically with J-B-T Series SS-14 and 20 position Laminated Switches.

Carrying capacity (not make-and-break): 1 amp.; maximum momentary, normal 5 amp.; maximum voltage between contacts and ground, 1000 volts R.M.S.; between decks and ground, 2000 volts R.M.S. Average contact resistance 0.007 ohms or less. Also available in 6-pole per deck double throw construction. Non-shorting (break before make) and shorting (make before break). Bonded construction is available on special order as MS-14R and MS-20R Types. Provides permanent moisture-proof bond between decks, and strong mechanical support for contacts.

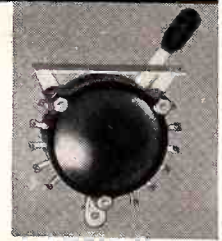
For dependable performance in quality test equipment, instruments, inspection setups and avionics — two compact types. 14 pos. (2" dia.) or 20 pos. (2 3/32" dia.) one to six decks. Model SS-14-2 shown.



LAMINATED

LEVER ACTION SWITCHES

Model MS-20-1L5A-1 (illustrated) provides 5 live positions, 2 circuits per deck in molded body. Mounting to Print SK-64. Single deck types use same top quality parts as laminated SS-14 switches. For ganged lever series, SSG types,



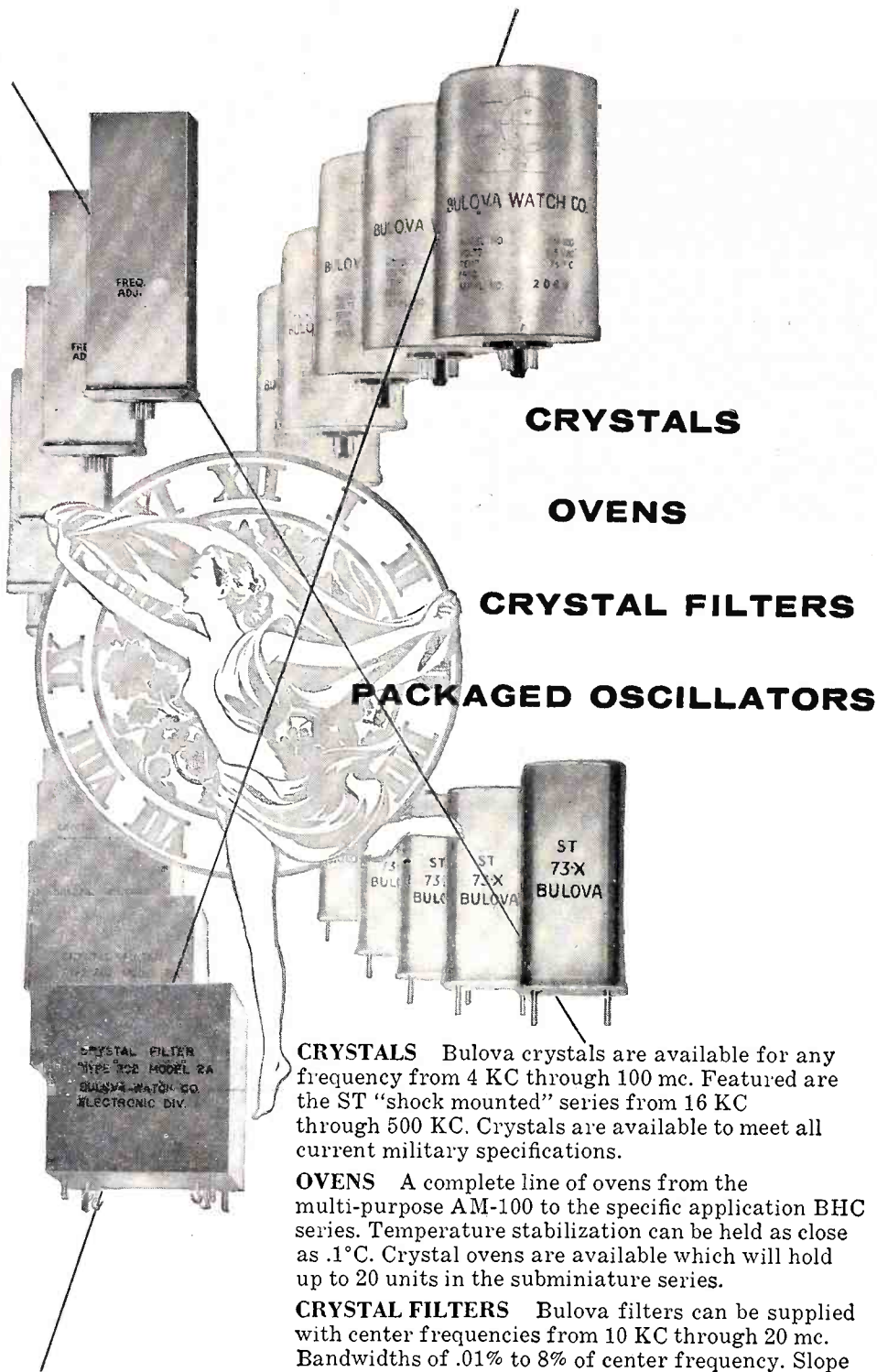
in 3, 4, or 5 positions, 2-10 decks. See Print SK-74.

ASK FOR CATALOG 657

J-B-T INSTRUMENTS, INC.



NEW HAVEN 8, CONN.



## CRYSTALS

## OVENS

## CRYSTAL FILTERS

## PACKAGED OSCILLATORS

**CRYSTALS** Bulova crystals are available for any frequency from 4 KC through 100 mc. Featured are the ST "shock mounted" series from 16 KC through 500 KC. Crystals are available to meet all current military specifications.

**OVENS** A complete line of ovens from the multi-purpose AM-100 to the specific application BHC series. Temperature stabilization can be held as close as .1°C. Crystal ovens are available which will hold up to 20 units in the subminiature series.

**CRYSTAL FILTERS** Bulova filters can be supplied with center frequencies from 10 KC through 20 mc. Bandwidths of .01% to 8% of center frequency. Slope factors 60/6. Ratio of bandwidth at 60 db to bandwidth of 6 db as steep as 1.4/1 with single sideband filters having greater slope.

**PACKAGED OSCILLATORS** A complete range of frequencies from 8 KC through 70 mc is available as tube type or transistorized oscillators. The Bulova OS-1 (picture above) will maintain an accuracy of .0012% over -55°C. to +80°C. ambient. This tube type oscillator is available from 180 KC through 50 mc.

Bulova "custom engineering" services are available to fulfill your every frequency control requirement.



# BULOVA

w a t c h c o m p a n y

Electronics Division  
Woodside 77, N. Y.

Write Dept. DA-776  
For Full  
Information & Prices

## VHS METER-RELAY

(Very High Sensitivity)



←  
Model 266  
10 Ua DC  
2800 ohms  
Gasket-  
sealed  
1 3/4" x 2 1/4"



→  
Model 126  
124V. AC  
250,000 ohms  
Solder-  
sealed  
1 1/4" x 1 1/8"

The VHS is a D'Arsonval moving coil relay, internally shock-mounted. Its operation is similar to that of indicating meter-relays.

**Connections:** 9-pin octal style.

**Weight:** 4 ounces.

**Sensitivity:** From 0.2 Ua to 10 Amp., 0.1 Mv to 500 volts. AC relays are rectifier type.

**Accuracy:** Trip point to 1% (depends on sensitivity). Differential and repeatability 1%.

**Shock and Vibration:** Operates at 10 G or more, 5 to 55 cycles. Non-operating, withstands 10 G or more, 5 to 2,000 cycles; shocks of 10 G or more.

**Contacts:** SPST or SPDT, 5-25 Ma DC. Other ratings to 1/2 Amp. AC. A locking coil gives high pressure and chatter-free contact.

**Price:** \$20 to \$80. Ask for Bulletin 104-A.

## VHS COMPACTS



Cat. 2303 AH \$148.50 complete

Rugged, small, complete controls. They use integral VHS meter-relays as the controlling "heart", or may use external meter-relays where indication is needed.

**Accuracy:** Trip point to 1% (depends on sensitivity). Differential and repeatability 1%.

**Load Switch:** 5 amperes, 125 volts. SPDT; make or break with increasing signal (hi), decreasing signal (lo), or both (double).

**Input:** From 0.2 Ua to 10 Amp., 0.1 Mv to 500 Volts. AC relays are rectifier type.

**Power Required:** 115/230 Volts, 50/400 cycles. DC models available.

**Connections:** 9 pin plug-in (octal type).

**Mounting:** Plug-in.

**Case:** 1 3/4" x 4 1/4" x 4 3/4", steel, dustproof. Hermetic sealing optional.



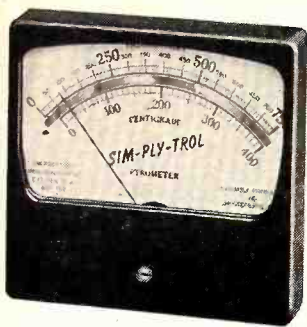
Send For Catalog:

40-PAGE CATALOG 4-C  
DESCRIBES COMPLETE  
PRODUCT LINE—includes  
circuitry, response time,  
prices, discounts, etc.

**ASSEMBLY  
PRODUCTS, INC.**

## INDICATING PYROMETERS

TWENTY-ONE RANGES FOR TEMPERATURES  
FROM  $-400^{\circ}\text{F.}$  TO  $+3000^{\circ}\text{F.}$   
ACCURACY 2% OF FULL SCALE.



Prices  
from  
**\$20.25 to  
\$51.65**

Model 461:  
4 1/2" black  
bakelite  
case,  
0/750° F.,  
with mirror  
scale.

6 other  
sizes and  
case styles.

Medium resistance (4 ohms per millivolt) thermocouple millivoltmeter. Compensated for cold junction and copper error.

Available with 1% accuracy. Can be thermistor compensated for ambient changes. Some styles supplied with mirror scales.

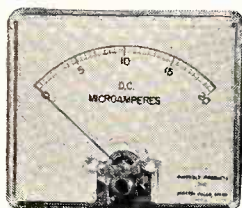


### Model B Portable Pyrometers

Price: **\$34.90 to \$55.25**

Includes thermocouple with 5' lead and oak carrying case.

## API PANEL METERS



Model 261  
0-1Ma DC **\$12.65**

Model 451  
0-20 Ua DC **\$30.25**

D'Arsonval movements, Alnico magnets, tubing or knife-edge pointers. AC meters are rectifier type. DC accuracy, 2%; AC 3%. Better accuracies available. Zero right, zero center meters or up to two-thirds of range suppressed. AC and DC meters in multiple ranges. Special dials in colors, black face, your name, etc. Mirror scales.

### STYLES: PYROMETERS & API PANEL METERS

#### Ruggedized-Sealed

2 1/2, 3 1/2, 4 1/2-inch round metal case, sealed zero adjust, shock-mounted movement.

#### Black Bakelite

2 1/2", round or square, 3 1/2" round or square, 4 1/2" rectangular. (Other colors and illumination in 4 1/2" size.)

#### Clear Plastic

2 1/2", 3 3/4" and 4 1/2" rectangular.

## CONTROLS

### SIMPLYTROL AUTOMATIC TEMPERATURE CONTROL, THERMOCOUPLE OR THERMISTOR-ACTUATED



Compact  
Reliable  
Simple  
Ranges from  
 $-400^{\circ}\text{F.}$  to  
 $+3000^{\circ}\text{F.}$

Indicating  
accuracy 2%.

Control accuracy  
often better  
than 1/2%.

Cat. 4535 0-1000° F. 1/C  
Approx. 10 x 6 x 7" **\$135**

On-off control or automatic shut-down for furnaces, ovens, kilns, etc.

Load relay is SPDT 5 amps. Optional heavy duty relays to 40 amps. Indicating meter-relay is medium high resistance and has bimetal cold junction compensation.

No leveling required—just connect thermocouple, connect load, and plug in to 115 or 230 volt AC line.



### BEARING TEMPERATURE MONITOR

Cat. No. 3590-4 **\$355.00**

Meter-relays, operating directly from thermocouples, give immediate warning or shut-down upon temperature rise in bearings (or other danger points). A number of points can be monitored independently and continuously.

### VERSATROL AUTOMATIC CONTROLS

For any variable that can be measured electrically. Adjustable control points. Automatic operation.



Cat. 3581

Versatrol High Limit  
Automatic with  
451-C Meter-Relay  
(0-20 Ua DC)

Approx. 10 x 6 x 7"  
Price **\$154.25**

Versatrol consists of a meter-relay and all components for a complete control assembly. Any range or type of meter-relay can be supplied in a Versatrol.

They can be calibrated in any function that can be converted to electrical units. Load relays have 5 ampere contacts. Control point is adjustable from the front.

Control can be high limit (on an increase in signal), low limit (on a decrease in signal), or double (control action on rise or fall of signal).

Versatrol can be used for continuous on-off control or for shut-down or alarm. Available in wall cabinet, panel mount, "U-Mount-It" etc.

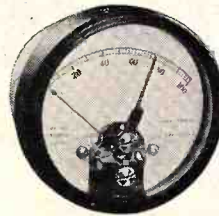


### SLAVE RELAYS

Low operating current, snap action contacts rated 5 amps, 125 volts. Designed for use with meter-relays. SPDT, DPDT, 3PDT, or 4PDT. Supplied open or in plug-in cans. Prices \$6 to \$40.00.

## METER-RELAYS

Indicating meters with built-in locking contacts for control or alarm. Trip point adjustable.



Model 255-C

High limit,  
Ruggedized-Sealed  
0-100 Ua DC

**\$46.00**



Model 461-C Bakelite

High Limit  
0-5 Ua DC  
**\$107.50**

#### Styles:

RUGGEDIZED-SEALED metal cases are 2 1/2, 3 1/2, and 4 1/2" round, shock-mounted movement, gasket-sealed. BLACK BAKELITE... glass front, 4 1/2" rectangular case. Other colors on special order. CLEAR PLASTIC 2 1/2, 3 3/4, & 4 1/2" rectangular.

#### Ranges:

0-5 Microamps to 0-50 Amps. 0-5 Millivolts to 0-500 volts, AC or DC. (Minimum AC voltage range 0-250 Mv.) Thermocouple temperature ranges cover from  $-400^{\circ}$  to  $+3000^{\circ}\text{F.}$



Model 451-C

Double Contact -100  
to  $+400^{\circ}\text{F.}$ —**\$64.00**

Salt Spray: QQ-M-151A.  
Temp.:  $-30^{\circ}/+70^{\circ}\text{C.}$   
Sealing: MIL-M-6A.

#### MIL Specs:

Ruggedized - sealed meter-relays will meet these specs: Shock: 1 and 3-foot drops, 400 lb. hammer, 3 planes. Vibration: MIL-M-10304A.

#### Accuracy:

Point of contact: 1/4% to 1%.

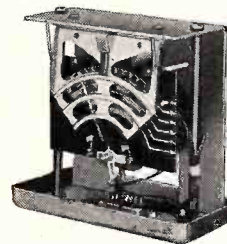
Indicating:  $\pm 2\%$  of full scale at any point of dial. Can be 1%.

#### Contacts:

Rating: Standard is 5-25 milliamperes at 75-125 volts DC. Optional ratings to 250 Ma, 6 to 250 volts. DC.

Arrangement: High Limit (makes on increase of signal), Low Limit (makes on decrease of signal), Double (both high and low contacts)

Life: 10 to 20 million operations,



## LIAD MULTI-CONTACT METER-RELAY

The LIAD consists of a D'Arsonval meter movement with one or several contacts carried on the moving pointer, a printed circuit scale (95 angular degrees), and a device for gripping the pointer and its contacts to the scale contact bars.

The unique combination of contact closures resulting from this gripping tells the level of the signal—and can be transmitted or used for telemetering; automatic production testing or grading; maximum value reading; simple quantitative read-out, etc.

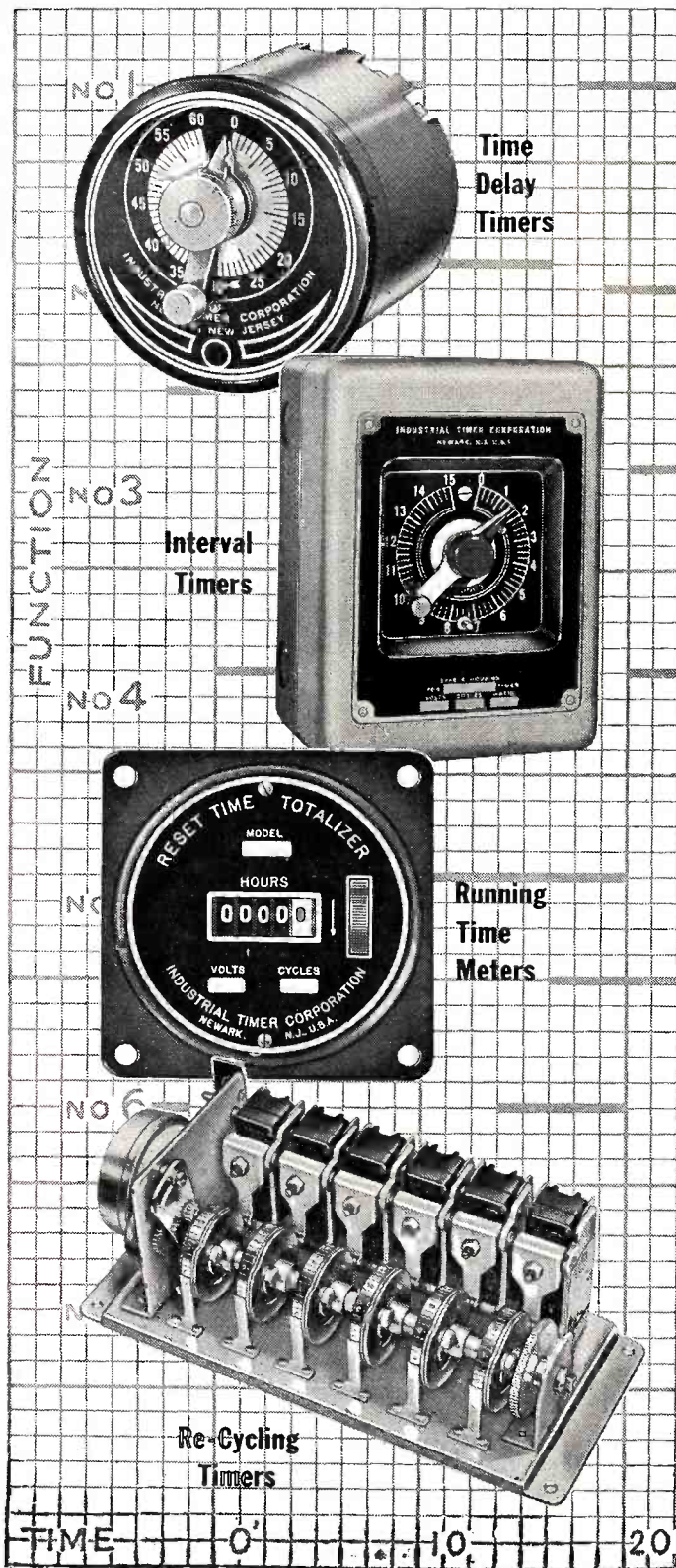
Standard LIAD with 10 segment scale band, one milliampere sensitivity, 12 volt read-out coil. Price **\$100.00**

**ASSEMBLY PRODUCTS, INC.**

CHESTERLAND 6, OHIO. Phone: (Cleveland, O.) HAmilton 3-4436  
or PO Box XX, Palm Springs 6, Calif., Phone DHS 4-3133 & 4-2453



# Need a "SPECIAL" TIMER ... need a "STANDARD"?



## Here's why WE can give you the fastest service

When you want a timer, you want one that fits your needs 100% — and you want it fast. Get in touch with Industrial and you'll get both. Because:

In our 20 years of experience, we have developed over a thousand combinations from our 17 basic types, to meet the widely varying needs of our customers. Therefore — many jobs that would seem to require a "special" timer are in fact a "standard" timer with us. Here is one tremendous saving of time for you.

When you do need a special timer, this same wealth of experience goes to work for you at once to design it. Our Engineering Department not only originates new designs, but also develops modifications for that purpose. That's why requests for special timers can be filled without delay.

Each method — designing for a standard timer or for a special timer — has its advantages. Designing for an already available timer means lower costs, faster service, simplified replacements.

Designing for a special timer has its advantages too. It means you'll fulfill your needs 100% — no need to limit your designing horizons. Either way — standard or special — you'll get the timer you want most promptly from Industrial.

Or perhaps you need quick service on timers for automatic controls. Here too Industrial Timer is your first source of supply. For in this field Industrial has a big head start. True, each automatic control job is a bit different from the rest. But the record shows that our years of timer experience has given us the special knowledge it takes to give you the right answers in near-record time.

So, for the utmost in all-round timer service, it's Industrial that offers you this outstanding combination: deliveries "Immediate on Standards . . . First on Specials." Plus the experience of one of the foremost group of timer engineers in the nation.

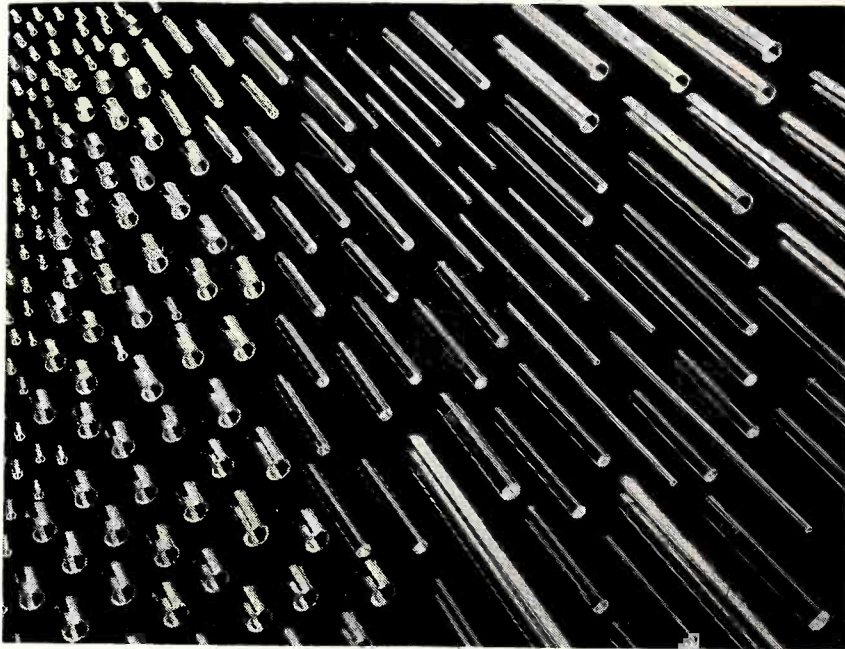
Timers that Control  
the Pulse Beat of Industry



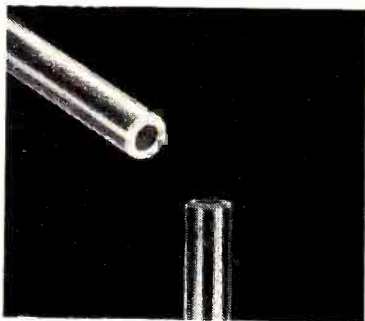
**INDUSTRIAL TIMER CORPORATION**

1409 McCARTER HIGHWAY, NEWARK 4, N. J.

# PRECISION GLASS PARTS FOR THE ELECTRONICS INDUSTRY



Precision Finished, Metal and Abrasive-Free



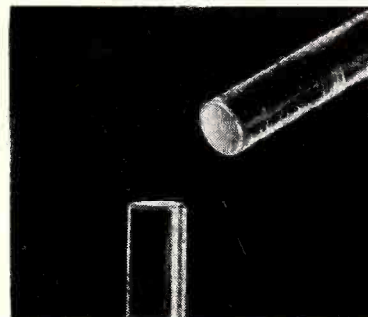
Precision Finish  
Glass Tubing  
(Metal and Abrasive-free)

#### TYPICAL APPLICATIONS

Exhaust tubing  
Envelopes  
Spacers  
Rods  
Cases  
Sleeves  
Bodies  
Beads  
Pellets  
Insulators  
Rings Stems

#### FOR USE IN

Transistors  
Diodes  
Tubes  
Glass to Metal Seals  
Fuses  
Resistors  
Capacitors  
Device Packaging  
Hermetic Seals  
Miniaturization  
Automatic Feeding  
Automatic Processing



Precision Finish  
Glass Rods  
(Metal and Abrasive-free)

HAMILTON is your best source for metal and abrasive-free precision, hard and soft glass parts. Featuring beveled edges with tolerances (at production rates) to .001". Certified reject rates as low as 3 per 100,000 pieces.

You'll find our precision, reliability and price to be the best. Send prints for quotation or request samples from:

## HAMILTON ELECTRONICS CORP.

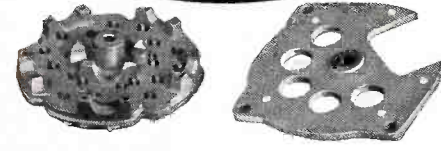
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PRospect 6-2110

Bath, N. Y.



For Your  
**MOST** Exacting  
Insulating Problems



**MYKROY—Glass Bonded Mica** (to 1000°F.)

This material possesses the unsurpassed combination of valuable properties for insulation in high frequency equipment—high dielectric and mechanical strength, extraordinary resistance to high temperatures and arcs, with ease of machining, molding into intricate shapes and bonding to metals. It is also impervious to water, oil and gases. Available in two types:

**MYKROY 38A**—Natural Mica combined with special glass; operating temperature to 800°F.; in sheets, rods, fabricated parts and moldings.

**MYKROY 38S**—Synthetic Mica with high temperature glass—heat factor to 1000°F. with high wet electrical properties and low power factor. Available in sheets or as powdered mica (Thermica) used as a filler for resins.

**ALCEROY—Aluminum Oxide** (to 3100°F.)

Provides exceptional insulation properties and continuous high heat resistance at very high frequencies. Available in fabricated parts to your specifications in two types:

**ALCEROY #8**—Withstands temperatures to 2550°F.; 85% pure aluminum oxide.

**ALCEROY #9**—Withstands temperatures to 3100°F.; 97% pure aluminum oxide.

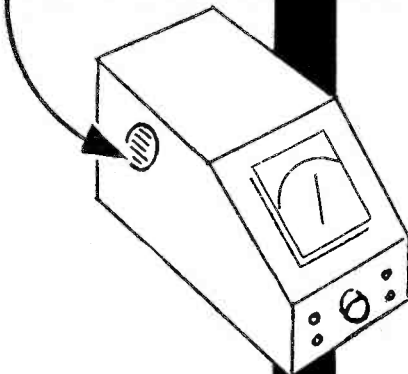
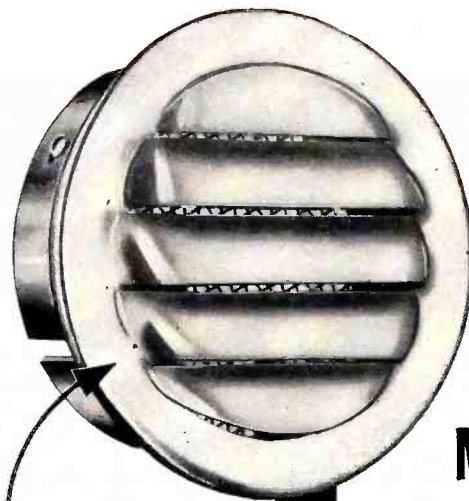
Special moldings and fabrications of **TEFLON** and **KEL-F** also available.

For Your Special Gasketing Needs—

**FLEXON—Compressible Gasketing Material**

This exclusive material, made of specially processed Teflon, is relatively soft providing a superior seal for irregular contours or rough surfaces where the regular Teflon surface is too hard. Available in sheets or fabricated parts.

Send us your sketch for an estimate. For descriptive literature write to Dept. J-7.



shielded  
ventilation . . .

**MIDGET LOUVERS**

Chrome, anodized, aluminum and copper Midget Louvers provide ventilation for electronic equipment cabinets.

Louvers in air ports of transmitter sets prevent radiation interference on adjacent TV sets.

Easy installation in either wood or metal cabinets, simply drill hole and fit. Louvers are screened to keep out insects.

Sizes — 1" to 6"  
Proportionate weighs per dozen  
2 oz. to 16 oz.

Write for complete data

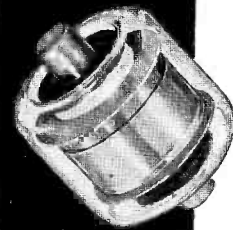
**MIDGET LOUVER CO.**

6 WALL ST. NORWALK, CONN.

TWO NEW  
TYPES



VC 500-32



VC 500-10



**RUGGED  
VACUUM CAPACITORS**

COMPLETE LINE

TYPE	CAPACITY mmfd.	PEAK KILOVOLTS	RMS AMPERES	DIMENSIONS LENGTH DIA.		CONTACT DIA.
VC6-32	6	32	45	6 1/2	2 1/4	1 3/16
VC12-32	12	32	45	6 1/2	2 1/4	1 3/16
VC25-32	25	32	45	6 1/2	2 1/4	1 3/16
VC50-32	50	32	65	6 1/2	2 1/4	1 3/16
VC75-32	75	32	65	6 1/2	2 1/4	1 3/16
VC100-32	100	32	65	6 1/2	2 1/4	1 3/16
VC150-32	150	32	65	6 1/2	2 1/4	1 3/16
VC200-32	200	32	65	6 1/2	2 1/4	1 3/16
VC250-32	250	32	65	6 1/2	2 1/4	1 3/16
VC500-32	500	32	120	7 1/2	3 3/8	2
VC100-A	100	32	100	6 1/2	2 1/4	1 3/16
VC250-A	250	32	100	6 1/2	2 1/4	1 3/16
VC6-20	6	20	30	4 1/2	2 3/8	1 3/16
VC12-20	12	20	30	4 1/2	2 3/8	1 3/16
VC25-20	25	20	30	4 1/2	2 3/8	1 3/16
VC50-20	50	20	45	4 1/2	2 3/8	1 3/16
VC75-20	75	20	45	4 1/2	2 3/8	1 3/16
VC100-20	100	20	45	4 1/2	2 3/8	1 3/16
VC250-20	250	20	65	6 1/2	2 3/8	1 3/16
VC500-20	500	20	120	7 1/2	3 3/8	2
VC6-16	6	16	25	4 3/8	1 3/8	3/8
VC12-16	12	16	25	4 3/8	1 3/8	3/8
VC25-16	25	16	25	4 3/8	1 3/8	3/8
VC50-16	50	16	45	4 3/8	1 3/8	3/8
VC100-16	100	16	45	4 3/8	2 1/4	3/8
VC25-10	25	10	20	2 3/4	1 1/2	1/2
VC50-10	50	10	20	2 3/4	1 1/2	1/2
VC50-10-A	50	10	40	3 3/4	2 1/2	1/2
VC100-10-A	100	10	40	3 3/4	2 1/2	1/2
VC150-10-A	150	10	40	3 3/4	2 1/2	1/2
VC250-10	250	10	45	4	3 1/2	1/2
VC500-10	500	10	45	4	3 1/2	1/2
VC100-7.5	100	7.5	35	4 3/8	1 3/8	3/8

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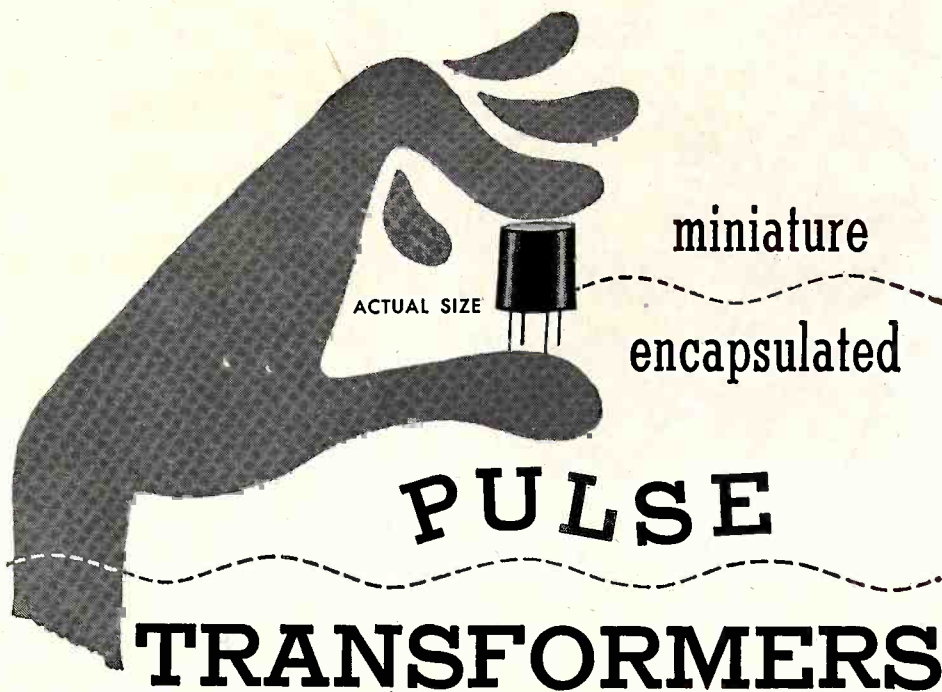
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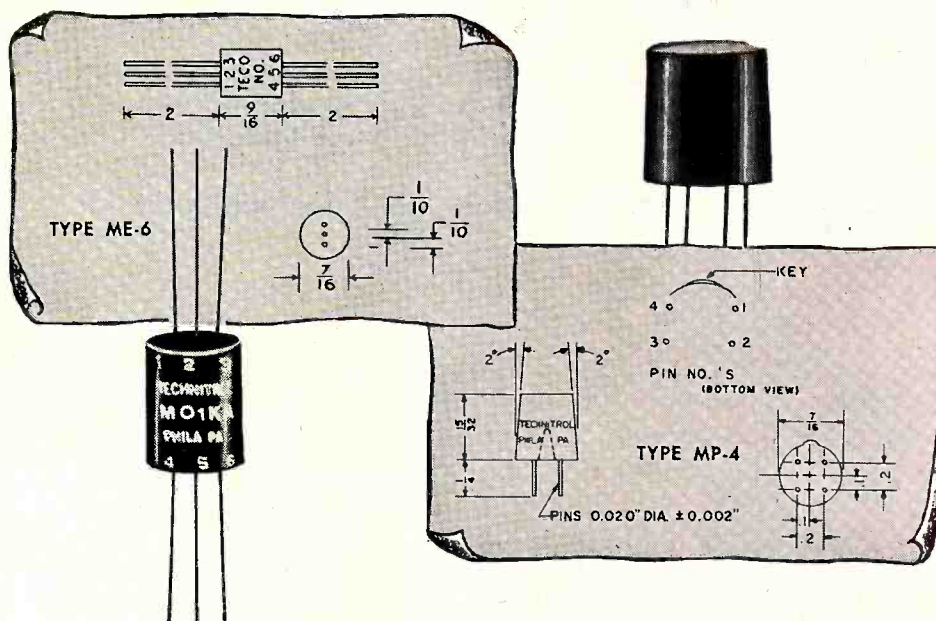
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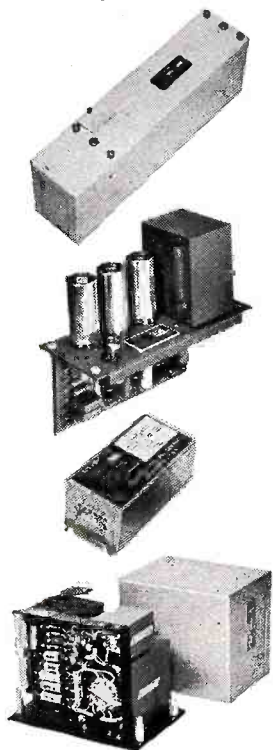


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Cut your prototype construction time. Production proven I. C. Co. amplifiers are available for 60 cps and 400 cps servo motors from 1 to 50 w. of shaft power . . . ready to fit your system.

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		FPE25-11	5W	407A	5 mv D.C.	2 MEG OHMS
		FPE25-84-4	10W	737A	200 mv D.C.	500K
		FPF66-11-1	50W	722A	100 mv RMS	500K
		FPF66-11-1	50W	729A	200 mv D.C.	500K
400 cps		R-110	1.8W	434B	300 mv RMS	10K
		R-110	1.8W	701B	100 mv D.C.	50K
		R-112	5.4W	751B	100 mv RMS	1 MEG OHM
		FPE49-19-1	25W	721B	100 mv RMS	500K
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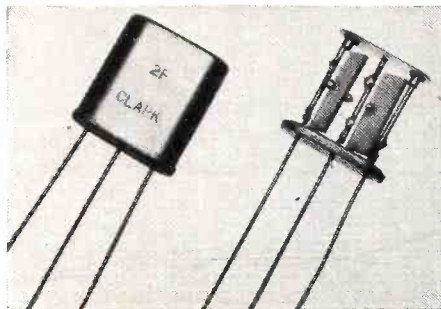
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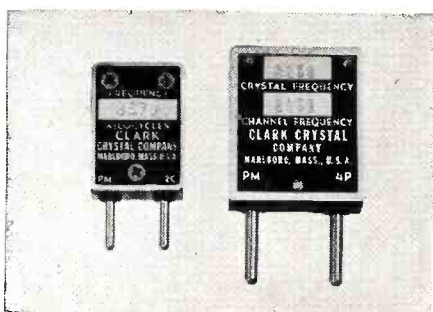


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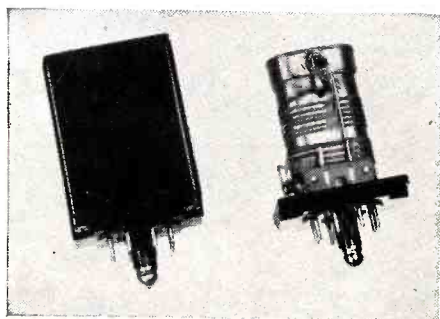
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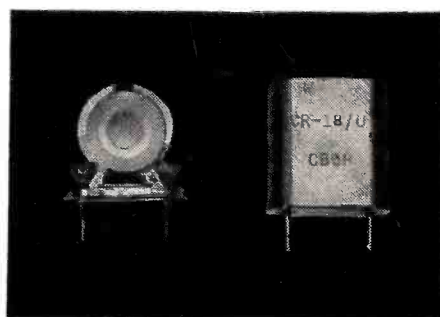
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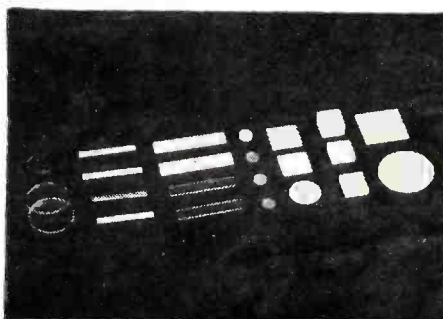
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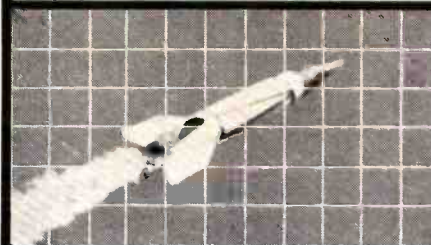


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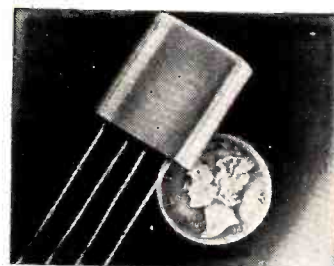
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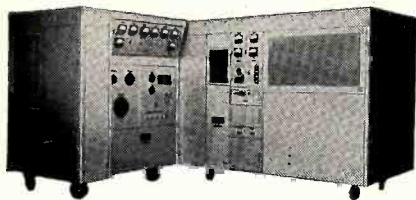
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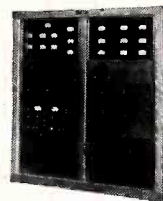
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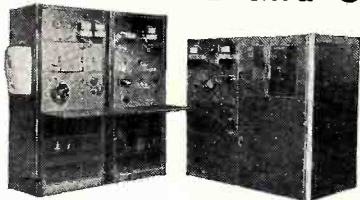
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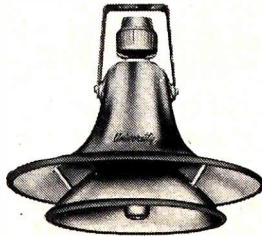
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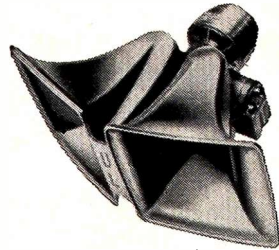
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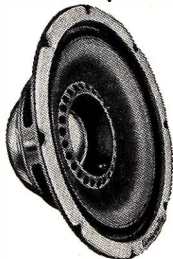


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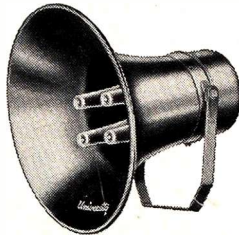


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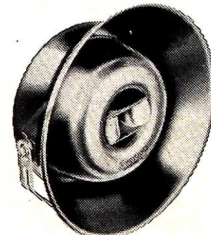
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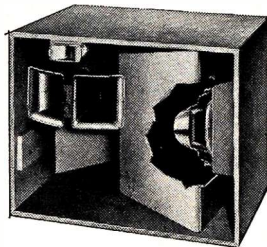


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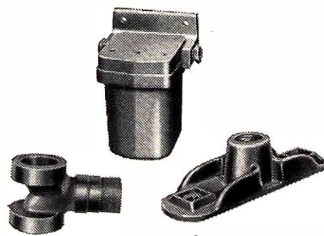


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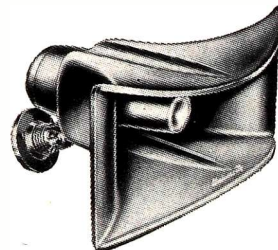
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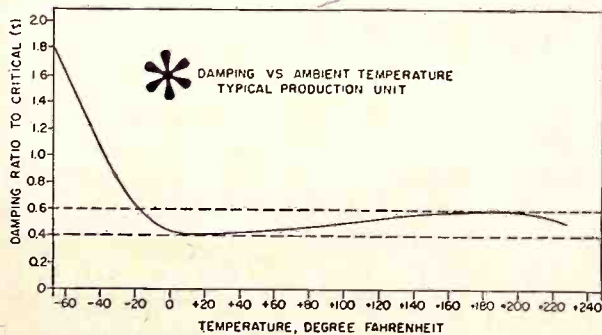
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**glaswitch\* relay  
... hermetically sealed  
contacts**

**LIGHTNING RESPONSE ... LOW CAPACITANCE**

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**CHARACTERISTICS (24-Volt Coil):**

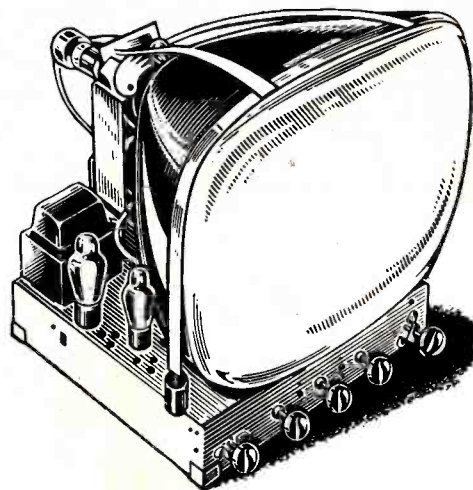
- Contact Rating: At 28 V.D.C.: 0.5 amp inductive (L/R = 0.026) or resistive.
- Contact Form: Normally open or normally closed.
- Contact Surface: Electro-plated rhodium.
- Sensitivity: Approximately 500 milliwatts.
- Operating Time: 4.5 milliseconds at 24 volts D.C.  
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| Barium Tungstate   | Sodium Hydroxide    |
| Cadmium Chloride   | Sodium Phosphate    |
| Cadmium Sulfate    | Dibasic             |
| Cadmium Sulfide    | Strontium Carbonate |
| Calcium Carbonate  | Strontium Nitrate   |
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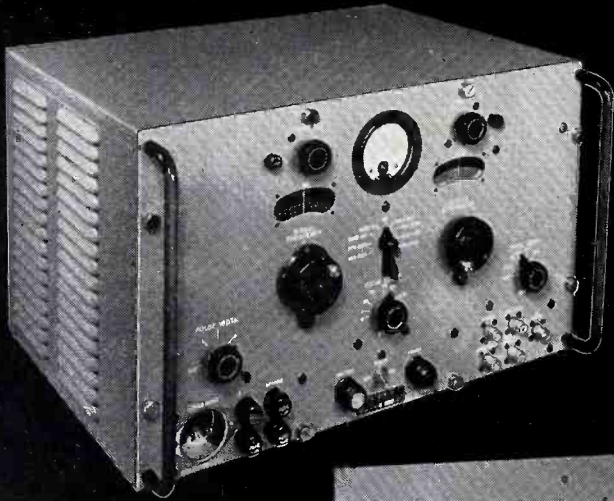
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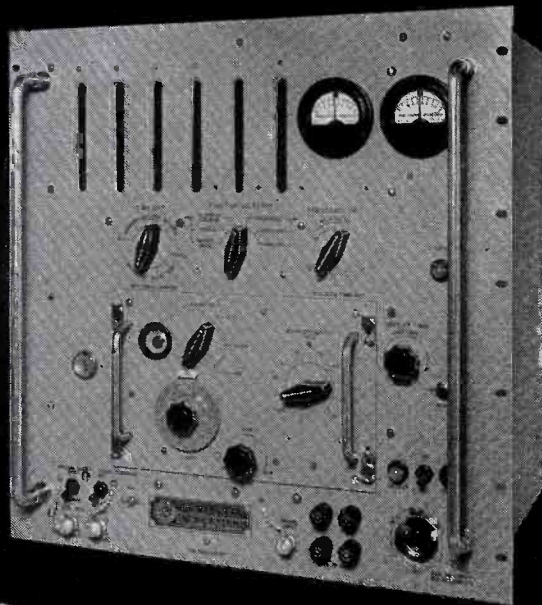


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900 to 2100 mc

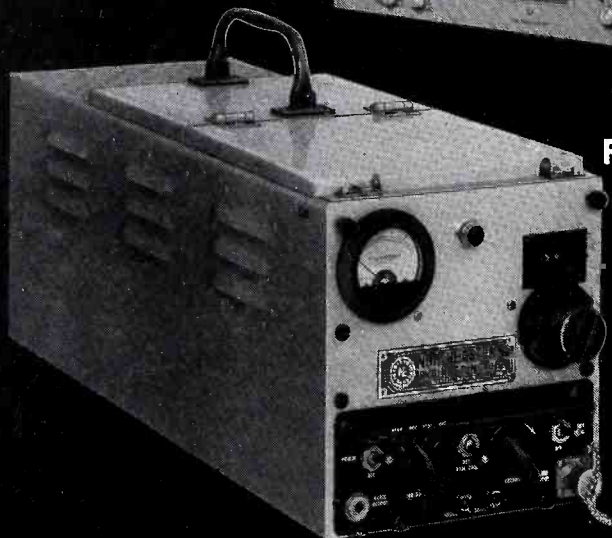
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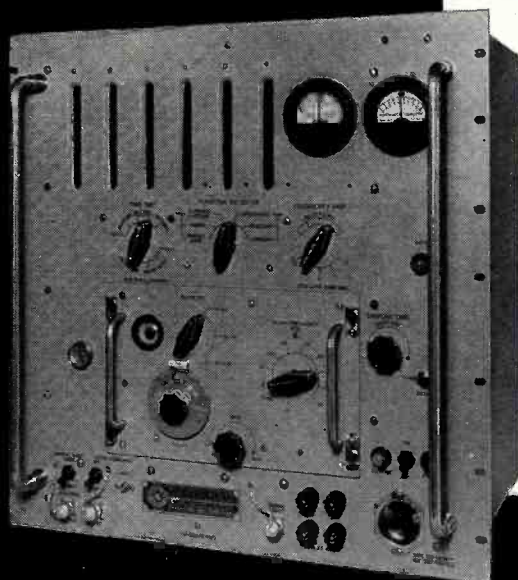
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**AC volts 0-250  
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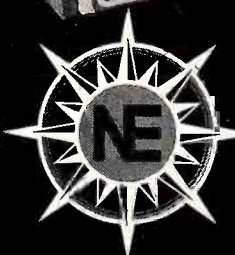
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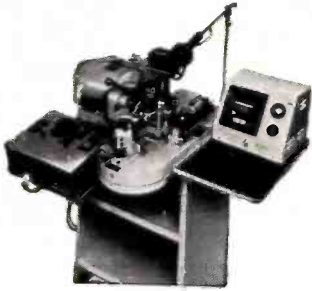
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## Automatic Toroidal Coil Winder, TW200



Fastest automatic toroidal winder in the industry. Winds at fixed or variable speeds to 1200 rpm, operator never touches coil during winding because of automatic coil rotation, handles all types of magnet and other wire, winds toroids .218" ID through 5" OD, wire sizes No. 20 through 42 AWG. Extra features: 360° continuous, segmental and longitudinal winding, foot switch control, predetermined turns and linear counters, interchangeable shuttle heads and shuttles.

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Low cost, high production winder, motor driven, core oscillating devices manually operated. Winds at fixed speeds of 600 rpm, variable speeds to 1200 rpm, winds toroids .218" ID through 5" OD, wire sizes No. 20 through 42 AWG, interchangeable shuttle heads and shuttles.

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Winds toroids down to 1/16" ID. Maximum coil OD is 3/4", maximum height is 1/2". Winds wire to No. 50. Speed is variable to 800 rpm. Standard equipment includes most customized features: reversing mechanism, wire spacing and core rotation direction controls, wire tension device, pre-set linear counter, foot treadle control. Extras: 360°, continuous and segmental winding, predetermined turns counter.

## Bobbin Winder, BW

Winds bobbins, solenoids, resistors, relays, random wound and precision interleaved coils. Sizes from 1/32" through 5" long, to 5" OD. Wire sizes No. 17 through No. 50. Speed to 8,000 rpm. Fully automatic. Standard equipment: built-in gear box, traversing mechanism with backlash eliminator and instantaneous reverse, pre-set counter with automatic shut-off, wire guide, reversing motor, continuously variable speed control. Extras: safety devices, wire-break and run-out control, intermediate wire-lay gears, direction indicator, multiple setting counters.



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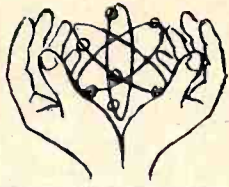
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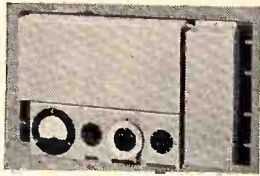
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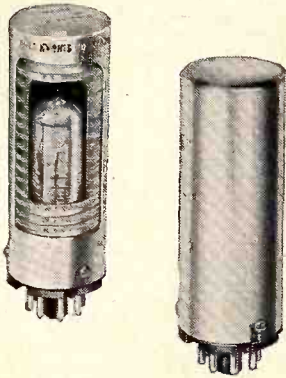
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**JK Thermystal:** An advanced-design frequency control unit combining plug-in simplicity with extreme precision. *Frequency stability:* 30 to 900 kc,  $\pm .0001\%$ ; 1000 kc to 150 mc,  $\pm .00005\%$ .

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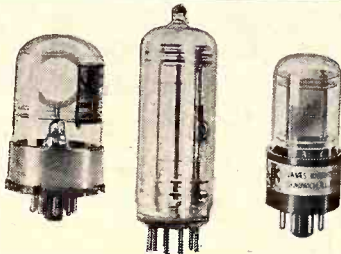
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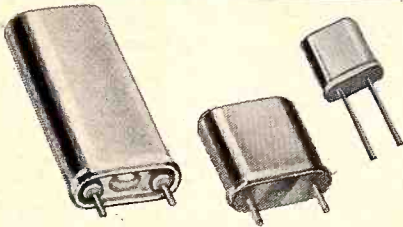
**JK Crystal Filters:** Compact, rugged, hermetically-sealed and stable, JK CRYSTAL FILTERS (band pass filters) have a *Frequency Range:* 1 mc to 17.5 mc., and are available for special filtering purposes to 150 mc. *Band Width* at 6 db: 0.01% to 4% of nominal on all frequencies, and up to 12% for certain frequencies.

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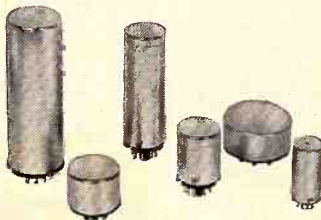
**JK Glasline Crystals:** For ultra stable frequency control, JK GLASLINE CRYSTALS provide unprecedented stability and reliability. Compact, evacuated and hermetically-sealed against moisture, contamination, shock, and barometric pressure. Over a complete range of 800 cycles to 5 mc. and up.

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**SG-25 STANDARD SIGNAL GENERATOR**

Equivalent to AN/URM-25D For alignment of radio receivers, measurements of receiver sensitivity and selectivity, and in all radio frequency voltage measurement work.

- Frequency Range: 10 KC to 50 MC in 8 bands
- Calibrated Output: 0.1 to 100,000 microvolts into 50 ohms
- High Output: 2.0 volts, 500 ohms impedance



**SG-26 STANDARD SIGNAL GENERATOR**

Equivalent to AN/URM-26B. For alignment of radio receivers, measurements of receiver sensitivity and selectivity, and in all radio frequency voltage measurement work.

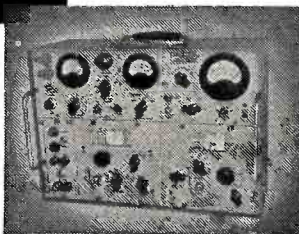
- Frequency Range: 4 to 405 MC in 6 bands
- Calibrated Output: 0.1 to 100,000 microvolts into 50 ohms
- Output Impedance: 50 ohms nominal



**RT-500 RECEIVER-TRANSMITTER TESTER**

Equivalent to AN/TRM-1. Laboratory-quality portable instrument, designed to measure performance on transmitting and receiving equipment.

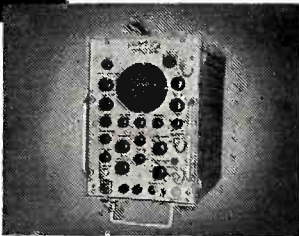
- Frequency Range: 190 KC to 400 MC
- Signal Generator Output: 2.5 to 100,000 microvolts into 50 ohms
- Transmitter Tester Power Range: 3 to 100 watts
- Volt/Milliwatt Meter: multi-range meter measures AC, DC volts and milliwatts



**PO-400 PULSE OSCILLOSCOPE**

Equivalent to AN/USM-38. Precision portable oscilloscope for analyzing amplitude and time characteristics of complex electrical waveforms.

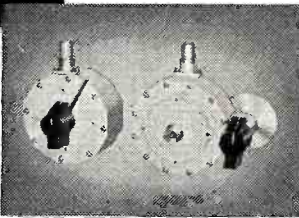
- Transient Response: 0.06 microseconds (rise time)
- Square Wave Response: less than 5% drop at 50 cycles
- Deflection Sensitivity: 0.1V RMS per inch
- Sweep: 1 to 100,000 microseconds per inch, triggered or recurrent



**AT-120 R. F. STEP ATTENUATOR**

Designed for use in output systems of signal generators, precision microvolters, IF strips of microwave receivers, etc.

- Frequency Range: 0 to 1000 MC
- Attenuation Range: up to 120 db in ten steps
- Output Impedance: 50 ohms standard, 75 ohms optional
- VSWR: 1.1 up to 500 MC, 1.2 up to 1000 MC



**CS-200 SERIES COAXIAL SWITCHES**

For all types of coaxial switching.

- Positions: up to 12
- Nominal Impedance: 5 ohms
- VSWR: 1.2 up to 500 MC, 1.3 up to 1000 MC
- Cross-talk for 12 Position: greater than 75 db down at 1000 MC



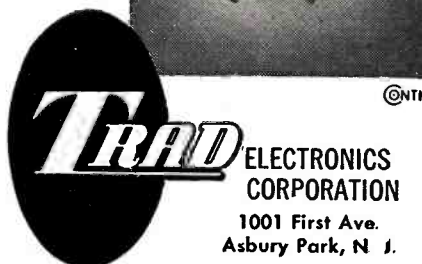
**CM-300 CRYSTAL DETECTOR MOUNT**

For general purpose in RF monitoring 50 or 75 ohm coaxial systems. Can be used with Trad Attenuator AT-120.

- Frequency Range: 10 to 1000 MC
- Accuracy: 1/2 db
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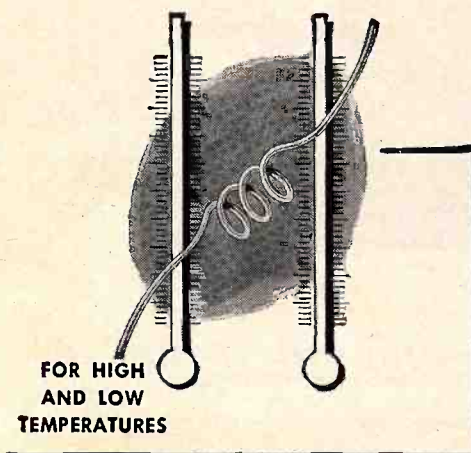
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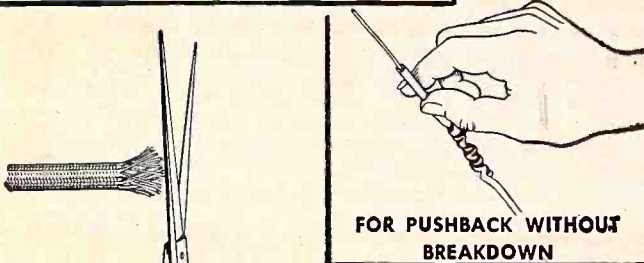
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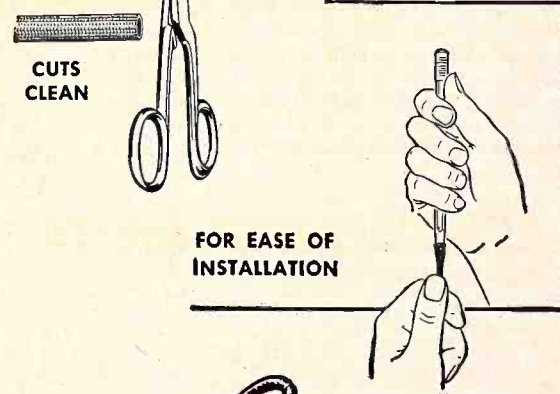
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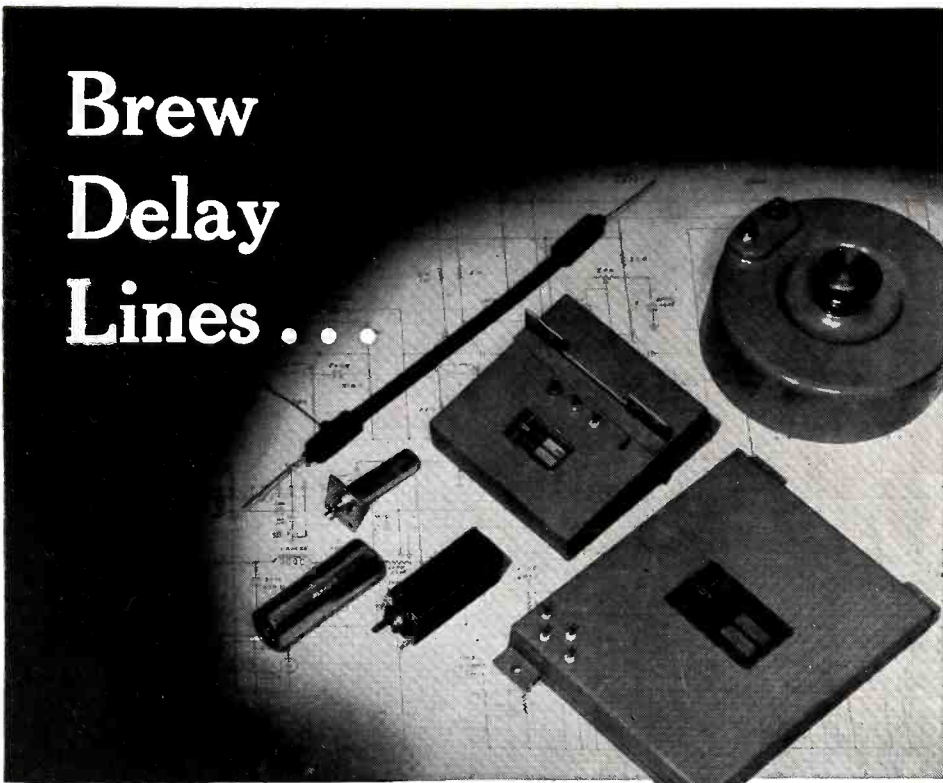
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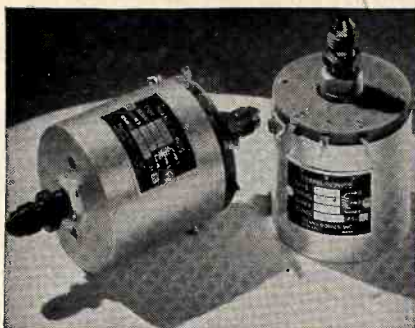
Picture illustrates 300 ft. Rohn No. 40 Tower installation as being used for community television by Caspian Community T. V. Corp., Caspian, Michigan.

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116 Limestone, Bellevue  
Peoria, Illinois

"Pioneer Manufacturers of TV and Communication Towers of All Kinds."

# PRECISION TRANSDUCERS



## ← PRESSURE OPERATED POTENTIOMETERS

Outputs: Linear and nonlinear functions of applied pressure.

Resistances: 100 to 50,000 ohms.

Ranges: 0-5 to 0-5000 psi.

Types: Absolute and differential.

Vibration Ambient: 0 to 55 cps, 0 to 500 cps, and severe vibration 25g to 2000 cps.

Construction: Hermetically sealed.

Write for Pressure Operated Potentiometer Bulletin



## ← ULTRA-SENSITIVE PRESSURE SYSTEM

Output: 50 volts at full scale.

Range:  $\pm \frac{3}{4}$  psi, differential.

Resolution:  $1 \times 10^{-6}$  psid.

Zero stability: Better than  $1 \times 10^{-3}$  psid.

Write for Bulletin EPMS



## ← RESISTANCE BRIDGE PRESSURE PICKUPS

Sensitivity: 5 mv/v at full scale.

Ranges: 0-10 to 0-1500 psi.

Types: Absolute and differential.

Construction: Hermetically sealed.

Write for Bulletin No. 7



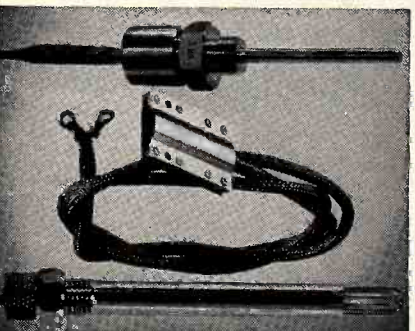
## ← RATE OF CLIMB

Outputs: 5 volt signal and/or dial indicator.

Range:  $\pm 25,000$  ft./min.

Time constant: 0.2 sec. at sea level to 2 sec. at 50,000 ft.

Write for Vertical Speed Transducer Bulletin



## ← RESISTANCE THERMOMETERS

Resistance: 5 to 500 ohms at 32°F.

Materials: Platinum or nickel.

Range: -350 to +2000°F.

Types: Liquid, surface, gas.

Characteristics: Corrosion proof, severe vibration ambient, fast speed of response.

Write for Resistance Thermometers Bulletin

"For Transducers See Trans-Sonics"

# Trans-Sonics, Inc.

P.O. BOX 328 • LEXINGTON • MASSACHUSETTS

*The leader in Electronically-Driven Systems  
for RANDOM, COMPLEX and SINE WAVE  
VIBRATION TESTING*



**LING Model PP90/140 Power Generator** provides 90,000 watts for random noise testing to 44,400 force lbs. peak and sine wave testing to 21,500 force lbs. Vector.

**COMPLETE SYSTEMS...** Ling engineers and manufactures a complete line of electronically-driven vibration systems (see specifications chart below). These systems include high power vibration generators (such as shown above), systems control console, mechanical shaker, and all necessary accessory equipment integrated to handle your specific vibration testing requirements.

**LING CUSTOMERS include:**

- |                           |                                        |
|---------------------------|----------------------------------------|
| Aerojet-General Corp.     | Jet Propulsion Laboratory (Cal. Tech.) |
| AVCO Manufacturing Corp.  | Lear, Inc.                             |
| Boeing Airplane Co.       | M.I.T. Instrumentation Lab.            |
| BJ Electronics            | No. American Aviation, Inc.            |
| Borg-Warner Corp.         | Northrop Aircraft Co.                  |
| Cannon Electric Co.       | Ramo-Wooldridge Corp.                  |
| Convair                   | Radioplane Company                     |
| Douglas Aircraft Co.      | Rototest Laboratories                  |
| General Electric Co.      | Swedish Air Force                      |
| Glenn L. Martin Co.       | Sperry Gyroscope Co.                   |
| Hallamore Electronics Co. | Temco Aircraft Co.                     |
| Hoffman Laboratories      | Texas Instruments, Inc.                |
| Hughes Aircraft Co.       |                                        |

**ENGINEERING ASSISTANCE...** Ling's experienced engineering group is available to aid in the selection and specification of equipment or systems to answer your vibration testing program.

# LING

**TYPICAL LING VIBRATION SYSTEMS SPECIFICATIONS**

MODEL No.	ELECTRONIC POWER SUPPLIES		SHAKER FORCE OUTPUT			ARMATURE PROTECTOR MODEL REQUIRED
	RATED CONTINUOUS POWER OUTPUT	AMPLIFIER PLATE DISSIPATION	SINE WAVE FORCE-LBS. VECTOR	RANDOM NOISE		
				FORCE-LBS. RMS.	FORCE LBS. PEAK	
PA-250-B	250 watts	500 watts	70	—	—	—
PA-500-B	500 watts	800 watts	100	—	—	—
PP-1/2-A	1,000 watts	2,000 watts	200	—	—	AP-5-A
PP-3.5/4-A	3,500 watts	4,000 watts	800	500	1,500	AP-5-A
PP-7/8-A	7,000 watts	8,000 watts	1,200	840	2,520	AP-10-A
PP-20/20-C	22,000 watts	22,000 watts	3,500	2,500	7,500	AP-20-A
PP-40/40-B	44,000 watts	44,000 watts	5,000	3,500	10,500	AP-40-A
PP-60/80-A	60,000 watts	80,000 watts	7,000	5,000	15,000	AP-60-A
PP-90/140-A	90,000 watts	140,000 watts	12,500	8,800	26,400	AP-60-A
PP-90/140-A	90,000 watts	140,000 watts	21,500	14,800	44,400	AP-60-A



**LING**  
(FORMERLY L. M. ELECTRONICS)

**ELECTRONICS, INC.**

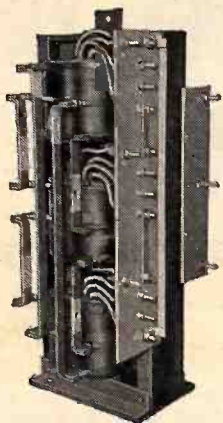
5120 West Jefferson Boulevard • Los Angeles, California



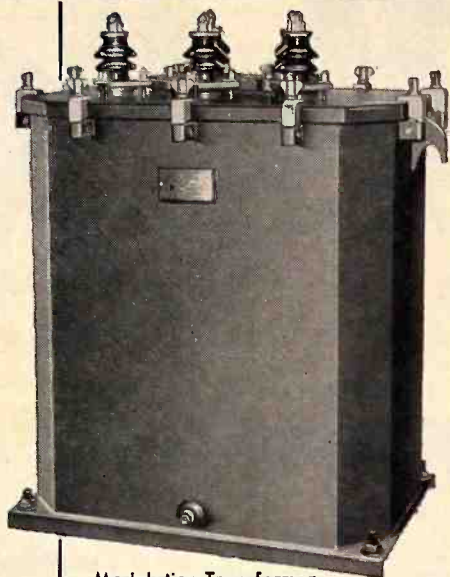
## MAGNETIC COMPONENTS for ELECTRONICS

Plate Transformers • Modulation Transformers  
Reactors • Filament Transformers • Unit Rectifiers  
Pulse Transformers • Charging Reactors  
Oil, Askarel, Dry Type (Groups 1, 2, 3)  
Per Mil-T-27, RETMA and ASA Specifications

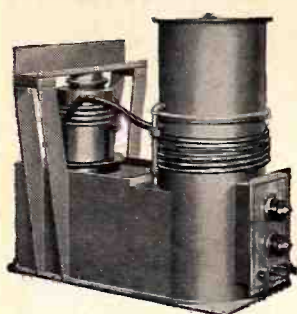
Moloney engineers are pioneers in the use of grain-oriented, high permeability, silicon steel for transformer cores. This engineering background and experience enables the Moloney Electric Company to produce highest quality transformers that offer the maximum in reliability, endurance and efficiency with a minimum of size and weight.



Low Voltage Rectifier  
Plate Transformer



Modulation Transformer



Pulse Transformer



Charging Reactor



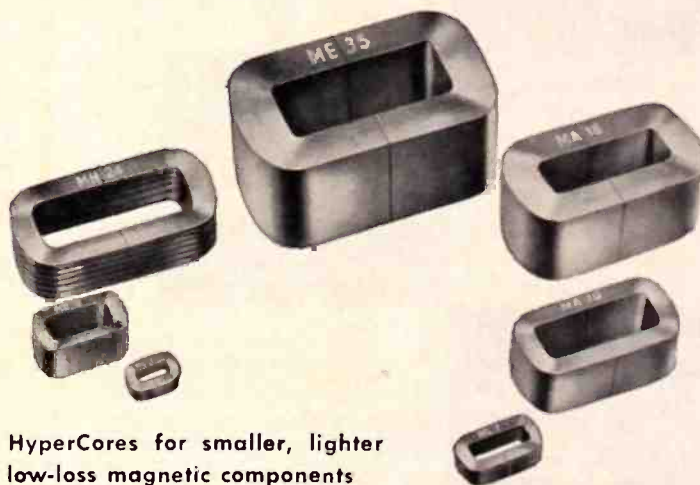
Filament Transformer



Plate Transformer



Write for Catalog SR 207 "HyperCores for Magnetic Components" and Catalog ST 3506 "Magnetic Components for Electronic Applications"



HyperCores for smaller, lighter  
low-loss magnetic components

# M O L O N E Y   E L E C T R I C   C O M P A N Y

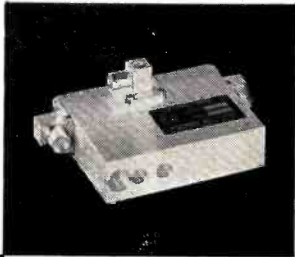
Plate and Filament Transformers • Chokes • Unit Rectifiers • Modulation Transformers and Reactors • Pulse Transformers and Charging Chokes • HyperCores for Magnetic Components • Developmental Magnetic Components • Power and Distribution Transformers

SALES OFFICES IN ALL PRINCIPAL CITIES • FACTORIES AT ST. LOUIS 20, MO. AND TORONTO, ONT., CANADA

COAXIAL

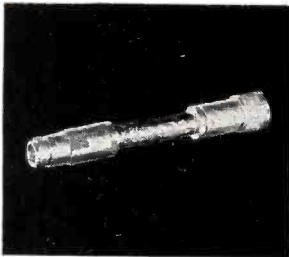
# Filters

Diplexer for AN/ARC-27 and AN/ARC-21



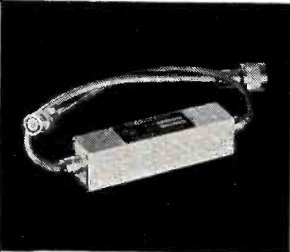
MICROPHASE has in production filters using *all* of the common coaxial filter techniques: tubular, lumped-constant, transmission-line, and split block — and some unique ones, too.

**HIGH-PASS • LOW-PASS • BAND-PASS  
VHF • UHF • MICROWAVE  
DIPLEXERS • MATCHING NETWORKS**



Tubular Low-Pass Filter

Miniature 1450-mc Low-Pass Filter



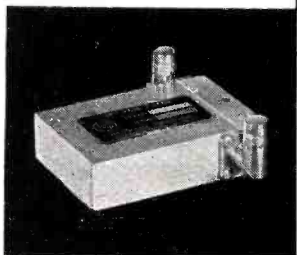
Special electrical characteristics recently developed include: very sharp cutoff, unusually broad passbands, attenuation up to 100 db, and high attenuation over broad frequency ranges.

Miniaturized filters, and filters to meet the tough environmental requirements of MIL-E-5400A, MIL-T-5422C, MIL-E-8189A, are available to suit your requirements.

Complementary filter networks (diplexers) have been developed to match two equipments (such as the AN/ARC-27 and the AN/ARC-21) to one antenna, without interference or loss of power.

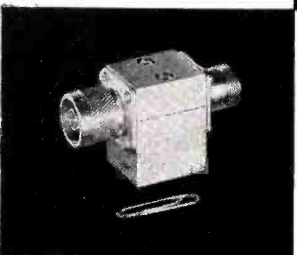
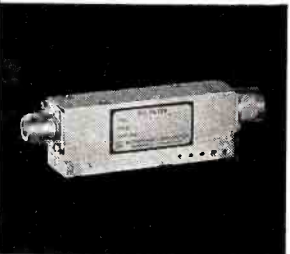
MICROPHASE products have contributed significantly to the improvement of ground, marine, aircraft, and missile systems for communication, navigation, detection and electronic countermeasures. Their performance reliability has been proved in a variety of field applications.

Our engineering staff has experience and resourcefulness unique in the art of filter design and construction. Write or call us about your special filter problem, or for the name of our sales engineer nearest you.



Miniature 400-mc Low-Pass Filter

Sharp-Rise 2700-3000-mc Band-Pass Filter



Sharp-Rise 5000-mc High-Pass Filter



**MICROPHASE  
CORPORATION**

P. O. BOX 1166Q  
GREENWICH, CONN.  
NORMANDY 1-6200

When ordering or seeking information please mention Electronics Buyers' Guide.



## RAWSON METERS

### MULTIMETERS and REGULAR METERS

AC and DC types, multiple ranges, accuracy — 1/2 of 1%. 2 microamperes to 1 ampere DC. 2 milliamperes to 3 amperes AC.

### ELECTROSTATIC VOLTMETERS

Ranges 100 V to 35,000 V, AC or DC. Resistance exceeds million megohms. Can measure static electricity.

### FLUXMETERS

Laboratory and production measurements on magnets and magnetic circuits. Single push button return-to-zero.

### ROTATING COIL GAUSSMETERS

Our most recent development for measuring magnetic field strengths. Measures from a few gausses to 120 kilogausses.

### SINE-COSINE POTENTIOMETERS

Now available, popular type RL11C, for radar and computer circuits — write for new bulletin.



**Rawson**

ELECTRICAL INSTRUMENT CO.

111 Potter Street, Cambridge, Mass.

## NEW CHRISTIE SILICON POWER RECTIFIERS



### For Top Reliability

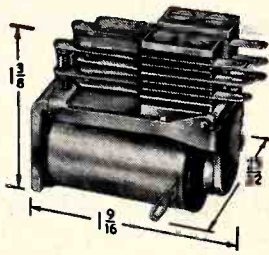
- A standard line from 30 to 1000 amps
- Closely regulated by magnetic control
- Voltages: 8-16-32-36
- Stationary or Mobile Types
- For Missile, Aircraft, Lab & Factory

Write for Latest Bulletins on  
Silicon & Selenium Power Rectifiers

**CHRISTIE ELECTRIC CORP.**  
Dept. EL, 3410 W. 67th St., Los Angeles 43  
Over a Quarter Century of  
Rectifier Manufacturing

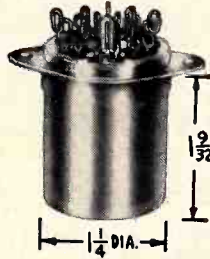
# P&B RELAYS

are used in every industry. Design engineers like their quality and P&B's ability to build to exact specifications. Here is a "sampler" of basic types



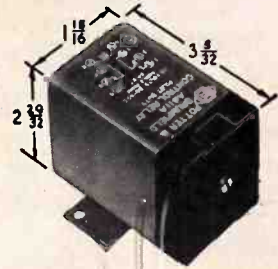
## communications

MH Series telephone type relays are small, versatile and available in contact arrangements up to 18 springs (9 per stack) DC and a variety of contact materials. Silver contacts ( $\frac{1}{8}$ " ) are rated 5 amp. 115 V. 60 cycles resistive load. High temperature models operate from  $-65^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .



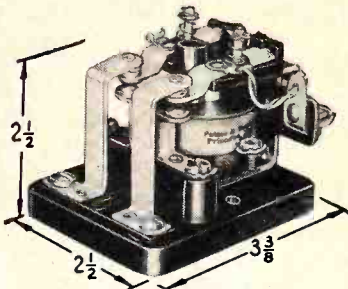
## missiles and jets

BD "Star Series" relays are used in applications demanding maximum reliability. These 26.5 V. DC relays were designed to surpass shock test II per MIL-R-5757C, 50 G and vibration Grade III per MIL-R-25018; 5-2000 cps at 15 G. This 6 pole, double throw relay is operative in ambients of  $-65^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .



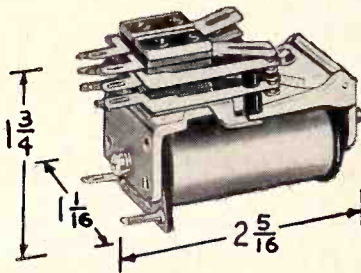
## air frame

AC Series relays are designed for air-frame controls and other applications calling for good mechanical shock resistance. Relays are enclosed in dust proof cover; phenolic base meets U/L spacing and creepage distances. Double pole double throw contact arrangement in AC and DC models.



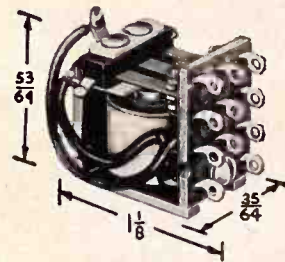
## machine tools

PR Series relays are rugged, fast acting . . . designed for high current or high voltage switching. Floating movable contact carrier assures ample wipe and contact pressure. AC or DC models available with contact arrangements up to double pole double throw. Supplied open or with dust cover.



## instrumentation

LS Series relays—Medium coil, telephone type—have special hinge construction resulting in a mechanical life in excess of 100 million operations. Contact arrangements go to 20 springs (10 per stack). Power required: 100 mw per movable arm. DC only to 200 V. Open or hermetically sealed models.



## business machines

KM Series relays meet the demand for miniaturization and multiplicity of action within a single relay. Contact arrangements available from single pole single throw to three pole double throw. May be ordered in coil voltages up to 48 V. DC in open or sealed models. Weight, open, 7/8 oz. Sealed, 1-1/4 oz.

Write today for a copy of our new full line catalog

Potter & Brumfield, inc.

PRINCETON, INDIANA

SUBSIDIARY OF AMERICAN MACHINE & FOUNDRY COMPANY

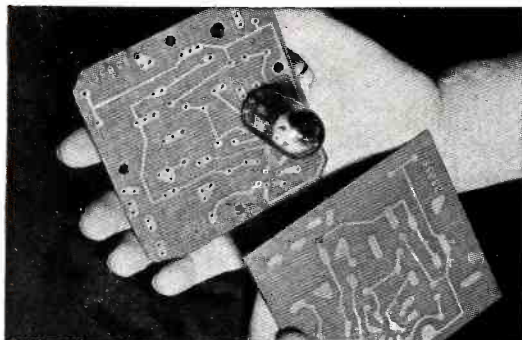
ELECTRONICS BUYERS' GUIDE — June, 1957 — MID-MONTH

When ordering or seeking information please mention Electronics Buyers' Guide.



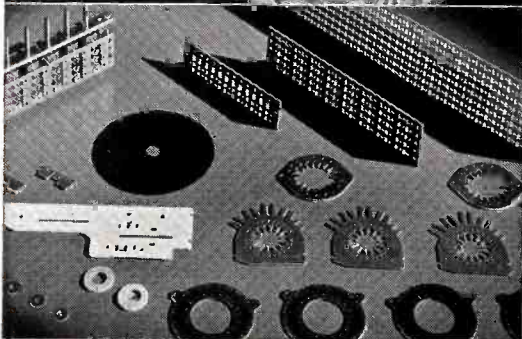
# RICHARDSON — plastics for electronics

... laminated—molded



## COPPER-CLAD INSUROK

Choice of various grades. Copper bonded to one or both sides. Outstanding electrical properties after humidity conditioning. High flexural and tensile strength. Holds metal inserts and lugs securely. Excellent bond strength and heat resistance.



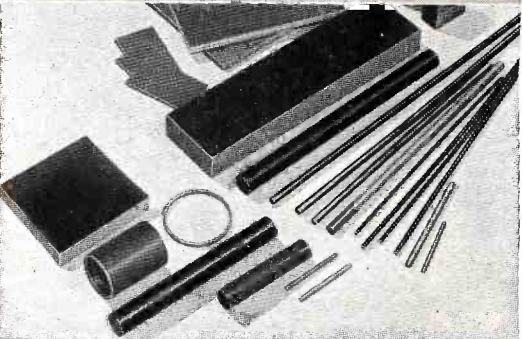
## FABRICATION

Complete facilities for punching or machining precision parts from laminated INSUROK to your specifications in any quantity—for electrical or mechanical applications.



## MOLDED PLASTICS

Parts molded from standard or special plastics materials as required for your product, including newest plastics. Produced by compression transfer or injection processes. Metal inserts molded in position.



## LAMINATED INSUROK

Available in sheets, rods, and tubes in NEMA and special grades. Properties to meet practically any electrical or mechanical requirements. Many sizes and thicknesses.

### *technical services*

Experienced Richardson engineers will analyze your requirements and help you select the material, and best manufacturing process for your needs . . . and when your requirements are unusual, Richardson offers extensive background for developing special plastics materials for your product. Also, Richardson is equipped to provide complete facilities and techniques for molding, laminating, molded laminates, and fabricating. You are assured the correct material and process for each application. These research, design, and engineering services are yours without cost or obligation, of course. Write or phone, today.

Write for 12-page booklet

"INSUROK® Laminated Plastics—Molded Plastics"

*The*  
**RICHARDSON COMPANY**  
**LAMINATED AND MOLDED PLASTICS**

Dept. 16, 2767 Lake Street  
Melrose Park, Ill.

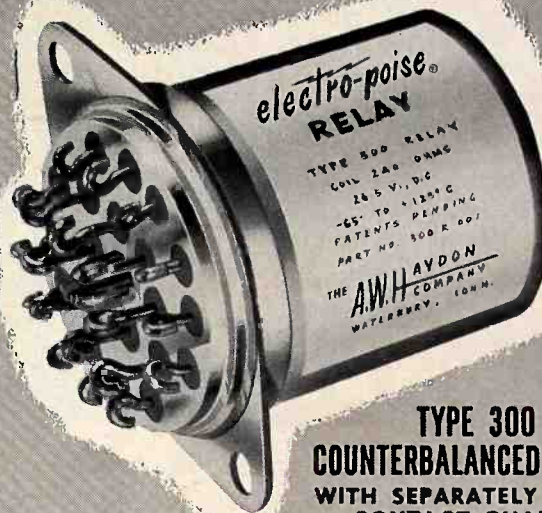
# FIRST Really New RELAY

TO MEET TODAY'S RIGID REQUIREMENTS  
PERFECTED BY THE

## A. W. HAYDON Co.

This miniature, hermetically-sealed, general purpose relay has been designed with increased magnetic force to provide higher contact pressures and greater travel than are usually found in this type. Special care has been taken to assure reliable operation in low level circuits.

Rated Load: 2 amperes, 28 Volts DC, resistive. Ambient Temperature Range:  $-65^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . Vibration: 15g to 2,000 cps — no contact chatter. Shock: 50g, 11 milliseconds — no contact chatter. Write for Bulletin AWH RY 1001.



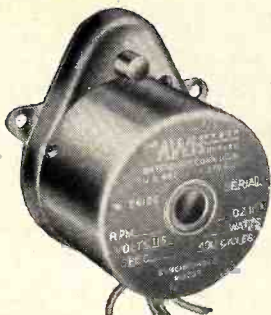
**TYPE 300  
COUNTERBALANCED RELAY  
WITH SEPARATELY SEALED  
CONTACT CHAMBER**

Uniquely designed with contacts isolated from coil. Contacts can never become contaminated with vapors or gas from organic insulating materials.

TIMING AND CONTROL DEVICES BY THE A. W. HAYDON COMPANY ARE RECOGNIZED AS THE MOST DEPENDABLE PERFORMERS IN THE FIELD.

### 400 CYCLE MOTORS

Reversible — Light weight (8 ounces), 115 volts  $\pm 10\%$ ; 55 mil-amps. Torque: 0.025 oz-in at 3000 rpm. Meet Military Requirements. Write for Bulletin AWH MO 803.



### GOVERNED DC MOTORS

The A. W. Haydon Company now offers 3 series of Chronometrically Governed DC Motors. Each designed to do the same job in a different application. 5700 Series — non-military applications where extreme temperature, vibration and shock are not experienced. 5600 Series — Aircraft and military applications where extreme temperature and moderate vibration and shock are encountered. 5800 Series — Aircraft and missile applications where extreme temperature, vibration, and shock are encountered. Write for Bulletin AWH MO 800, -801, -802, -804.



### MINIATURE HERMETICALLY SEALED TIMERS

Supplied in 2 1/2" diameter housing. Optional mounting and electrical termination.

#### TIME DELAY RELAYS

Single or multiple switching. Delay periods from 2 seconds to 3 hours. Write for Bulletin AWH TD 400.

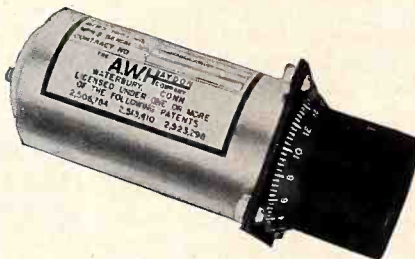
#### REPEAT CYCLE TIMERS

Single or multiple switching. Wide Range of Time Cycles. Write for Bulletin AWH RC 200.



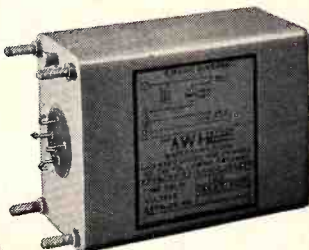
### SPECIAL TIME DELAY RELAY

Supplied in 2.2" diameter housing. Precision unit:  $\pm 1\%$  accuracy. Meets military requirements. Adjustable over wide range. Write for Bulletin AWH TD 500.



### PROPORTIONAL DELAYED RESET TIME DELAY RELAY

Provides a controlled reset rate. Designed to meet special applications. Hermetically sealed or enclosed in dust cover. Meets military requirements. Write for Bulletin AWH TD 402.



### STOP CLOCKS

20-30 Volts DC. Precision Movement — Electrical Reset Temperature Range  $-65^{\circ}\text{F}$  to  $185^{\circ}\text{F}$ . Option on mounting and electrical termination. Write for Bulletin AWH ET 700.



FOR FULL PARTICULARS ON COMPLETE LINE OF THE A. W. HAYDON COMPANY'S ELECTRO-MECHANICAL DEVICES, WRITE FOR CATALOG Dept. EBG



Design and Manufacture of Electro-Mechanical Timing Devices

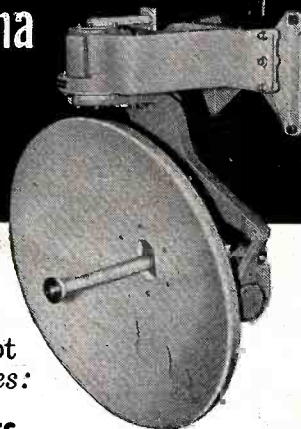
# Complete line of Microwave Components

From Magnetron Through Antenna

Designed and Produced

by **Airtron** INC.

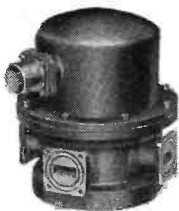
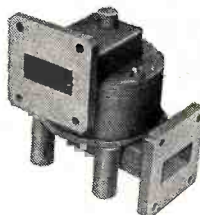
Whether it is "Standard" plumbing or designing an entirely new waveguide system, Airtron's complete facilities can substantially reduce the time and expense between concept and reality. Here are just a few examples:



### FERRITE COMPONENTS

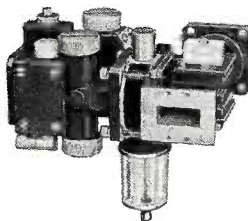
Duplexers, waveguide switches, high and low power load isolators, variable absorption attenuators and other devices are the result of a continuous ferrite development program. All ferrite materials used are specially compounded and fired in Airtron's Ferrite Research Development Laboratory. Complete facilities permit design and production to meet any specific need.

**ROTARY JOINTS.** Waveguide rotary joints of the coaxial or high power circular waveguide type in many frequency ranges designed for maximum VSWR performance. Produced in volume to your specifications or designed to meet your requirements.



**WAVEGUIDE SWITCHES.** For frequent, rapid switching to or from noise sources, signal generators, dummy loads, etc. Reversing switches for dual channel systems in GCA or microwave relay radars. Low VSWR, excellent crosstalk characteristics, and high peak power performance. Switching tees, ferrite switches and other special designs.

**PRECISION CAST BALANCED MIXERS.** Low noise figures over a broad bandwidth are achieved by compact balanced mixer design and use of latest type crystals. Equipped with coaxial or waveguide crystal mounts for frequencies up to 40,000 mc. Standard and special types available. Mixer-Preamp packages designed to meet your requirements.



**ANTENNAS AND ASSOCIATED COMPONENTS.** Horn antennas and feeds for fire control, countermeasure, guided missile, navigational or weather radars. Designed to your specifications and produced in the Airtron precision casting foundry. Complete with rotary joints, flexible sections and associated waveguide assemblies.

**FLEXIBLE WAVEGUIDE ASSEMBLIES.** Flexible double ridge waveguide for airborne commercial weather radar. Beryllium copper flexible in convolute or type S construction. Waveguide sizes from Ka-Band to 9.750" x 4.875" I.D. in standard lengths or preformed to your installation.



### OTHER AIRTRON PRODUCTS

Twists, Magnetron Transitions • Double Ridge Waveguide Components • RF and Pressure Contact Flanges and Gaskets • Quick Disconnects • Directional Couplers • Short-Slot Hybrids • Antenna Components • Test Horns • Dummy Loads • Flexible Coaxial Transmission Lines • Waveguide Bending and Twisting To Your Specification •

**Airtron** INC.

Dep't. 1, Linden, New Jersey

Foreign Affiliates

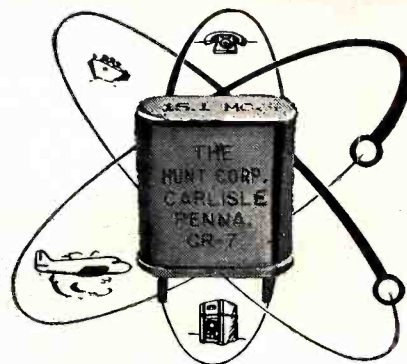
AIRTRON CANADA, LTD., Toronto, Canada

W. H. SANDERS (ELECTRONICS), LTD.  
London, England

When ordering or seeking information  
please mention *Electronics Buyers' Guide*.

# STABILITY

HUNT CR-7 CRYSTAL



Miniature Type CR-7  
Crystal Unit

(Illustration is actual size)

**THE Hunt**  
CORPORATION

CARLISLE 3, PENNSYLVANIA

## WIDE-RANGE FREQUENCY METER 85-1000 MEGACYCLES

TS-175A/U

Government  
Approved  
Calibration  
Accuracy:  
.005%  
Stability:  
.0025%  
Resettability:  
.0025%



IMMEDIATE  
DELIVERY

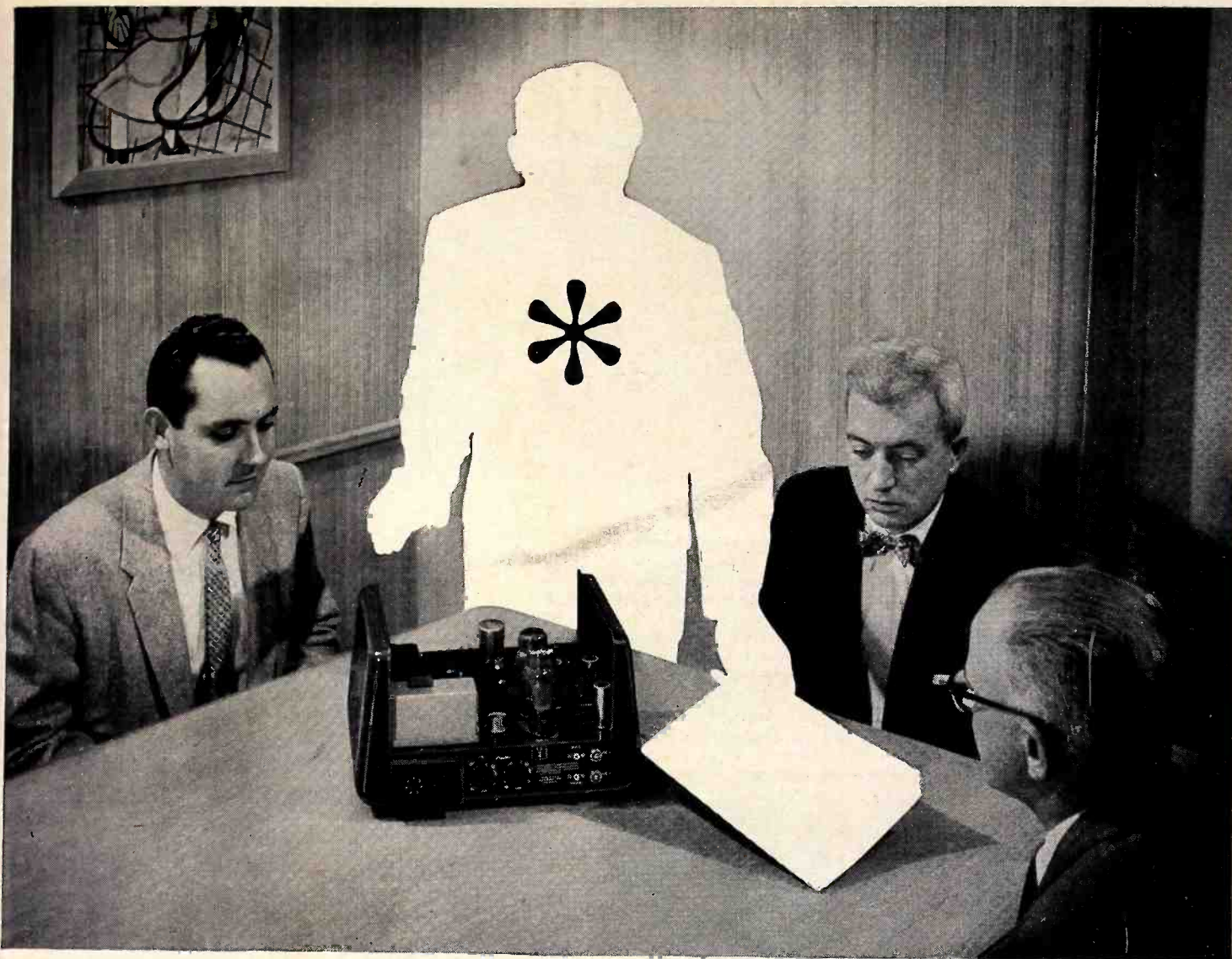
**A VERSATILE PRECISION MEASURING  
INSTRUMENT** Recommended Applications:

- Precise Measurements of Frequencies
- Production Testing
- Alignment of Transmitters and Receivers
- Laboratory Testing
- Portable Field Testing
- A Secondary Frequency Standard
- Signal Generator Calibration
- U.H.F. and V.H.F. Television Alignment

**COLORTONE**

ELECTRONICS, Incorporated

100 Frank Road, Hicksville, L. I. N. Y. HI 3-2124



**\* the missing link...**

**Who**, in your organization, can you spare to be responsible for engineering analysis, product testing, or final preparation of service and operational manuals related to your products?

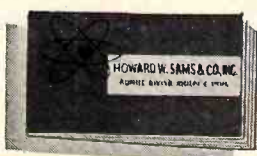
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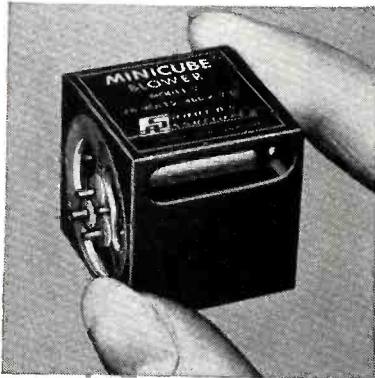
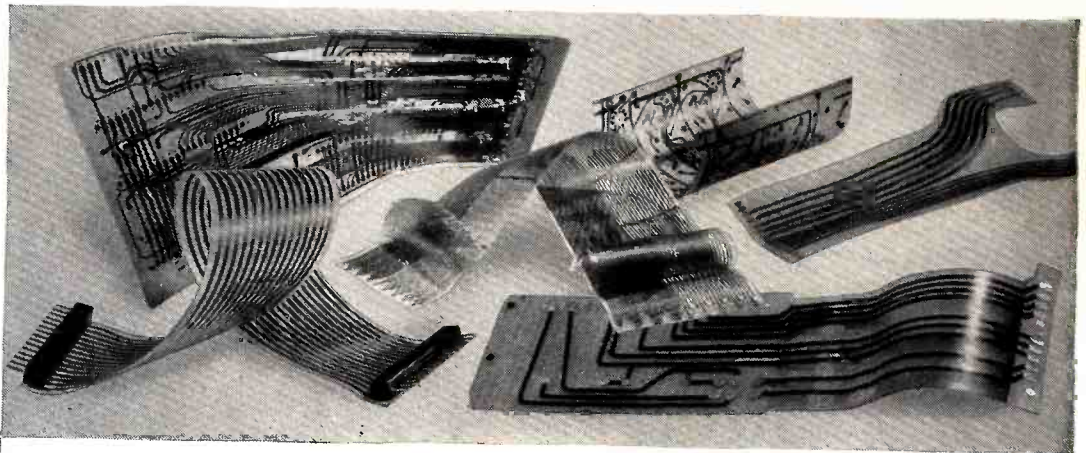
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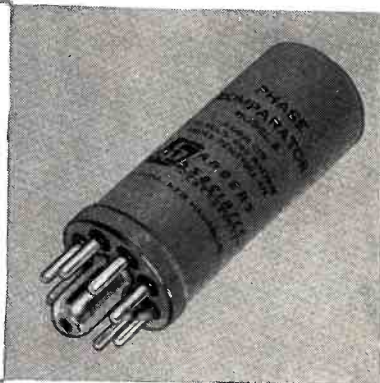
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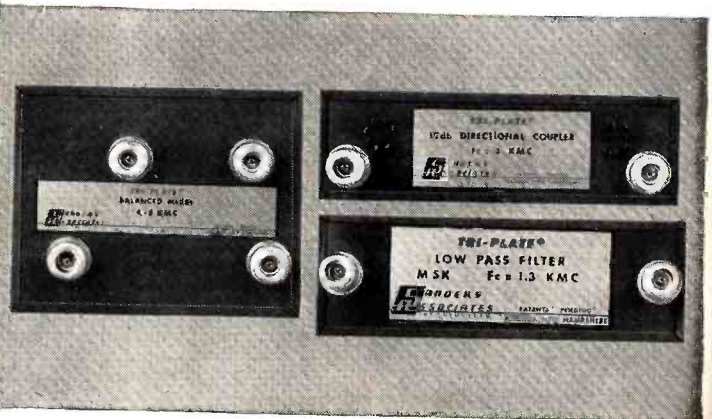
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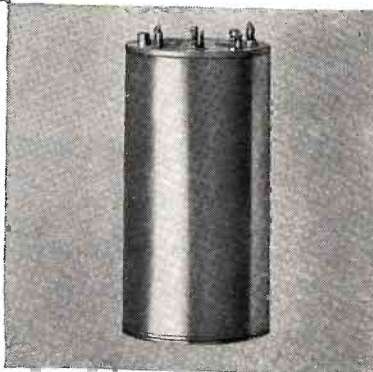
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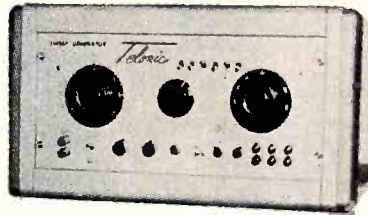
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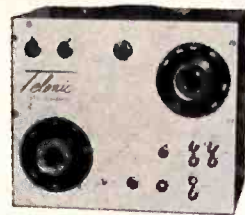
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Model H-3



Model H-1

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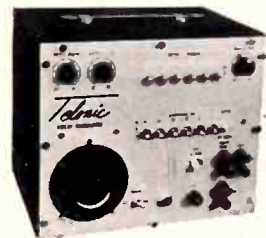
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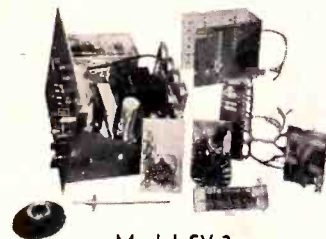
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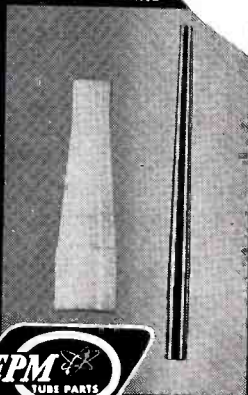
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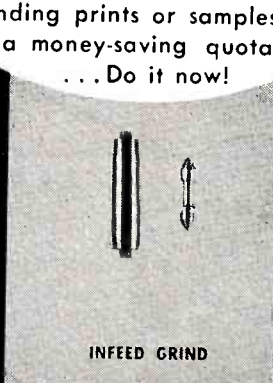
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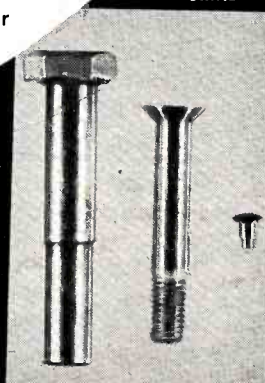
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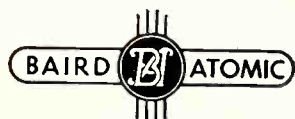


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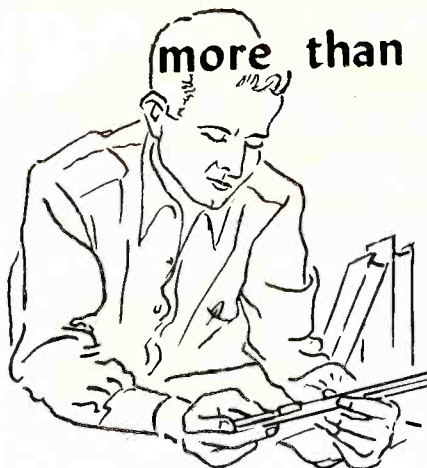
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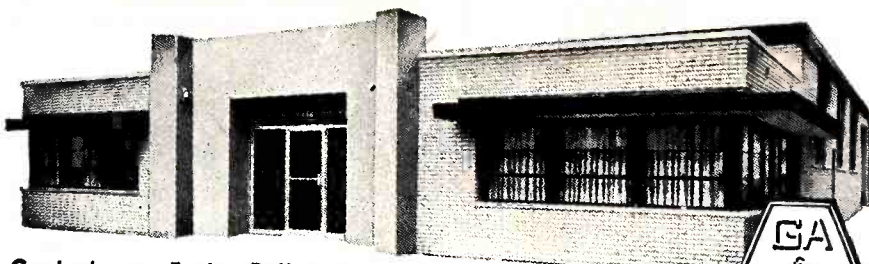
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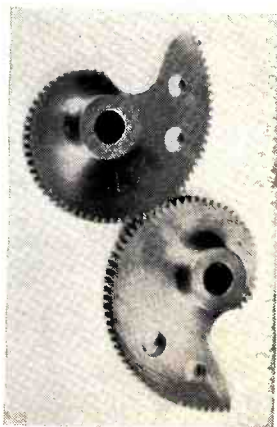


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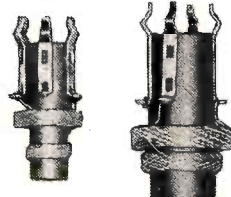
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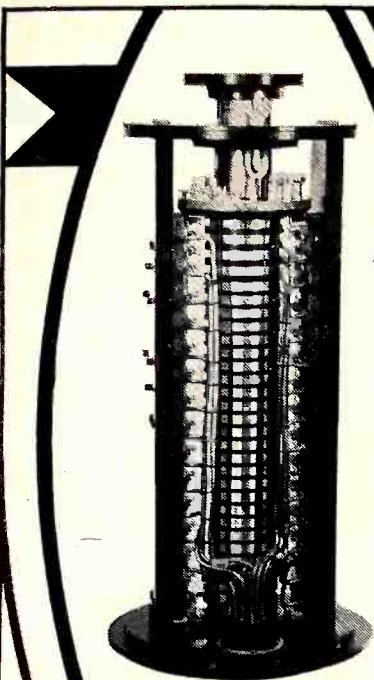
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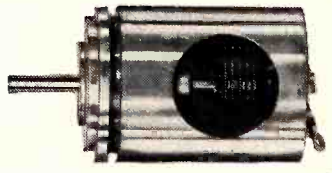
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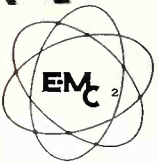
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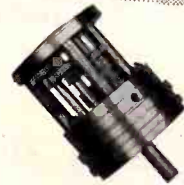
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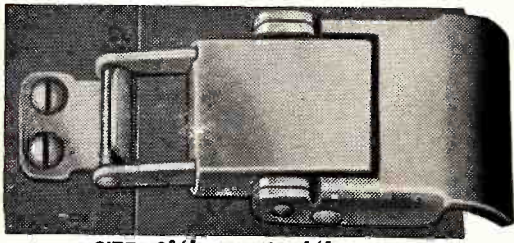


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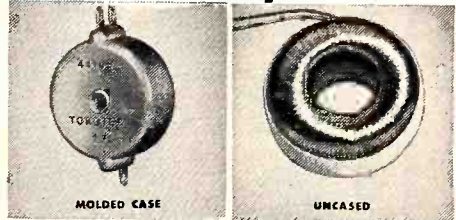
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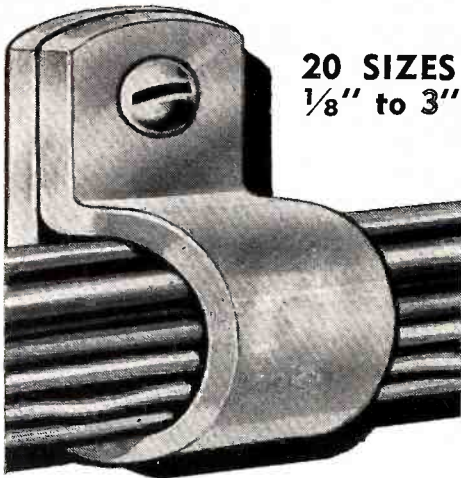
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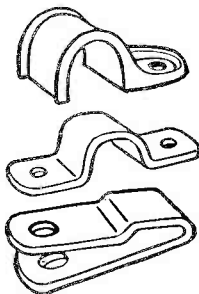
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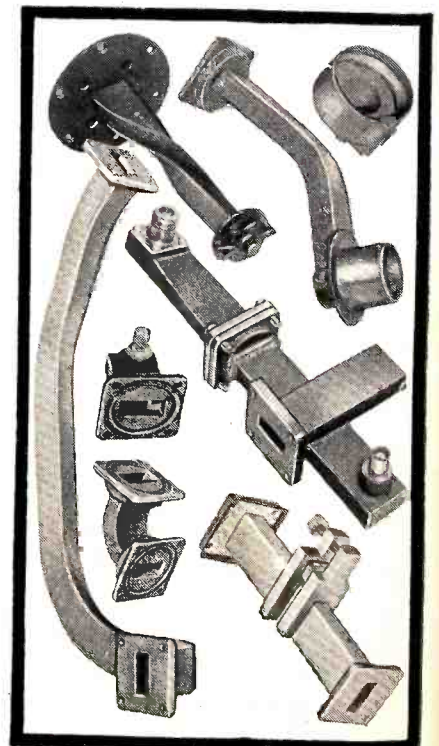
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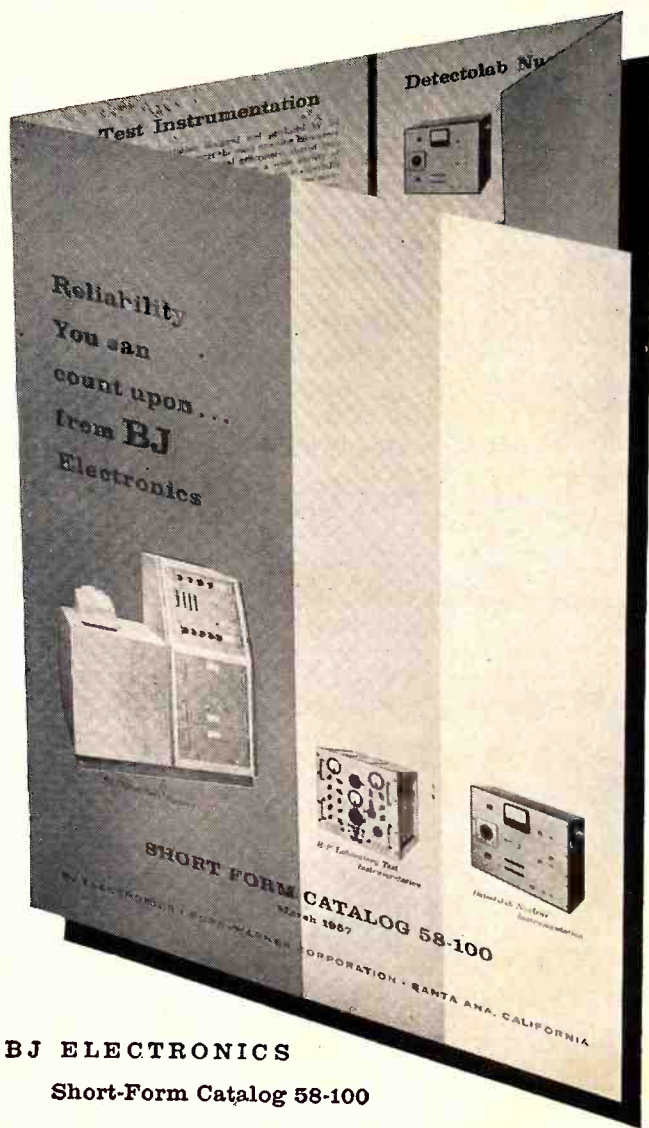


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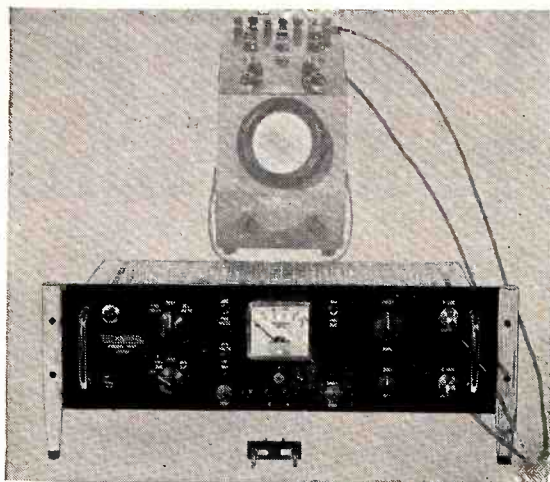
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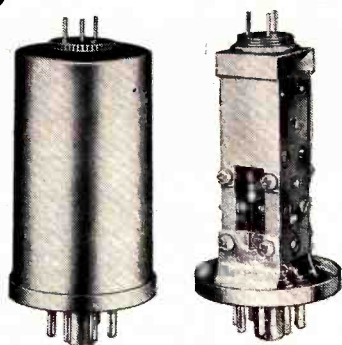
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#### INSTRUMENT CHOPPERS

Detects signals as low as one microvolt; center pivot design for operation over wide range of temperature, vibration, shock; shielded for minimum residual noise. Models operate from D.C. switching to 500 cps.

#### MINIATURE CHOPPERS

SPDT and DPDT models, 7 and 9 pin miniature configuration. Center pivot for operation over wide environment range.

#### COAXIAL CHOPPERS

For low loss switching of high frequency signals up to 500 M.C. Used in airborne direction finding and test equipment.

#### POWER VIBRATORS

A complete line—commercial and military. Special designs for any power conversion problem. Consultation with JAMES engineers is free.

#### MILITARY VIBRATOR

##### Power Supplies

Widely used JAMES power supplies, with both vibrators and transistors, are custom designed and manufactured for use in communications of every type—airborne, vehicular, sonar bouys, missiles, telemetering.

#### PRECISION FREQUENCY

##### Power Supplies

A wide selection of standard types and models for conversion from mobile D.C. sources. "1600" series for secondary output of 117 volts; 60 cps.  $\approx$  1 cps.

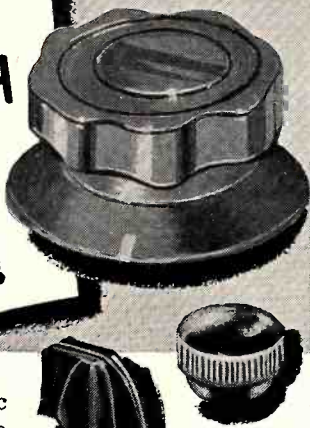
#### TRANSFORMERS

JAMES has a complete specialty transformer manufacturing facility for power transformers, for vibrator and chopper applications.

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**VIBRAPOWR COMPANY**

4036 N. Rockwell St. • Chicago 18, Ill.

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# ELECTROMAGNETIC CORE PARTS AND SHIELDS...PRECISION MADE BY MAGNETIC METALS COMPANY

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## The ultimate in tape wound CENTRICORES

All standard O.D. cores can be supplied in .001" to .014" gauge oriented silicon or nickel alloy, in .0625" to 2" strip widths. Special gauges and sizes may also be handled.



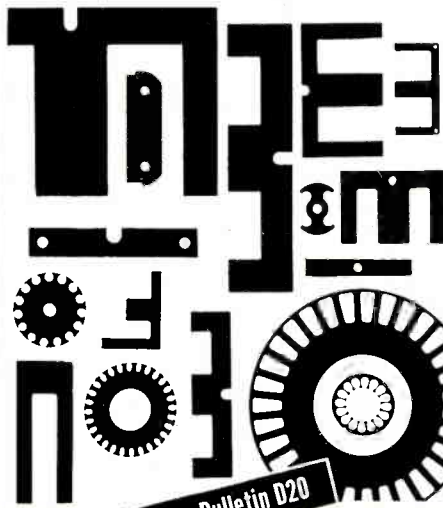
- Assured magnetic uniformity
- Aluminum or phenolic encasements
- Popular sizes available from stock

Send for Bulletin D10

Centri- core No.	CORE DIMENSIONS (Inches)			CASE DIMENSIONS (Inches)		
	I.D.	O.D.	Strip Width	I.D.	O.D.	H
38	.375	.500	.125	.315	.570	.195
1	.475	.633	.125	.415	.710	.195
45	.500	.550	.125	.440	.620	.195
46	.500	10 turns	.125	.440	.610	.195
*47	.500	.625	.125	.440	.685	.195
* 2	.500	.750	.125	.440	.820	.195
72	.500	.750	.188	.440	.820	.262
64	.500	.750	.250	.440	.820	.340
48	.530	.625	.125	.470	.685	.195
36	.563	.750	.125	.500	.820	.195
34	.600	.900	.250	.540	.965	.335
49	.625	5 turns	.125	.550	.700	.195
50	.625	10 turns	.125	.550	.700	.195
74	.625	.750	.125	.570	.820	.195
40	.625	.750	.188	.570	.820	.262
67	.625	.875	.250	.570	.945	.340
*37	.625	1.000	.188	.570	1.085	.262
3	.625	1.000	.250	.570	1.085	.340
32	.625	1.000	.375	.570	1.085	.445
4	.633	.844	.125	.575	.915	.195
* 5	.650	.900	.125	.585	.975	.195
6	.675	1.150	.125	.615	1.115	.195

## Mass-produced...precision-made Magnetic Core Laminations

From sub-miniature through commercial production sizes; standard shapes are carried in stock for immediate delivery.

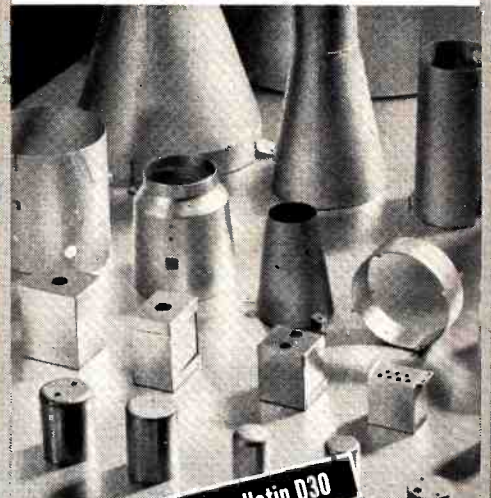


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VOLUME AND WEIGHT				60 CYCLE R	
VOLUME	2.615 cu. ins.	42.8 cm. <sup>3</sup>	PROPERTIES OF WITH WINDING		
WINDOW AREA	1.86 sq. ins.	12.0 cm. <sup>2</sup>	$B_{max} = 183.6 \times 10^3$ K,N		
WT. HYMU	.83 lb.	377 gr.	$H_c = (.0598 \times 10^2)$ (Gilberts per millimeter)		
WT. "49"	.77 lb.	350 gr.	$L_c = (.122 \times 10^4) K$		
WT. SILICON STEEL	.71 lb.	312 gr.			
SPECIFICATIONS			WT. & COUNT		
CATALOG NUMBER	MATERIAL	THICKNESS	LBS./M PCS.	PCS./LB.	
106LMC4	Microsil	.004"	2.521	396.7	
106LA96	"49"	.006"	4.020	248.8	
106LHY6	Hymu	.006"	4.321	231.4	
106LSL14	Silicon	.014"	8.250	121.2	
106LA914	"49"	.014"	9.380	106.6	
106LHY14	Hymu	.014"	10.082	99.2	
SPECIFICATIONS			WT. & COUNT		
CATALOG NUMBER	MATERIAL	THICKNESS	LBS./M PCS.	PCS./LB.	

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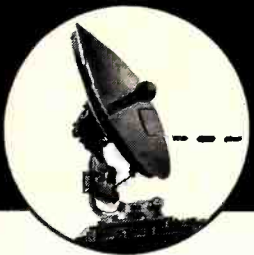


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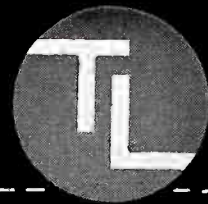
SHIELD AND COVER DIMENSIONS			
Catalog Number	Material	Thickness	A
155SHY20	HYMU	.020"	1.375
155S4920	"49"	.020"	1.375
155SHY25	HYMU	.025"	1.375
155S4925	"49"	.025"	1.375
155ASHY20	HYMU	.020"	1.520
155AS4920	"49"	.020"	1.520
155ASHY25	HYMU	.025"	1.5
155AS4925	"49"	.025"	1.5
155BSHY20	HYMU	.020"	1.670
155BS4920	"49"	.020"	1.6
155BSHY25	HYMU	.025"	1.67
155BS4925	"49"	.025"	1.670
SHIELD AND COVER DIMENSIONS			
Catalog Number	Material	Thickness	A
636SHY20	HYMU	.020"	1.50"
636S4920	"49"	.020"	1.50"
636SHY25	HYMU	.025"	1.50"
636S4925	"49"	.025"	1.50"
636ASHY20	HYMU	.020"	
636AS4920	"49"	.020"	

MAGNETIC METALS COMPANY REPRESENTATIVES: CALIFORNIA: Los Angeles 22, E. A. Wilcox Company, 6436 East Corvette Street; San Francisco, E. A. Wilcox Company, 277 Seventh Street CONNECTICUT: West Cheshire, P. O. Box 294, J. A. Upson ILLINOIS: Chicago 30, C. L. Moyer, 5454 West Higgins Avenue MINNESOTA: Minneapolis 3, Wood Clemons, 321 Fawkes Building, 1645 Hennepin Avenue TEXAS: Dallas, Allied Components Inc., 2517 Converse Street WASHINGTON: Seattle, E. A. Wilcox Company, 915 Arctic Building

# MICROWAVE TRANSMISSION LINES AND COMPONENTS



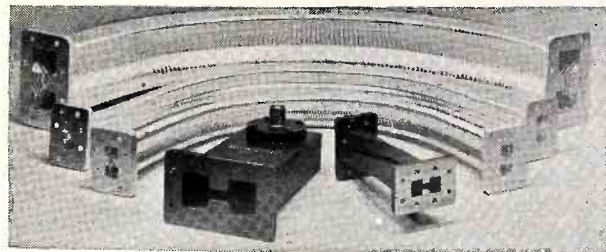
TECHNICRAFT can serve your needs from the face of the magnetron through to the antenna.



## DOUBLE RIDGED WAVEGUIDES

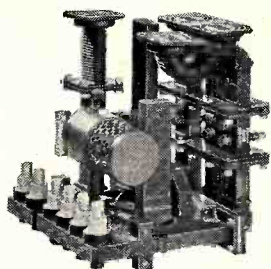
Flexible and rigid waveguides, bends, twists, power dividers and antennas. Transitions from ridged to rectangular waveguide within the frequency range 4.75 to 11.00 KMC/S are available.

In addition to the DR-19 size referred to above, Technicraft is expanding its components not only in this size but in other ridged waveguide sizes as well.



## RIGID WAVEGUIDE SYSTEMS AND COMPONENTS

Technicraft is equipped to design or manufacture to your specifications and drawings any waveguide component or system from face of magnetron through to the antenna. Most advanced test equipment and techniques, plus finest facilities for manufacture and assembly. Mixer duplexer (shown) demonstrates Technicraft know-how in designing and building components into a compact assembly.



## FLEXIBLE WAVEGUIDES

Only manufacturers of solderless flexible waveguides, which eliminate problems inherent in soldered structures. (Technicraft uses solder only to attach flanges.) Three types of flexible waveguides are available —Type L—Interlocked, Type S—Corrugated, and Type V—Vertebra. Technicraft's Type S—Seamless Corrugated flexible waveguide is the only seamless flexible waveguide made.



Type L — Interlocked



Type S — Seamless-Corrugated



Type V — Vertebra

## FERRITE DEVICES

**HIGH POWER ISOLATORS** Frequency Range KMC: 2.7-2.9 up to 23.5-24.5. Peak Power: 40 KW up to 5 meg. Average Power: 25W up to 5 KW. Isolation Band Ends: 6db up to 37db. Isolation Band Center: 8 db up to 40db. FWD. loss: 0.4db up to 1.6db. Guide Size: .25" x 5" up to 1 1/2" x 3". Special Features: Compact, Broad Band, Med. Power, High Power, Hi-isolation, Gen. Use.

**LOW POWER ISOLATORS** Frequency Range KMC: 5.4-5.9 up to 34-36. Aver. Power: 1W and 10W. Isolation Band Ends: 10db up to 22db. Isolation Band Center: 25db and 30db. FWD loss: 0.8db to 1.4db. Guide Size: .36" x .22" up to 3/4" x 1 1/2". Special Features: Compact, Hi-isolation, General Use.

**FERRITE MODULATORS** Frequency Range KMC: 4.9-5.2 up to 34-36.

Max. Cont. Diss: 200 cps to 75KC. Typical Max. Insertion loss: 25db to 35 db. Guide Size: .360" x .220" up to 1" x 2". Special Feature: High Freq. Modulation, Rugged, High Power, Gen. Use.

**CIRCULATORS** Frequency Range: 8.2-10.2 up to 34.5-35.2. Peak Power: 25W, 150W, 250W. Forward Insertion loss: 0.5, 0.6, 0.7db. Reverse Attenuation: 20db and 25db. Type: 3 and 4 Terminal.

**ISOPLEXERS** Frequency Range: 8.6-9.6 and 34.5-35.2. Peak Power: 60KW and 250KW. **MISCELLANEOUS FERRITE DEVICES** Phase Shifter: Freq. Range: 8.8-10.4. 10W Microwave Power. 1.0db Insertion loss: 180° phase shift. **Polarization Rotator:** Freq. Range: 8.2-12.4KMC. Operation: Rotates plane of polarization in cylindrical waveguide 90°. **Variable Mismatch** Freq. Range: 9.6-10.3KMC. Min. Mismatch VSWR 1.3 or less. Max. Mismatch VSWR variable to 4.0 or more.

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# TIMERS, electronic

provide split-second timing  
with no-filament tube



Compact electronic timers use Type 5823 cold-cathode tube, providing long tube-life with instant timing, no warm-up needed; immediate recycling—no recharging time for condenser required. Ideal for Short intervals—0.03 to 24 seconds.

Easy time adjustments—small time intervals can be spread over 320-degree dial.

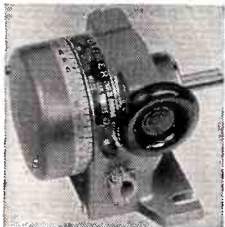
Six-time ranges—can be furnished with full-scale range of 0.2, 0.5, 1.5, 3, 6, 12, or 24 seconds.

Eight-ampere contacts.

Small size— $3\frac{3}{8}'' \times 4\frac{3}{8}'' \times 2''$ .

The new Model 3 Repeat-cycle Timer is fully enclosed; has plug-in relays for easy servicing.

## Synchronous Contactors

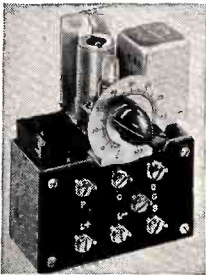


Positive, precise coordination of electrical circuits with mechanical systems. Rotating camshaft actuates distributor-type switches to open and close electric

circuits to control punch presses, machine tools, and computers; provides protection of looms, punch and die tools. Single- and double-circuit models available. Descriptive bulletin on request.

## RELAY, electronic

Operated by  
high-speed,  
low-energy  
impulses.



Type CK Electronic Relay picks up impulses too small to operate a mechanical relay directly and holds circuit closed long enough for heavy mechanical equipment to be actuated.

Fast response—relay operates on contact of less than 0.5 millisecond.

High sensitivity—above response speed even thru contact resistance as high as 500,000 ohms.

Adjustable actuating time—relay operates in 10 milliseconds after impulse and stays "on" for time adjustable between 0.25 and 1.5 seconds.

Long life—Cold-cathode tube energized only when pulse is received.

Easy maintenance—Enclosed plug-in relay.

Small size— $3\frac{3}{8}'' \times 4\frac{3}{8}'' \times 3''$ .

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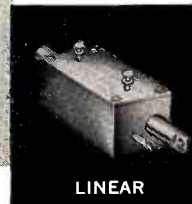
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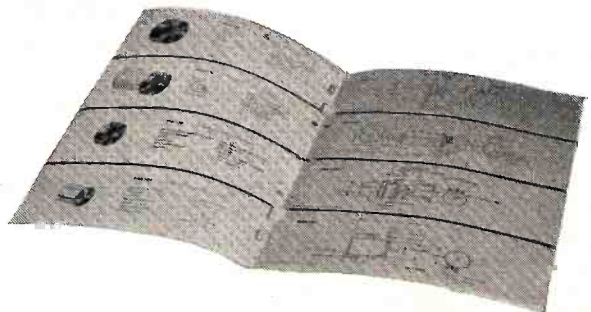
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## WHAT ARE YOUR "POT" REQUIREMENTS?



## PRECISION POTENTIOMETERS

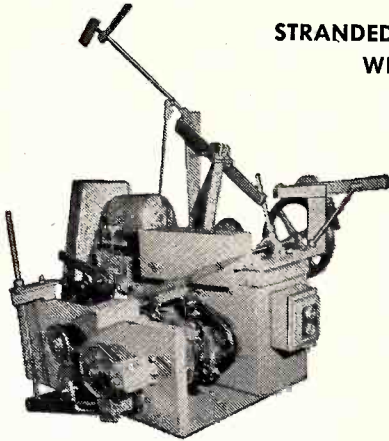
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Up to

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- 6000 pieces an hour; 60 to 80 inches overall.

Machine is automatic and doesn't require operator in attendance. All wire discharged from machine can be stacked in trough end to end except for smaller sizes. "Sticky or Tacky" types of insulation are stripped as easily as the hard surfaced types; scrap is readily removed from between the cutting blades automatically. Four different models to serve you. Send for literature.

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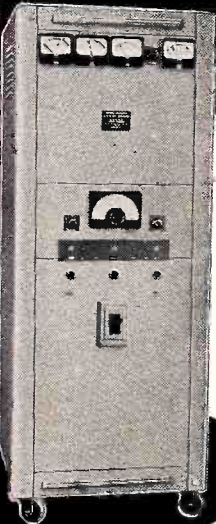
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VARIABLE FREQUENCY ELECTRONIC GENERATOR - 300 VA OUTPUT 50-6000 CPS SINGLE PHASE

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MODEL 11

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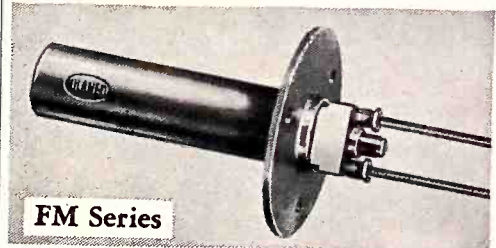
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FM Series—The only metal thermostats that withstand mechanical clamping or pinching of cartridge without affecting set calibration.



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## the electronics BUYERS' GUIDE

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1	\$1.50	\$2.30	\$3.75	\$5.30	\$8.75	\$27.90	\$3.75	\$4.90	\$21.45	\$39.75	6&12VDC—OUT FAN COOLED CR20R† \$14 6VDC@100AMP REPLACEMENT OR CONVERSION 6&12VDC 100/50AMP CR32D† \$20 BR18R* \$24 BR18C* \$26 BN18R* \$20 6 & 12 VDC 80/40AMP	
2	2.35	3.35	5.40	6.45	11.70	33.60	4.75	5.95	24.90	47.90		
3	3.00	4.15	6.30	9.60	13.45	42.90	5.40	6.85	27.60	63.30		
4	3.70	7.50	11.30	16.15	25.00	49.80	6.75	7.95	31.15	69.75		
6	4.45	8.85	12.90	19.30	32.85	63.90	7.90	9.30	48.45	81.90		
10	6.50	12.60	19.90	27.90	42.30	99.70	9.00	14.25	63.60	117.75		
12	8.10	15.90	22.50	32.75	45.90	111.45	10.75	16.15	69.75	137.90		
20	13.20	25.40	38.00	52.50	79.45	177.90	16.20	24.75	124.15	165.75		
24	16.15	32.40	44.90	63.60	86.35	210.60	18.60	31.70	149.70	279.90		
30	19.80	37.80	56.90	78.75	120.75	256.15	21.60	34.95	189.60	363.75		
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BATTERY CHARGER STACKS VOLTS AC INPUT : CR20R† 10VAC/CT., CR32D† 16VAC/CT., BR18R\*—BR18C\*—BN18R\*—18VAC.

COMING NEW "SILTAB"® SILICON JUNCTION HITEMP RECTIFIERS! WRITE



### TEPAK-TABPAK® High Current Power Supplies One Year Guarantee

Variable 0-28 VDC. Completely built. Ready to go. Full Wave Selenium Rectifier, Transformer, Variac, Meters, Pilot Light, 4" Volt & Amp Meters. Switch, Terminals & Fuse, Duty Steel Cabinet. Std. 115V/60cy Input or 220V† (3 phase) to order.

Stock Number	Continuous Rating	With Meters
T28V5A*	0-28 WVDC at 5 Amp	\$57
T28V5ACC	5 Amp 0.1% Ripple	84
T28V5A2CC	5 Amp 0.1% Ripple	155
T28V12A	0-28 VDC at 12 Amp	138
T28V12ACC	12 Amp (1% Ripple)	168
T28V12A2CC	12 Amp 0.1% Ripple	250
T35V16ACC†	0 to 35V @ 16 Amp / .5% Ripple	175
T28V24A†	0-28 VDC at 24 Amp	250
T28V24ACC†	24 Amp 1% Ripple	345
T28V24A2CC†	24 Amp 0.1% Ripple	325
T28V50A†	0-28 VDC at 50 Amp	450
T28V50ACC†	50 Amp (1% Ripple)	550
T28V100A†	0-28 VDC at 100 Amp	750
T28V100ACC†	100 Amp (1% Ripple)	370
T35V25ACC†	0-35V @ 25 Amp (1% Ripple)	210
T35V50ACC†	0-35V @ 50 Amp (1% Ripple)	108
T60V1ACC	0-60 VDC @ 1 Amp/0.1% Rip	139
T60V2ACC	0-60 VDC @ 2 Amp/0.1% Rip	225
T60V5ACC	0-60 VDC @ 5 Amp/0.1% Rip	225

Includes Variable 0-130 VDC Complete Unit. Bridge, Rectifier, 4" Rectangular Volt & Ammeter Specify for 115 or 230VAC/1φ/60cy Input.

Stock Number	Continuous Rating	With Meters
T130V5A†	0-130 VDC at 5 Amp	\$225
T130V5ACC†	5 Amp 0.1% Ripple	275
T130V10A†	0-130 VDC at 10 Amp	369
T130V10ACC†	10 Amp 1% Ripple	369

Includes 4" Meters 2% Acc. \*2" Meters

### "TABTRAN" Rectifier Xfms

Sec'd Volts (DUAL) 0-9-15-18-60-9-15-18 Series Sec'ds 0-3-6-9-12-15-18-21-24-27-30-33-36 Volts.

Model	Rating	Price
TR4001	1 Amp ea/sec/wndg.	\$ 4.95
TR4002	2 Amp ea/sec/wndg.	7.20
TR4003	3 Amp ea/sec/wndg.	9.45
TR4005	12 Amp ea/sec/wndg.	16.70
TR4006	24 Amp ea/Sec Wndg.	35.65
TR4007	50 Amp* per each SEC WNDG.	59.65
TR4008	100 Amp* per each SEC WNDG.	117.00

### "TABTRAN" Rectifier Chokes

Model	Rating	Price
CR6001	1 Amp/0.1 HY/1.4 Ohm	\$3.50
CR6002	2 Amp/0.1 HY/1.67 Ohm	5.45
CR6003	5 Amp/0.7 HY/6 Ohm	9.45
CR6004	12 Amp/0.1 HY/1 Ohm	14.75
CR6005	24 Amp/0.04 HY/.025 Ohm	29.75
CR6006	50 Amp/.001 HY/0.01 Ohm	47.85

### 230 to 115 V Autotransformers

For 220v/60cy Input. To 110-120V or Step up. With Cord, Plug & Receptacle.

Model	Rating	Price
TPA050/50W*	50W	\$2.55
TPA100/100W†	100W	3.66
TPA200/200W†	200W	4.00
TPA250/250W†	250W	5.75
TPA300/300W†	300W	6.75
TPA750/750W†	750W	8.25
Model TPA 1000	1 kw†	11.79
TPA1500/1500W*	1.5 kw†	\$22.50
TPA2000/2 KW*	2 kw†	\$34.00

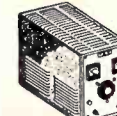
### Isolation and Control Transformers

Model	Rating	Price
TPP 050/50W \$10	50W	\$10
TPP 100/100W \$13	100W	\$13
TPP 250/250W \$32	250W	\$32
TPP 750/750W \$59	750W	\$59
TPP 2000/2KW \$59	2KW	\$59

### AIR CONDITIONING BOOSTER Transformers.

Model	Rating	Price
TPB21/1KVA	1KVA	\$15
TPB22/2KVA	2KVA	\$20
TPB23/3KVA	3KVA	\$16
TPB24/1.5 KVA	1.5 KVA	\$19
TPB3/3KVA	3KVA	\$29

### New Variable 0 to 6 & 12 Volt 12 Amp DC Power Supply, Filtered



Battery Eliminator, Charger, Auto Radios, Model RR, Plater, Aircraft, Marine or any DC. Extra Hvy Duty Selenium Rectifier, 2 Meters V. & A. Desgnd for Cont. Service and up to 20 Amp Intermittent overload; 10% Ripple.

Model T612V12AC . . . . . \$33  
T612V12A2CC same specs (0.5% Ripple) . . . . . \$43

### NEW! LOW PRICED HIGH CURRENT BASIC SUPPLIES

Consisting of Transformer & Full Wave Bridge Rectifier mtd and wired fused, outlet, pilot light & ventilated grill & chassis or cabinet. Ready to deliver constant DC Power. 1 yr. Gtd. Input 115 VAC/60 cys.

Stock Number	Continuous Rating	Basic Price
B28V/5A	0-28 WVDC at 5 Amp	\$45
B28V/5ACC	5 Amp (1% Ripple)	69
B28V/12A	0-28 VDC at 12 Amp	90
B28V/12ACC	12 Amp (1% Ripple)	135
B28V/24ACC	0-28 VDC at 24 Amp	139
B28V/24ACC	24 Amp (1% Ripple)	189
B28V/50A*	0-28 VDC at 50 Amp	225
B28V/50ACC*	50 Amp (1% Ripple)	350
B28V/100ACC*	100 Amp (1% Ripple)	439
B28V/100ACC*	10 Amp (1% Ripple)	600

### INDUSTRIAL DC SUPPLIES

Model	Rating	Price
B100V1A	100 VDC @ 1 Amp	\$39
B115V1.5A	115 VDC @ 1.5 Amp	52
B115V5A*	115 VDC @ 5 Amp	120
B220V5A*	220 VDC @ 5 Amp	234
B115V10ACC*	115 VDC @ 10 Amp/1% Ripple	189
B220V10ACC*	220 VDC @ 10 Amp/1% Ripple	468

### "TEKPAK" RELAY 24 VDC SUPPLIES Cased Filtered

Ready to Work. Input 115 VAC/60 cys.

Model	Rating	Price
B24VAR 24VDC @ 1 Amp	1 Amp	\$8
B24VJR 24VDC @ 2 Amp	2 Amp	\$11
B24VJR 24 VDC @ 5 Amp	5 Amp	\$24

### "TEKAP"® ONE & 3 PHASE 400 CYS SUPPLIES

3φ 400 cys / 115v/750 watt & 1φ/400 cys 26v @ 250 watts with voltage adjustment. Operates 115 & 230v/60cy/1φ input. 28VDC @ 60 amps Filtered to inbuilt Inverter. V/adj & Freq/adj & Radio Noise Filter; All in One Cabinet.

Model	Rating	Price
T4750B Basic Non-Metered	750W	\$475
T4750M DC & AC Freq Metered	750W	\$563

### NEW "REGOVAC"® 450VDC Pckg

Regulated 250 to 450 VDC @ 200 ma. REGULATION 1% MIN TO MAX. CURRENT RIPPLE LESS THAN 5 MV. IMPED 2 OHMS & ALSO NON REGULATED 125 VDC @ 100 MA. 6.3V/12A. COMPLETE CONTROLS FRONT PANEL. SWITCHES. PILOT LIGHT. BINDING POSTS. FUSES. 4φ VOLTAGE ADJUSTMENT. 115VAC INPT. RACK 8 3/4 H13D19" W OR CABINET. 115VAC INPT. R20OR RACK MOUNTING . . . \$135  
R20OC CABINET . . . \$150

### New Five Way "Tekap" Binding Posts

Similar to Superior DF30\* takes plugs, tips lugs, wire, 1/8" to 1/4" panel. Red & Black.

Model	Rating	Price
BP30*	30 Amp, 28c @ 12/52, 50/56, 100/519	
BP10*	10 Amp, 18c @ 12/52, 50/56, 100/511	
BP60*	60 Amp, 75c @ 12/52, 50/56, 100/511	
BP100	100 Amp, \$1 @ 12/52, 50/56, 100/511	

# TECHNICAL APPARATUS BUILDERS

109EB LIBERTY ST., N.Y. 6BG, N.Y., U.S.A.  
Telephone: Rector 2-6249

# MARCONI

F.M.

## TEST EQUIPMENT

For years Marconi's have been specialists in precision instrumentation for f.m. systems. If you've an f.m. measurement problem you'll probably find the test equipment you need in this selection from the Marconi range. If you don't find it, mail us your requirements.

### F.M. RECEIVER TESTER Type TF 913/3.

A v.h.f. signal generator combined with an a.f. power meter. Carrier frequency range: 22 to 176 Mc. Output: 1  $\mu$ V to 30 mV at 52 ohms. F.M. variable up to 25,50 or 100 kc. A.M. at fixed 30% depth. Electrical incremental tuning system. In-built crystal calibrator. Tubes: 6AK5, 6X5G.

### CARRIER DEVIATION METER Type TF 791C.

Carrier frequency range: 4 to 540 Mc. Modulation frequency range: 50 cps to 35 kc. Four direct-reading deviation ranges of 5, 25, 75 and 125 kc full scale. In-built crystal-controlled deviation standard for high measurement accuracy. Tubes: 6AK5, 6C4, 6CD6G, 5718, 6AL5, OB2, 5Z4G.

### CARRIER DEVIATION METER Type TF 934/2.

A rugged pan-climatic instrument. Carrier frequency range: 2.5 to 500 Mc. Modulation frequency range: 50 cps to 15 kc. In-built crystal-controlled deviation standard for high measurement accuracy. Tubes: 6AK5, 6C4, 6AL5, 6X5G, OB2.

### F.M./A.M. SIGNAL GENERATOR Type TF 1066/1.

Carrier frequency range: 10 to 470 Mc—all on fundamentals. Stability better than 0.0025% per 10-minute period. Output: 0.2  $\mu$ V to 200 mV at 50 ohms. Internal modulation at 1 and 5 kc. F.M. variable up to 100 kc deviation. A.M. variable to at least 40% depth. Incremental frequency controls: variable, 0 to  $\pm$ 100 kc; stepped,  $\pm$ 5, 10 and 15 kc. Tubes: 5Z4G, 6AK6, 6CD6G, 6AK5, 5861, 6C4, 6L6G, 12AX7, QB2, 85A2.

### R.F. POWER METER Type TF 1152/1.

Measures true mean power from d.c. to 500 Mc. Power ranges: 10 and 25 watts full scale. Accuracy  $\pm$ 5% of full scale up to 250 Mc;  $\pm$ 10% up to 500 Mc. Input impedance: 50 ohms. Thermal element; no tubes or crystals.

### SIGNAL GENERATOR Type TF 1064 and TRANSMITTER AND RECEIVER OUTPUT TEST SET Type TF 1065.

Self-contained portable instruments for field testing mobile transceive sets. Signal Generator TF 1064 provides r.f. outputs—f.m. or a.m.—in the ranges 68 to 174 and 450 to 470 Mc, i.f. crystal outputs at five spot frequencies, and also an a.f. output. Test Set TF 1065 comprises an r.f. power meter and deviation indicator for use up to 500 Mc, a dual-impedance a.f. power meter, and a multi-range voltammeter. Tubes: TF 1064—3A5, 6J6, 12AU7, OD3; TF 1065—crystal diodes and transistors, no tubes.

RIGHT  
TYPE TF 913/3



RIGHT  
TYPE TF 791C



LEFT  
TYPE TF 934/2

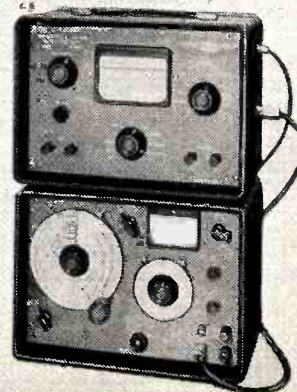


RIGHT  
TYPE  
TF 1066/1



ABOVE  
TYPE  
TF 1152/1

LEFT  
TYPE  
TF 1065



LEFT  
TYPE  
TF 1064

# MARCONI INSTRUMENTS

*Marconi—since 1897*

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*For Unequaled Quality and Performance of the highest standard*

**Specify REX**

**ELECTRONIC & COMMUNICATION PRODUCTS**

## WIRES & CABLES

### MILITARY SPECIFICATION WIRES

- JAN-C-76 — Types WL-SRIR, SRHV-SRRF
- MIL-W-76A — Types LW-FX-MW-HF-HW
- MIL-W-16878B — Types B-C-D-N
- MIL-C-915 — Types SRI-MRI

Above constructions include P.V.C. Nylon or Polyethylene insulation, with or without Nylon Jacket. Also, shielded construction with P.V.C. or Nylon Jacket. Insulated in solid colors or stripes.

### MISCELLANEOUS WIRES AND CABLES

Complete facilities for design and manufacture to customers specifications.

### HIGH TEMPERATURE WIRES

Rex-KF<sup>®</sup> — MIL-W-12349. Insulated with Polytrifluoromonochloroethylene for 1000 volt service at operating temperatures from  $-65^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$ . 17 solid colors and 10 striping colors in 1, 2, or 3 stripes.

Teflon Insulated Wires — MIL-W-16878 — Types E — EE

For 600 and 1000 volt service at operating temperatures from  $-65^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$ . 10 solid colors and 10 striping colors in 1, 2 or 3 stripes.

### COAXIAL CABLES

To MIL-C-17B and Commercial Specifications

### MICROWALL WIRES AND CABLES

Type JR — 300 volt service  
 Type FJR — 1000 volt service  
 Both have exceptionally small OD. and operate at temperatures from  $-50^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . Has solid polyamide insulation — highly resistant to abrasion.

### UNDERWRITER'S APPROVED WIRE

Types TF-TFF-AWM.  $80^{\circ}$  to  $105^{\circ}\text{C}$ .

### TELEPHONE WIRES AND CABLES

All plastic types. Exchange area (aerial, duct and direct burial), One pair distribution wire ("C" Rural), Rural Distribution Wire (all R.E.A. listed), Urban Distribution Wire, Inside Wiring Cable.

## UHF INSULATION

### REXOLITE #1422

Rigid, thermosetting cast plastic offering exceptional electrical properties at ultra-high frequencies. Can be machined to extremely close tolerances. Available in rod or sheet form.

### REXOLITE #2200

Offers virtually the same high electrical properties as Rexolite #1422 plus exceptionally high impact strength. Can be hot or cold punched for low cost fabrication. Available in sheet form only.

### COPPER CLAD REXOLITE

An outstanding addition to the field of printed circuits. Combines the fine electrical properties of Rexolite #2200 with good chemical resistance and punchability. Available in sheets with copper on one or both sides.

## ELECTRICAL TUBING

### REXTRUDE #105

A polyvinyl plastic tubing with exceptional insulating characteristics at high operating temperatures. Underwriters Laboratories approved and rated for  $-30^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$ .

### REXTRUDE #1000

Vinyl plastic tubing to Military Specification MIL-1-631. Offers exceptional resistance to tear and abrasion. Has excellent elasticity permitting stretch over lugs and splices.

## OTHER PRODUCTS

RIGID AND FLEXIBLE PLASTIC EXTRUSIONS OF ALL TYPES.



Send for complete technical data  
*Manufactured by*  
**THE REX CORPORATION**  
 100 HAYWARD ROAD, WEST ACTON, MASS.





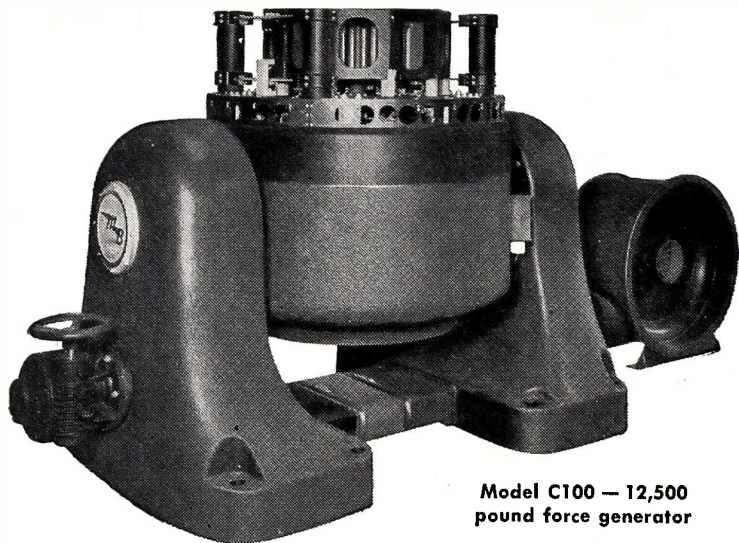
# Vibration Testing and Control

MB MANUFACTURING COMPANY

A Division of Textron Inc.

1070 State Street, New Haven 11, Conn.

## for vibration TESTING

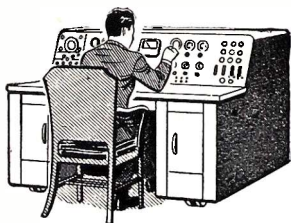


Model C100 — 12,500 pound force generator

## MB VIBRATION EXCITERS

MB electrodynamic-type shakers have the versatility, force output, and dependability necessary for test applications such as: (1) Fatigue testing components to destruction . . . (2) Locating noise sources in automobile bodies and chassis, blowers, etc. . . . (3) Shake testing electrical components, relays, switches, or radio chassis to

determine their ability to operate under high vibratory loads . . . (4) Determining the damping characteristics of rubber, steel, plastics, etc. . . . (5) Identifying resonant frequencies and (6) Determining natural modes of aircraft structures such as wings, fins, and control surfaces. Vibration tests to MIL-E-5272A and 41065-B and other specifications are performed easily on these exciters.



**Complex Motion Testing** MB has developed complete exciter systems to meet the requirements. They include amplifier, all necessary control equipment and circuits, and exciters with *flat frequency response*.

**Automatic Control Systems** for MB Vibration Exciters provide automatic control over table amplitude (displacement and acceleration) and frequency; manual control of either function also possible. Performance more than adequate to meet MIL-E-5272-A vibration requirements.

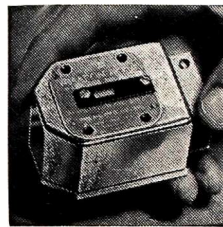
## MB VIBRATION EXCITER SYSTEMS

Model	lbs. Sine Force	lbs. Peak Force (noise testing)	Total Stroke	Power Supply	Frequency Range cps
C8*	1.2 (also C7 sub-miniature tube tester)		1/2 in.	Electronic	20 to 10,000
SD	10		1/2 in.	Electronic	20 to 2,000
C31*	25		1/2 in.	Electronic	5 to 2,000
C1*	50		1/2 in.	Electronic	5 to 500
C11*	50		2 in.	Electronic	5 to 2,000
S6	150		1 in.	Electronic	0.35 to 500
C6	200		1 in.	Electronic	5 to 5,000
C5H	600		1 in.	Rotary or Electronic	2 to 2,000
C10	1,200	2,550	1 in.	Rotary or Electronic	5 to 3,000
C10VB	1,750	3,150	1/2 in.	Rotary or Electronic	5 to 5,000
C25H	3,500	7,500	1/2 in.	Rotary or Electronic	2 to 2,000
C25HB	5,000	10,500	1 1/2 in.	Rotary or Electronic	2 to 2,000
C70	7,000	15,000	1/2 in.	Rotary or Electronic	2 to 2,000
C100	12,500		1/2 in.	Rotary	2 to 2,000
C250	25,000		1/2 in.	Rotary	2 to 2,000

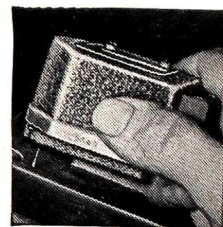
\* Force generator or calibrator. Other models available.

## for vibration MEASUREMENT

**VIBRATION PICKUPS** Sensitive to low-amplitude vibration, yet rugged for field test work. Electrically damped; maintain calibration over wide temperature range. Resonant frequency below 5 c.p.s. Over twelve types available for specific requirements. Type 122 for temperatures to 500° F; Type 115 probe-type for hand-held exploratory testing.

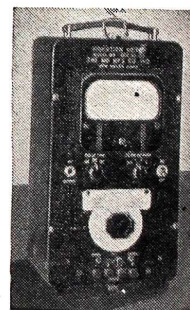


Type 122



Type 115

**METERS** MB Meters are compact, portable units, designed for use with MB vibration pickups. They give direct readings of vibration acceleration, velocity, or displacement. Model M6, designed specifically for jet-engine testing, has three high-pass filter networks (cut-off at 30, 70 and 110 c.p.s.), push-button selection of four pickup signals. A.C. operated. Suitable for general test purposes.



Model M6

## for vibration ISOLATION



**ISOMODE\* INDUSTRIAL-TYPE ISOLATORS** — provide large deflection ratings with high load capacity, small size, and exceptional stability. Spring rate equal in all directions—mount at any angle—absorb vibrations for every plane. Unit load-range 50 lbs. to 2500 lbs.

MIL-I-5432 (AN-I-16a) is met with Isomode\* Type 17 vibration isolators: Load range 1/2 to 100 pounds per unit. They feature equal spring rate in every direction.



**MANY OTHER ISOLATOR TYPES** available, including units for special applications; Isomode grommets; mounts with small dimensions. Contact us on your specific requirements.

\* Reg. U. S. Pat. Off.

# ARNOLD regulated SWITCHING TRANSISTOR POWER SUPPLY

(DC-DC Inverter)

## FEATURES:

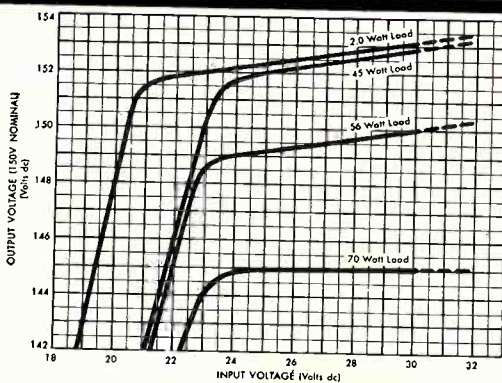
- 1) When used in missiles and aircraft, provides constant voltage output as battery discharges.
- 2) 1/5 weight of comparable dynamotors
- 3) 1/2 size of comparable dynamotors.
- 4) Utmost reliability for overloads and input voltage transients.
- 5) Hermetically sealed and potted, and will meet military environment.



## SPECIFICATIONS: Model 591A

Input Voltage (Nominal)	24 to 30 volts DC (Lower voltages available)
Output Voltage	Any voltage from 25-1200 volts DC
Output Power	60 watts regulated
Regulation	(a) Line: $\pm 1/2\%$ for 4 volt variations of input voltage (b) Load: $\pm 2\%$ for variations half load to full load (c) Overall: $\pm 3\%$ for both line and load
Ripple	0.3% (RMS, 1KC-10KC, 0.5% peak to peak)
Size	3" OD x 3" high, weight 19 oz.

*Model 591A is in production and is immediately available*



Ambient temp. 25° C  
Heat sink mounting plate: 19 x 7 x 1/8 aluminum



## ARNOLD TOROIDAL COIL WINDER

*sets up quickly ... easy to operate ...  
takes wide range of wire sizes*

## SPECIFICATIONS:

- Min. finished hole size: .18 in.
- Max. finished toroid O.D.: 4.0 in.
- Winding speed: 1500 turns/min.
- Wire range: AWG 44 to AWG 26
- Dual, self-checking turns counting system
- Loading (wire length) counter
- Core range: 1/4" I.D. to 4" O.D. to 1 1/2" high

## LABORATORY USE

- Change wire and core size in 45 sec.

## PRODUCTION USE

- 1500 turns per minute
- Insert core and load in 20 sec.

## ARNOLD MINIATURE MAGNETIC AMPLIFIERS

*and toroidal transformers*



UNIT	MAGNETIC AMPLIFIER	MAGNETIC AMPLIFIER	TOROIDAL TRANSFORMER	MAGNETIC AMPLIFIER
Supply Voltage	50 volts, 400 cps	115 volts, 400 cps	20 microvolt (min.)	67 volts, 400 cps
Output Voltage* AC or DC	$\pm 45$ volts	$\pm 110$ volts	As Required	$\pm 62$ volts
Output Current	20 milliamperes	100 milliamperes	10 milliamperes (approx)	320 milliamperes
Control Current	0.8 milliamperes	6 milliamperes		10 milliamperes
Input Resistance	15 K ohms	1 K (Transistor Drive)	400 K ohms (400 cps) max.	1 K (Transistor Drive)
Size	0.95" x 1.12" x 1.87" high	1.59" OD x 1 1/8" high	1.06" OD x .47" high	1 1/4" OD x 1" high
Weight	1.8 oz.	3.1 oz.	0.51 oz.	1.9 oz.

\*For Two Units in Self-Saturating Circuit (if single unit is used, output is unidirectional)

**FEATURES** Meets environment of MIL-E-5272-A and MIL-T-27  
Employs Diallyl Phthalate Plastic Cases  
Hermetically sealed by impregnation in epoxy resin

*These production units are immediately available. If required, prototypes will be designed to meet your specifications.*

*write or phone for literature*

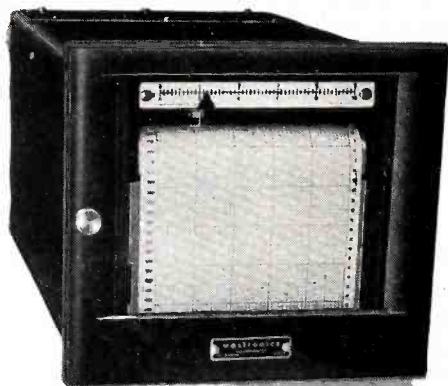
# ARNOLD MAGNETICS CORP.

4613 West Jefferson Blvd., Los Angeles, California • REpublic 1-6344

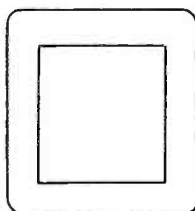


# MINIATURE RECORDING POTENTIOMETER

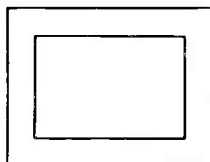
This revolutionary recorder saves you two ways . . . fits in a small space (only 9 5/8 inches wide and 8 1/2 inches tall) and costs less.



Model 2705



**COMPARE  
THE  
SIZE**



### SPECIFICATIONS

- Null balance
- Pen speed: 1 second
- .5% accuracy
- TC or MV calibration (5MV to 100MV)
- Automatic continuous standardization
- Max source impedance 1000 ohms per MV of span
- .14% sensitivity

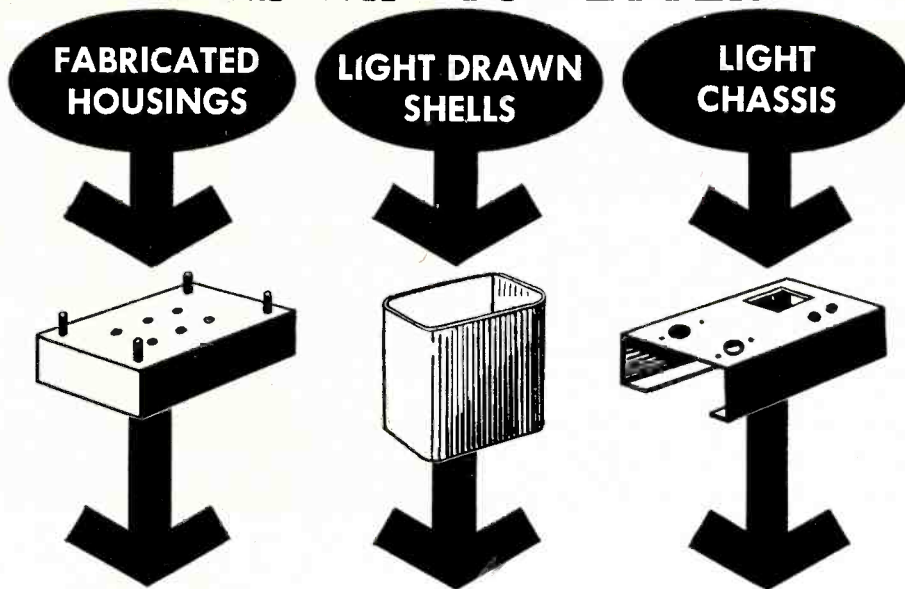
### OPTIONAL FEATURES

- 3 speed chart drive transmission
- 1 to 4 SPDT adjustable control switches
- Reference junction compensation
- Selsyn motor chart drive
- Transmitting slidewire
- Event marking margin pens

**westronics**  
INCORPORATED

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FORT WORTH, TEXAS

## THIS WAY TO BETTER



Standard MIL-T-27 Cases  
Standard YY Cases  
Square Corners Radius Corners

Custom built to your specifications

STEEL - COPPER - BRASS - ALUMINUM - MU-METAL

Write for information

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## PARAFORMED

SHARP SQUARE INSIDE CORNERS  
FLAT SIDE WALLS  
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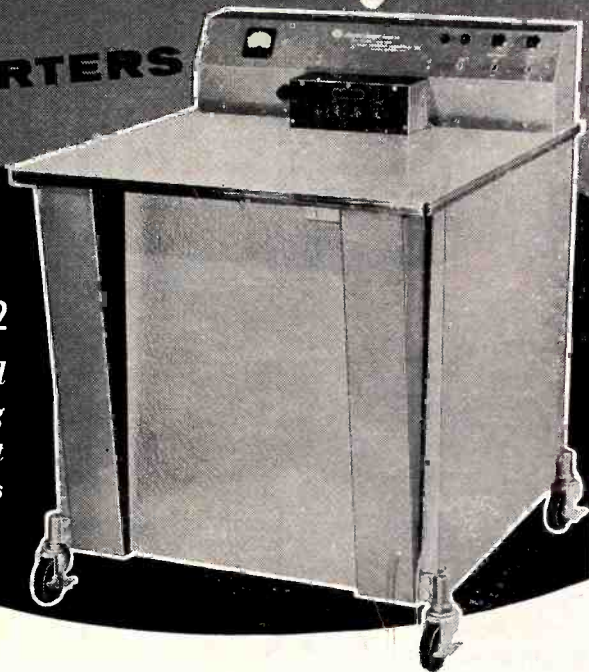
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# from Magnet Charger

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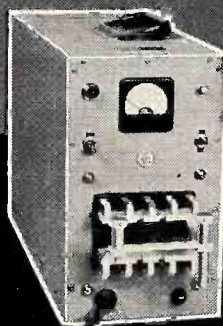


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**3**

**VERSATILE  
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**MODEL 107A**

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A basic condenser discharge unit for most medium size magnets, the Model 107A provides ranges of 12,000 and 24,000 ampere-turns. It is capable of saturating most instrument magnets, including the new core type mechanisms, using adapters or wire-wound fixtures. Designed for continuous duty. Operates from 115-volt, 60-cycle line. Price \$530.

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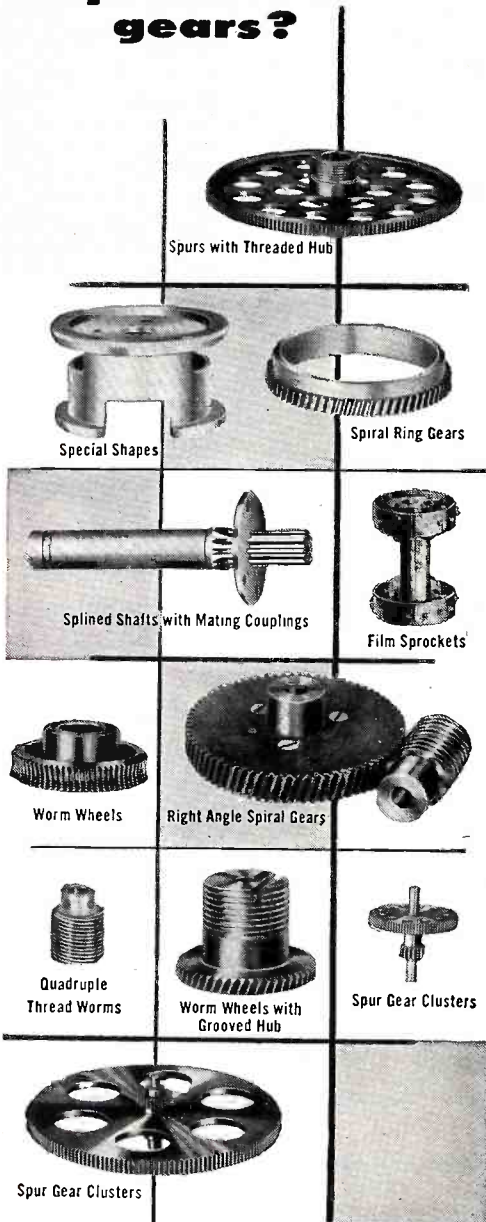


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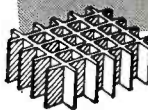
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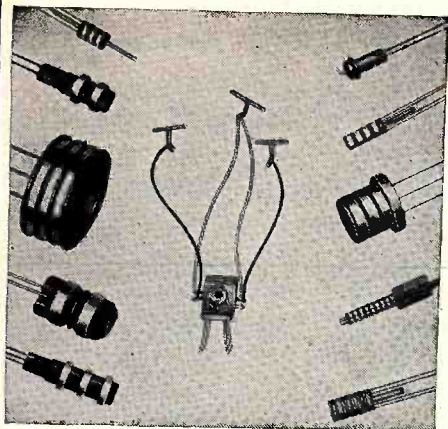
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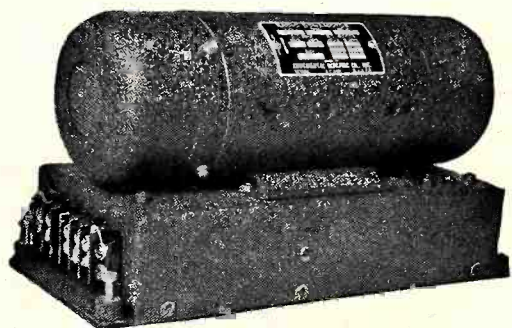
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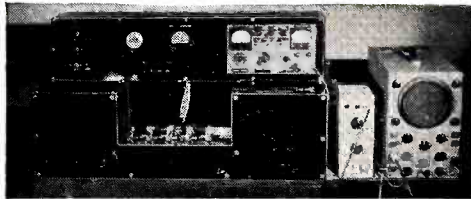
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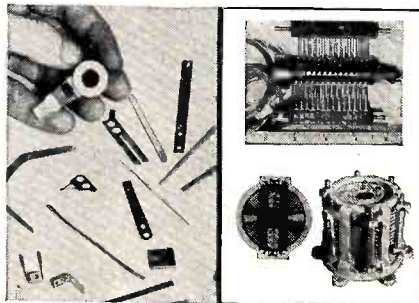
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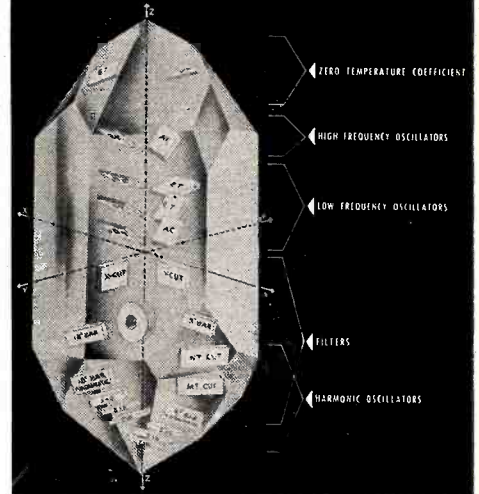


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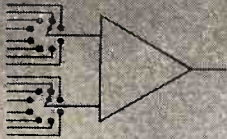
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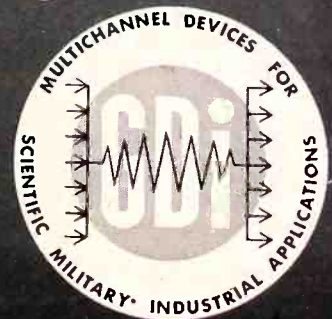


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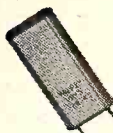


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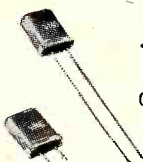
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Hermetically sealed in compact metal case . . . frequency range 175 Kc to 100 Mc . . . JAN Type HC-6/U. Pin 0.050" dia., spaced 0.486".



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100 Kc used extensively in frequency standards. Mounts in 3/4" crystal socket or standard 5-prong socket.



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Features separate 100 and 1,000 Kc crystals in same case . . . accuracy  $\pm 0.005$  percent from -10 deg. C. to +60 deg. C., when used in recommended circuits.



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Temperature controlled oven . . . mounts two VR6, VR13, CM1, or CM5 crystals. Heater, 18 watts . . . for 6, 10, 28 or 115V. Fits standard octal socket . . . with pilot lamp connection to thermostat.



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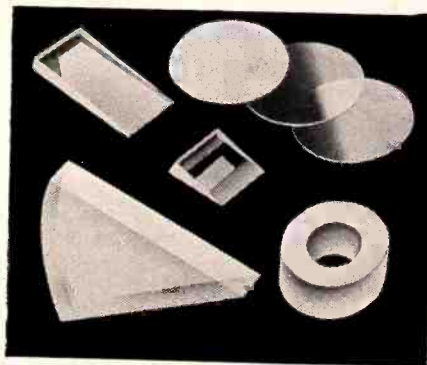
Diameter:  
 $\pm 0.001$ " of specified diameter  
Polish:  
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Edges:  
Free from chips and incipient fractures  
Flatness:  
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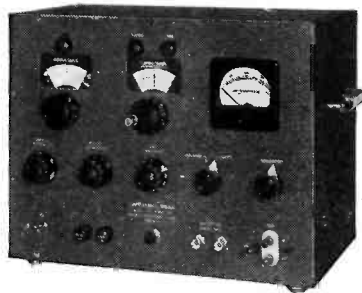
- Range: .001 volt to 3 volts
- Freq. Range: 50KC—500MC
- Accuracy: 5% to 200MC, 10% to 500MC
- RMS response below 0.1 volt
- High impedance probe
- 52 ohm probe: vswr 1.1
- 0.1 to 300 V probe adapter available

MODEL 91B PRICE \$375.00



## THREE TERMINAL CAPACITANCE BRIDGE

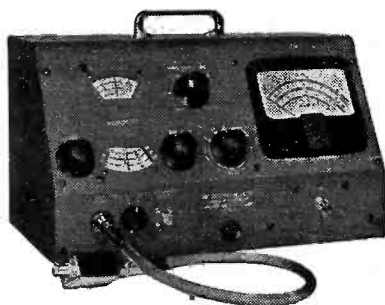
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- Approx. accuracy:  $\pm(0.25\% + .001 \text{ mmf})$
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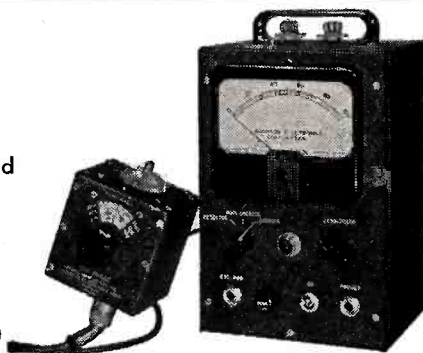


MODELS: 85B and 85C  
PRICE \$675.00

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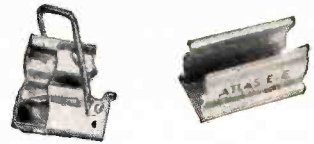
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- High sensitivity for both capacitive and inductive coupling
- Frequency accuracy,  $\pm 2\%$ .
- Very stable oscillator
- High Q absorption frequency meter

MODEL 101B PRICE \$275.00



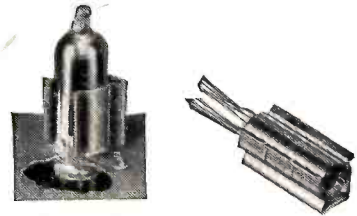
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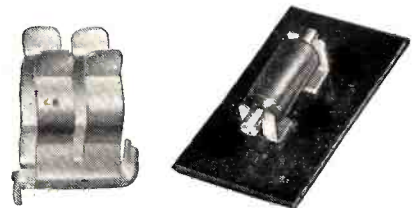
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**Series 8200**

200-amp, high shock relay for aircraft and missile use. Temperature range from -65 C. to +125 C. For operation from DC only.



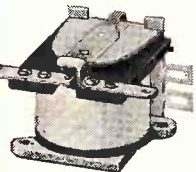
**Style 6351**

Designed for use in 52-ohm transmission line. Supplied with 3 JHF fittings. Available without auxiliary contacts as style 6350.



**Series 2100**

Designed for military and commercial needs. Two frame sizes providing up to 6 PDT. Contacts rated at 15 amps. at 24 VDC non-inductive. DC relays are available for voltages up to 120. C relays up to 250 V 50/60 cycle.



**Series 1000**

Small, light, efficient relays for many uses. SPDT contacts rated at 1 amp. at 50 VDC. Maximum voltage 24 VDC. Available hermetically sealed.

The complete Husky line contains relays designed to meet most needs. If you have a design problem, send us your specifications for engineering review. Write for literature and specifications.

For immediate service, call Frederick, Maryland, MOument 3-5141

**Price Electric CORPORATION**

10 CHURCH STREET, FREDERICK, MARYLAND

ELECTRONICS BUYERS' GUIDE — June, 1957 — MID-MONTH



## PULSE POWER CALIBRATOR

MODEL PCX-1 PULSE POWER CALIBRATOR is an extremely precise instrument for calibrating pulse power measuring devices in the 925- to 1225-mc frequency range and for measuring power between -10 and +63 dbm to within 0.5 db. It is the first in a series which includes similar calibrators designed for the 3000-mc, 5000-mc and 9000-mc bands.

This equipment employs a new method which permits for greater accuracy (other than calorimetric) than heretofore achieved. It establishes a measurement reference level at the time of each use. Ease of operation is assured by the notch-and-reference-line display, by the automatic centering of pulses on the display, and by the direct reading of power measurements.

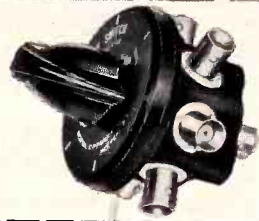
The removable bisectonal cover, frame construction, hinged and pivoted subchassis assure easy accessibility for servicing.

## MANUAL CONTROL SWITCHES

Compact, lightweight—available in Radial; parallel connector configuration.

### GENERAL CHARACTERISTICS

Frequency Range: 0 to 10,500 MC. VSWR: 1.2:1 max. at 3000 MC. Insertion Loss: 0.3 db max. Crosstalk: greater than 60 db at 3000 MC, greater than 40 db at 10,500 MC. Operation Life: 10,000 cycles, min. Construction: weatherproof. Connectors: N, BNC, C, HN, BN, LN. Positions: 2, 3, 4 and 6: single and double pole. Easily adaptable for specialized usage.



## REMOTE CONTROL SWITCHES

28 V. DC., 110 V. DC.—Compact, lightweight—available in Radial, spring return; Radial, transfer; parallel connector configuration.

115 V. AC., 60 cycle.—Compact, lightweight—available in Radial, spring return; parallel connector configuration.

GENERAL CHARACTERISTICS — See Above



## "S" BAND BEACON — Model RCX

Radar Beacon RCX is a miniature S-band transponder equipment for use in tracking missiles, drones and other types of aircraft. It has greater selectivity and sensitivity than the Model RBX (below) and can be used as a transmission medium for telemetering information from auxiliary systems. Many new and unique features make it a reliable and versatile equipment, keeping pace with the current progress in the guided missile field. The equipment includes Receiver-Transmitter RCX-1, Power Supply RCX-2, Junction Box RCX-3 and the necessary interconnecting cables and mounting brackets.

### PERFORMANCE CHARACTERISTICS

Receiver Selectivity: a 3-cavity preselector;  $\pm 3.5$  mc at -3 db;  $\pm 15$  mc at -40 db (including X-band rejection filter. Receiver Sensitivity: -45 dbm. Receiver Codes: (a) Single pulse 0.25-usec duration or greater; (b) Double pulse 0.25-usec duration, 3-usec spacing; (c) Double pulse 0.75-usec duration, 10-usec spacing. Environmental Ratings: will withstand 200 G's acceleration and 400 G's shock.



## "S" BAND BEACON — Model RBX

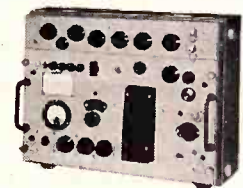
A highly miniaturized receiver-transmitter for missile applications to facilitate radar tracking. Supplied with power supply, cable and antenna (not shown).



## "X" BAND TEST EQUIPMENT

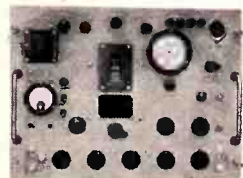
### TEST SET BHS (AN/UPM-10A)

A portable microwave signal generator for testing and adjusting beacon equipment and radar systems operating in the range of 8500 to 9600 MC. Measures power and frequency of external signals. Supplies pulse-modulated, square-wave-modulated or unmodulated signals of known power and frequency. Also supplies frequency-modulated signals.



### NEW! MODEL BDX FOR GREATER ACCURACY

Greater frequency accuracy ( $\pm 1$  mc from 8500 to 9600 mc). Greater power level accuracy ( $\pm 1.5$  dbm without correction curves). Repetition rates high enough to measure recovery time with assurance (up to 50,000 PPS). Operates with or without an auxiliary trigger. More rugged and dependable. The only complete signal tester for beacon work.



## GENERAL COMMUNICATION COMPANY

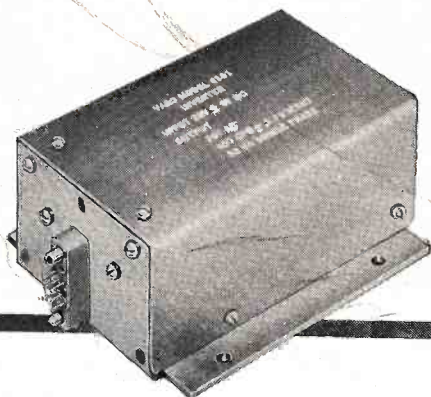
681 Beacon Street, Boston 15, Massachusetts



When ordering or seeking information please mention Electronics Buyers' Guide.

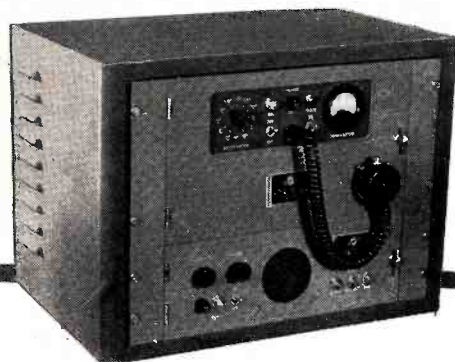
# VARO

**Airborne and ground control precision electronic equipment for commercial and military applications**



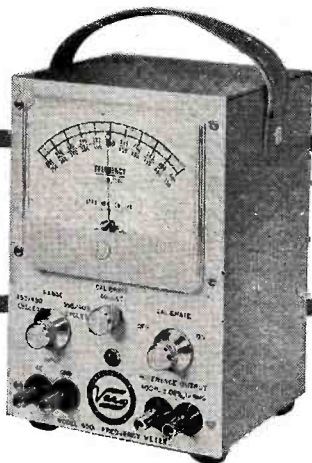
## TRANSISTOR INVERTERS

A static means of changing DC or coarse frequency AC to precision frequency—features tuning fork accuracy and voltage regulation.



## TEL-AIR VHF RADIO TELEPHONE

A complete VHF radio telephone for ground-air communications. Fulfills the need for a low-cost radio installation which incorporates modern methods of construction, reliable components, and dependable performance characteristics.



## FREQUENCY METERS

A compact precision laboratory 400 cps frequency standard and frequency meter with calibration accuracy of .02%.



## FREQUENCY STANDARDS

Frequency Generators — Completely transistorized, 0.1% accuracy independent of input voltage variations and external loads.  
Tuning Forks — Miniaturized, accurate frequency or timing reference from 300-4000 cycles.

### ADDITIONAL ELECTRONIC EQUIPMENT MADE FOR MILITARY AND COMMERCIAL USE

Frequency Meters      Voltage Regulators  
Voltage and Frequency Sensitive Relays  
Regulated Supplies      Frequency Changers  
Speed Controls  
Complete VHF Communications Stations  
and Systems  
Remote Control Equipment  
Regulated Output Amplifiers  
Antenna Multicouplers  
Aeronautical Instrument-Landing Test  
Equipment

The VARO manufacturing combination provides the Aircraft Industry a reliable source of assistance in development and manufacture of precision 400 cycle power conversion and control; VHF transmitters and receivers and remote control equipment.

# VARO

For further information please write:

*Mfg. Co., Inc.*

Garland phone — 31285      2201 WALNUT STREET, GARLAND, TEXAS

E. F. Desmond — P. O. Box 493, Poughkeepsie, New York — Phone GLobe 4-7611  
Phil McDaniel — P. O. Box 553, Far Hills Branch, Dayton, Ohio — Phone  
Lincoln 2581      • James R. Womack — 4685 Exposition, Los Angeles,  
California — Phone REpublic 4-0154

Export: Steven P. Nagel — 1625 Eye Street, N. W., Washington, D. C. — Phone  
MEtropolitan 8-3543

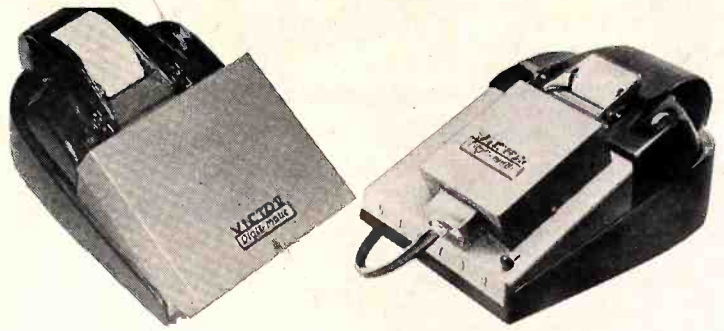
# VICTOR DIGITAL PRINTERS • DATA PROCESSING MACHINES

## Digit-matic

### HIGH SPEED SERIAL AND PARALLEL ENTRY DIGITAL PRINTERS

Digit-matic Printers are basic adding, multiplying, or calculating machines equipped with electrically actuated keys. Figures can be entered into the machines electrically and at high speeds. Digit-matics can be used with paper tape punches and readers, punched tape typewriters, electronic counters, digital testing equipment, analog to digital devices, time interval meters, pulse height analyzers, digital scalars, production counters, and Integrated Data Processing office applications as automatic invoice calculating, purchase order extensions, account selection and totaling. Both parallel and serial Digit-matics are constructed to provide a long trouble-free life. Wearing surfaces are heat treated and cyanide hardened to insure long life. All steel parts are protected by heavy cadmium plating to prevent rusting. Digit-matics are approximately 9½" wide, 7½" high and 14¾" long. Weight is approximately 26 lbs.

**SERIAL ENTRY DIGIT-MATICS:** basic 10 keyboard adding machines having numerical keys, 0-9. Digits are entered in sequence starting with the most significant digit. Available



as: *Listers*—where printing only is required, *Accumulators*—where addition, subtraction and printing are required, *Multipliers*—for addition, subtraction, multiplication and printing, *Calculators*—for addition, subtraction, multiplication and division as well as printing.

**PARALLEL ENTRY DIGIT-MATICS:** basic full keyboard adding machines. All columns are equipped with a set of 1 through 9 keys, each of which has a solenoid for electrical actuation. Available as: *Listers*—where printing only is required, *Accumulators*—where addition, subtraction, and printing are needed.

For complete information write for Data Sheet A-71-2.

### MODEL V-300-10 TRANSLATING MATRIX



Model V-300-10, for those requiring sweepout unit, accepts each number from up to 10 Decimal Counting Units or a parallel switching matrix, and

after decoding causes them to be printed by the serial type Digit-matic. Output signals, indicating that the Digit-matic has completed its printing, are furnished. A power supply for the Digit-matic is also included. Designed for rugged, reliable trouble-free operation, only top quality components, such as mercury wetted contact type relays are used. Multivibrator time generator is employed to provide reliable uniform scanning.

#### SPECIFICATIONS:

Number of input columns: Up to 10 (larger capacities on special order) • Input signals: (a) coded digits:—0 to 10

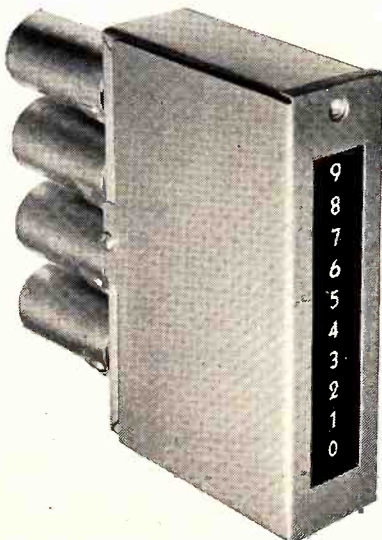
volts from D.C.U.'s (input loading 100,000 ohms, 1-2-2-4 code.)

Outputs: (a) A relay contact normally closed to ground is opened (can be used to reset Decimal Counting Units) during the time the Digit-matic is line printing. (b) 150 volts (120 K ohms) is present during the time the Digit-matic is line printing • Cycle time: Approximately 1 second for complete 10 digit scan and line printing • Power Requirements: 110-120 V, 60 cps AC, 150 Watts • Tube complement: 3-5963; 2-5687 • Fusing: 115 volt AC line and solenoid circuit.

For complete information write for Data Sheet A-84.

### ADD-TRACTOR

New adding and subtracting Decimal Counter with electrical output offers simple solution to control problems and arithmetic calculations of all kinds. Physically similar to the familiar deci-



mal counting unit, the ADD-TRACTOR has ability to complement its stored value in 10 microseconds. It can accept digital information serially, as a unitary pulse train, or parallel in binary coded decimal form. Unitary and binary coded decimal electrical outputs permit the calculating of all kinds of arithmetic problems and provide a means of control for industrial processes. Logical outputs of "less than", "equal to" and "more than" can be easily provided. In addition to functioning as an accumulating register, it can also be operated as a left and right shift register.

**APPLICATIONS:** counting, summing and subtracting, servo control, net

weighing, digital position control, ratio control, subtractive mixing, frequency deviation measurement, random events difference counter, computer arithmetic elements, and in special machines for such purposes as inventory control, etc.

#### SPECIFICATIONS:

Count indication: Direct reading, decimal presentation • Power requirements: 6.3V A.C. @ 1.2A., 300 V D.C. @ 16 Ma. • Unitary pulse train input maximum count rate: 100,000 pulses/second • Unitary pulse and complementing inputs: Negative pulse, 90±10V. Fall time—Less than 1 microsecond. Duration—At least 2 microseconds.

For complete information write for Data Sheet No. A-2-1.

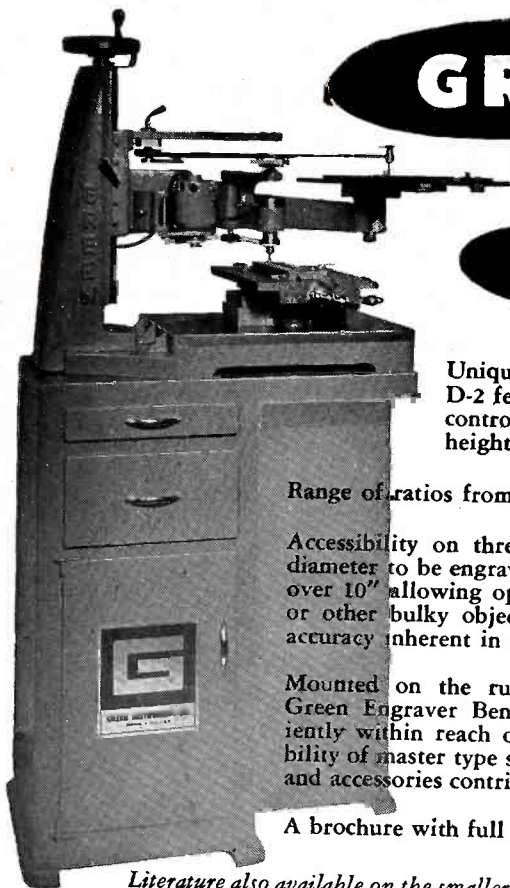
## VICTOR ADDING MACHINE CO.

3900 North Rockwell Street, Chicago 18, Ill.

KEystone 9-8210

Victor-McCaskey Ltd., Galt, Ontario

Manufacturers of Business Machines, Cash Registers, Business and Industrial Systems, Electronic Equipment, Electri-Cars.



# GREEN

## Model D-2

### Pantograph Engraver

Unique design of the two-dimensional Model D-2 features—Single micrometer adjustment controls vertical depth of cut, and adjusts height of copy table and pantograph.

Range of ratios from 2 to 1 to infinity!

Accessibility on three sides permitting panels up to 30" diameter to be engraved, milled or profiled. Vertical range over 10" allowing operations on complete chassis, cabinets or other bulky objects. Ruggedness, stability and precise accuracy inherent in construction.

Mounted on the ruggedly constructed heavy duty steel Green Engraver Bench. All functional parts are conveniently within reach of the operator while seated. Accessibility of master type sets stored in lower cabinet trays, tools and accessories contribute to productive capacity.

A brochure with full details is yours upon request.

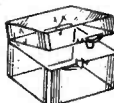
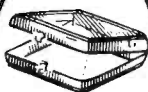
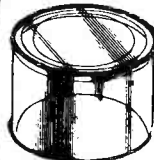
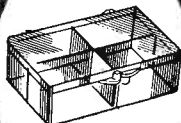
Literature also available on the smaller Model 106 three-dimensional engraver.

## GREEN INSTRUMENT COMPANY

363 Putnam Ave., Cambridge, Mass.

## WORLD'S LARGEST ASSORTMENT MOLDED TRANSPARENT PLASTIC

# B O X E S



We offer you all size boxes . . . all shapes . . . all types — with, without covers; hinged; sectionalized . . . available from stock. On volume orders, we'll build the mold to your specifications at no cost to you.

TODAY . . . at no cost or obligation, write for your FREE COMPLETELY ILLUSTRATED CATALOG featuring over 100 different boxes.

## BRADLEY INDUSTRIES

1654 N. Damen Avenue Chicago 47, Illinois

"Producers of the world's largest assortment of Rigid Plastic Boxes"

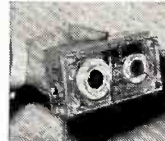
## alfax is revolutionizing graphic recording!

"ELECTRICITY IS THE INK"

ALFAX PAPER AND ALDEN ADJUSTERLESS RECORDING TECHNIQUES MAKE POSSIBLE—

### • New Accuracies and Resolution in Direct Graphic Recording!

Record full range of your electronic signal outputs—monitor processes and operations directly and instantaneously on Alfax Paper—no pens or ink—up to 17 step permanent tone shades.



#### Magazine Fact Finder—2 Channels Plus Timing

Here is a compact Magazine Recorder which will permanently record two separate operations and automatically print a recurring time signal on the Alfax Tape. Simple to install—they will operate unattended—remotely or on the spot.



#### Multi-Channel Fact Finder—30 Channels Plus Timing

Record thirty channels of on-off data by merely supplying current to writing stylus—no pens or inks—simple motion switches are easily installed to make or break writing current to Alfax Paper. Ideal for monitoring production operations and processes, this compact, rugged recorder is portable for lab, factory and field use.



#### Alden "Flying Spot" Component Recorders

Get hi-resolution tone shade recordings on Alfax Paper of detecting instruments using scanning or sweep methods to collect data. Synchronize Alden "Flying Spot" with sweep or rep rate of your equipment—use direct signal outputs to mark Alfax with tone shades proportional to signal variations. Ideal for sonar, radar, facsimile, ultrasonic and magnetic flaw detection etc.



#### Alden Curve Plotters

The Basic Helix Recorder with special electronics can provide continuous, automatic curve plotting of phenomena converted to voltage. Any number of channels can be recorded simultaneously along with standard or reference signals so that the information is instantly and permanently self-calibrated.

### • Fastest, Most Accurate Means of Communication!

New high and low speed Alden facsimile recording systems using Alfax Paper are the most accurate means of communication today—are simple to install and operate virtually unattended.



#### High Speed Selective Dispatch Facsimile System

Specially designed to permit selection of pertinent data from any copy—letters, dispatches, reports, etc.—for instant transmission to wherever needed—yet complete reproductions can also be sent. 72 square inches of copy, 1800 words of newspaper type, or 900 words of typewriter text can be transmitted and received per minute.



#### Continuous Reproduction Facsimile System

Extremely high quality reproduction of large copy; such as newspapers, weather maps, blueprints, finished advertising layout, drawings, photographs, etc., can be transmitted easily with this equipment. Copy is scanned flat and reproduction automatically on remote continuous recorder.



#### Alden Giant Bulletin System

Fastest, accurate means of disseminating information to large groups of people. Automatically provides changing "up to the minute" bulletins 4 feet wide and up to 10 feet high and as much as 12 square feet of copy per minute, enlarged 10 times from remote flat-copy scanner as sent either by wire or a microwave system.

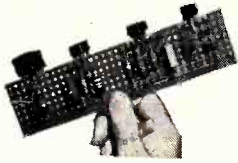
WRITE FOR LITERATURE on Alfax or Alden Recorders to:

**ALDEN ELECTRONIC AND IMPULSE RECORDING EQUIPMENT CO.**

Alden Research Center Westboro 6, Mass.

# Design your Electronic Equipment for Reliability in Service with Alden Components for Plug-in Unit Construction

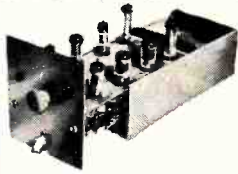
## PACKAGE YOUR CIRCUITRY FOR UNITIZATION



**ALDEN TERMINAL CARD MOUNTING SYSTEM**  
Simplifies and speeds your planning and layout. Organizes your circuitry function-by-function in compact planes for easy mounting and accessibility for servicing. Complete component service provides you with Planning Sheets, pre-punched cards, terminals, card-mounting sockets, terminals and brackets.



**ALDEN PLUG-IN PACKAGES**  
Give you compact plug-in units for packaging small functions of circuitry. Easy to assemble and provide ultimate in accessibility for checking or replacement servicing. Available in 7-pin min., 9-pin min., 11-pin and 20-pin Non-Interchangeable.



**ALDEN BASIC CHASSIS**  
Provides plug-in accessibility for housing your terminal card circuitry and mounting components. Has quick lock-in and ejecting devices and provides for one point of check of all inputs and outputs. Available in widths of 2", 4", 8" and 17". Can be rack mounted using Alden Rack Adapter



**ALDEN MOBILE UNI-RACK**  
Provides ultra-compact mobile housing for your Alden Basic Chassis. Takes up to 3 levels of Plug-in Chassis in combinations of 2", 4", 8" or 17". Ideal for instrumentation, test gear, etc. Has line cord and fused switch panel.

## MONITOR EACH CIRCUITRY FUNCTION

### ALDEN FRONT PANEL "TELL-TALES"

Monitor your on, off, continuous or cycling functions with tiny Alden Pan-i-Lites. Ultra-bright, wide visibility. Five colors, five voltages, Push-in or saddle mount.

Pan-i-Lite Switch is ultra-compact momentary contact indicator switch. When pressed, light glows when switch closes. Five bright colors, three voltages. Snap ring mount.

Spot blown fuses with compact Alden Fuselites. Fuse blows — neon glows. Fuse replaced from panel. Mount by eyelet or spot-weld. In 6, 12, 28, 110 and 220 volt.

### ALDEN MINI-TEST JACKS & CORDS

Tiny Mini-Test Jacks provide space-saving, color-coded check points for critical voltages. Available in phenolic, nylon or genotron. Seven brilliant colors. Nut or eyelet mounted. Long life beryllium copper, silver plated contact.

Unbreakable Mini-Test Prods with molded-in pin and lead are ideal for instruments, test sets, metering circuits, and patch panels. Non-kinking lead wire. Standard colors Red or Black. Standard lead length 18" or to your specs.

## Give your equipment this flexibility...

ROLL IN

PLUG-IN

UNIT SERVICE

AIR SERVICE



WRITE FOR FREE 250 PAGE HANDBOOK.

Be sure your engineers are working with the Alden Handbook. Presents complete line of basic components adapting your equipment to plug-in unit construction.



## MAINTAIN HIGH FIELD RELIABILITY WITH ALDEN CABLES AND CONNECTORS



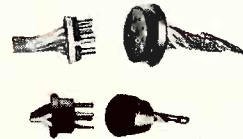
### ALDEN UNIT MOLDED CONNECTORS

A whole series of new high reliability connectors. Leads and contacts are integrally molded in a single shot of insulation carefully selected for its mechanical and electrical characteristics. A patented feature allows the use of highly resilient, long life punch press contacts. Available in a variety of standard types and layouts.



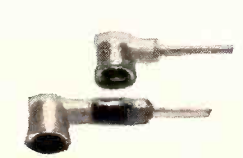
### ALDEN UNIT MOLDED CABLE ASSEMBLIES

Advanced molding techniques are used to provide you with complete integral molded insulation cable assemblies. You can have a choice of several standard designs in a variety of layouts.



### ASSEMBLED CONNECTORS AND CABLES

Here's a standard series of pre-wired assembled connectors from one to 11 contacts, phenolic insulated. Leads are "top-connected" for positive strain relief to resilient long life punch press contacts. Just specify connector, lead lengths, and we assemble.



### TUBE CAP CONNECTORS

Available in phenolic or integral molded assemblies in a variety of insulations with or without integral molded circuit components such as resistors, condensers, corona shields, etc. Leads are tailored to your specs so that complete assembly is ready to put into your equipment.

## PLAN FOR YOUR ELECTRICAL CIRCUITRY



### INSULATED FUSEHOLDERS

Compact "Safety" Type fuseholder, UL listed for 110V, 15 amps. Features — controlled contact pressure — fuse ejector spring — "U" shaped contacts.



### DIAL LIGHT SOCKETS

Here's the simplest, yet most reliable of dial light sockets. One of a series of four standard bayonet types for one or two wire installations. "Center file" action allows lead to "bite" into bulb contact. Positive pressure locks bulb in — prevents rattling — will not fall out. Produced on automatic machines for low cost — fast delivery.



### DETACHABLE LINE CORDS

For quality equipment — 2 and 3-wire UL listed cord sets. Unit molded male and female ends are neat, compact. Chassis connector eyelets in for fast assembly — eliminates need for UL knots, grommets.



### AC CONVENIENCE OUTLETS

Compact MINI-SPACE OUTLETS for all types of electrical or electronic equipment whenever power take-off convenience is needed. Available with solder tabs or leads tailored to your specs.

Write today for detailed specifications and samples, giving us complete information on your application to:

**ALDEN PRODUCTS COMPANY** 112 NORTH MAIN ST. BROCKTON, MASS.



# NATVAR CORPORATION

FORMERLY THE NATIONAL VARNISHED PRODUCTS CORPORATION

TELEPHONE  
FULTON 8-8800

CABLE ADDRESS  
NATVAR: RAHWAY, N. J.

201 RANDOLPH AVENUE • WOODBRIDGE, NEW JERSEY



## NATVAR FLEXIBLE ELECTRICAL INSULATING MATERIALS

### VARNISHED FABRICS AND PAPERS

**VARNISHED CAMBRIC**—Straight cut for application to regular smooth surfaces; bias for irregular surfaces. Supplied in all standard sizes and thicknesses, in yellow or black and in greasy, mica-dusted, or dry finishes. Yellow has higher resistance to mineral oils and is therefore used extensively in oil immersed apparatus; black has better electrical qualities and is therefore recommended for applications where dielectric strength, power factor and preservation of these qualities even under humid conditions is important. Natvar varnished cambric is manufactured to conform to the latest revisions of NEMA Standards and A.S.T.M. Specifications. Full width rolls, 25 yd and 50 yd.; sheets, 36" x 36" and 24" x 36", standard; other lengths and sizes on special order.

**VARNISHED CAMBRIC TAPE**—Straight cut or seamless bias, in all standard widths and thicknesses, yellow or black, greasy, mica-dusted or dry. Characteristics same as for varnished cambric. Accurately slit for use in taping heads. Standard lengths 36 yd. and 72 yd. rolls.

**VARNISHED CANVAS AND DUCK**—Recommended for applications where electrical insulation is subject to severe mechanical strain and abuse. Widely used as phase insulation in rotating machines. These high strength fabrics are coated with the same high grade varnishes as Natvar varnished cambric. Full width rolls, 25 yd. and 50 yd.; sheets 36" x 36" and 24" x 36", standard; other lengths and sizes on special order.

**VARNISHED SILK**—Thin, high dielectric strength insulation with great flexibility and mechanical strength. Particularly applicable to relays, magnets and other components used in airborne equipment, where space and weight are important considerations. Available in yellow only; finish, dry. Full width rolls, 25 yd. and 50 yd.; tapes, 25 yd. and 50 yd.; bias cut strips approximately 51 in.; standard; other lengths on special order.

**VARNISHED RAYON**—Developed as an alternate for varnished silk, and used in substantially the same applications. High tensile and dielectric strength with exceptional smoothness. Available in yellow only; finish, dry. Full width rolls, 25 yd. and 50 yd.; tapes, 25 yd. and 50 yd.; bias cut strips approximately 51 in. standard; other lengths on special order.

**VARNISHED FIBERGLAS**—Class B insulation (130°C) used primarily to insulate equipment which operates at temperatures above the normal safe working range of varnished cambric. Permits higher current densities with consequent reduction in size and weight. Has great mechanical strength and excellent dielectric properties. Available in standard weave or open-weave; yellow or black; in all standard commercial sizes and thicknesses; standard finish, dry; mica-dusted on specification. Full width rolls, 25 yd. and 50 yd.; sheets, 36" x 36" and 24" x 36"; tapes, 36 yd. and 72 yd.; standard; other lengths and sizes on special order.

**ISOGLAS**—For higher continuous operating temperatures (150°C). Consists of glass fabric coated with newly developed isocyanate type resin. Has outstanding resistance to heat, to crazing and cracking, and to solvents including the askarels. It is tough and has excellent abrasion resistance, wet dielectric strength, low temperature flexibility and fungistatic qualities. Full width rolls (approx. 36"), 25 yd. and 50 yd.; standard; slit tapes also available.

**SILICONE VARNISHED AND SILICONE RUBBER COATED FIBERGLAS**—Class H insulation (180°C) used wherever reduction of size and weight are vitally important. Retains its excellent mechanical and dielectric properties at higher temperatures. Full width rolls, 25 yd. and 50 yd.; tapes, 36 yd. and 72 yd., standard; other lengths on special order.

**VARNISHED PAPERS**—Chemically inert rope and kraft stocks selected for uniform thickness, tensile and dielectric strength and coated with highest grade electrical varnish. Yellow varnished condenser type tissues, single or multiple ply; yellow or black varnished heavy papers, single ply. Full width rolls, single ply, 25 yd. and 50 yd.; multiple ply, 25 yd.; sheets, 36" x 36" and 24" x 36"; tapes, 36 yd. and 72 yd., standard; other sizes and lengths on special order.

**COMBINATION INSULATIONS**—Slot cell insulation is a combination of 100% rag paper stock firmly cemented to a layer of varnished cambric, either straight or bias cut. The high dielectric strength and moisture resistance of Natvar varnished cambric with the toughness and abrasion resistance of rag paper make a slot insulator which will withstand pounding and chafing without impairment of its electrical properties. Available in black and yellow; full width rolls, 25 yd. and 50 yd.; sheets, 36" x 36" and 24" x 36", standard; other lengths and sizes on special order.

Aboglas® insulation is a new class B insulation (130°C) consisting of a layer of varnish saturated asbestos paper sandwiched and securely bonded between two layers of varnished open-weave Fiberglas. It is less expensive than mica combinations and does not flake. Excellent resistance to breakdown even under extreme heat, moisture, abrasive dust, oil and grease. Standard sheets approximately 36" x 36"; other sizes on special order.

Other duplex and triplex composite insulations such as silicone coated Fiberglas, Quinorgo, Mylar, etc. are also available.

### FLEXIBLE TUBING AND SLEEVING

**VINYL COATED OR VARNISHED**—Electrical grade rayon (Class A) or Fiberglas (Class B) braid coated with high grade electrical varnish or specially formulated vinyl base plastic compound. Standard lengths, 36"; vinyl coated also available, #24 to #15 in 500' coils; #14 to 4 in 100' coils. Pieces 3/8" or longer cut to specification.

**ISOGLAS®**—Tubular glass braid coated with newly developed isocyanate type resin (150°C). Same properties as Isoglas fabric. Standard lengths, 36".

### EXTRUDED PLASTIC TUBING AND TAPE

**NATVAR 400 VINYL TUBING AND TAPE**—Natvar 400, for applications requiring high resistance to both heat and oil, is approved by Underwriters' Laboratories for continuous operating temperatures of 105°C. It remains flexible under continuous operation immersed in hot oil. It is a well balanced plastic that is tough, elastic, flexible, resistant to abrasion and tear, inert and resistant to ozone, oils, waxes, alkalis, acids and most solvents. Available in transparent, black, opaque white, yellow, red, green, blue, brown, and gray. Tubing is stocked #24 to #15 in 500 ft. spools; #14 to 1/2" in 100 ft. coils; 3/16" to 1/4" in 50 ft. coils; 1/2" and larger in 25 ft. coils; cut pieces 3/8" or longer on specification. Tapes, standard length, 36 yd.; standard color, black.

**NATVAR 200 VINYL TUBING**—Natvar 200 is a general purpose tubing with excellent flexibility through a temperature range of -40°C to +85°C. Will not support combustion. Shows no disintegration or flaking when immersed in oil. In general has the same inherent characteristics as Natvar 400, but slightly higher tensile strength, averaging 3600 p.s.i. Stocked in same lengths and colors as Natvar 400. Cut pieces 3/8" or longer furnished on specification.

**NATVAR STYROFLEX® FILM**—Specially processed flexible polystyrene film developed for insulation of UHF coaxial cables and capacitors. Excellent mechanical and electrical properties. Available in thicknesses .0004" and thicker in precision cut tapes up to approximately 10" width.

### EXTRUDED PRINTED MARKERS

Printed with indelible vinyl ink on Natvar extruded tubing cut to specified lengths. All combinations of letters, numbers, and symbols available for identification of circuits, terminals, airplane electrical systems, etc. Wide color range for coding.

### SPECIAL PRODUCTS

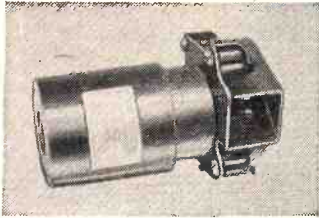
In addition to Natvar standard products, there are many Natvar products developed for a special application. These materials, now in limited production, are available on special order.

Where specifications call for materials with special mechanical or electrical characteristics, check with our representative in your area, or directly with us. If the materials you are looking for are not already in production, our engineers will be glad to work with your engineers to provide a practical answer.

# Performance through Precision

## fans • motors • blowers

# Adaptability through Variety



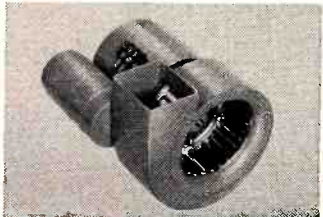
**C 2364-1**  
Voltage 115 V  
Frequency 400 cps  
Phase Single  
Air Delivery 12 CFM @ 0" S.P.



**C 15G-1**  
Voltage 115 V  
Frequency 400 cps  
Phase Single  
Output 50" oz. at 21 RPM



**A 15BD-11**  
Voltage 115 V  
Frequency 60 cps  
Phase Single  
Air Delivery 70 CFM @ 0" S.P.



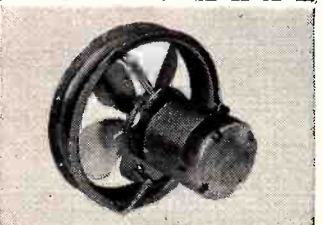
**B 1324-1**  
Voltage 115 V  
Frequency 60 cps  
Phase Single  
Air Delivery 125 CFM @ 0" S.P.



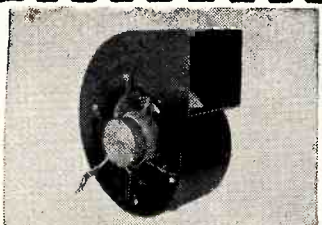
**M 06C-1**  
Voltage 115 V  
Frequency 400 cps  
Phase Single  
Speed 11,000 RPM



**B 10CF-3**  
Voltage 208 V  
Frequency 400 cps  
Phase Three  
Speed 5600 RPM



**B 1221-7**  
Voltage 115 V  
Frequency 60 cps  
Phase Single  
Speed 3400 RPM  
Air Delivery 495 CFM at 0" S.P.  
305 CFM at .4" S.P.



**F 1343-1**  
Voltage 208 V  
Frequency 60 cps  
Phase Three  
Air Delivery 720 CFM at 0" S.P.



**C-2241-2**  
Voltage 115 V  
Frequency 400 cps  
Phase Single  
Air Delivery 140 CFM @ 0" S.P. NAFM  
48 CFM @ .6" S.P. NAFM

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- Virtually foolproof to use

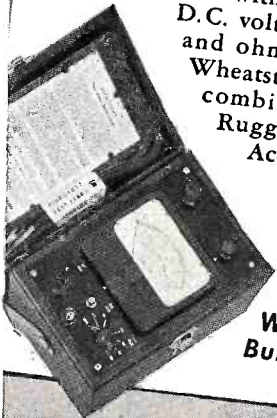


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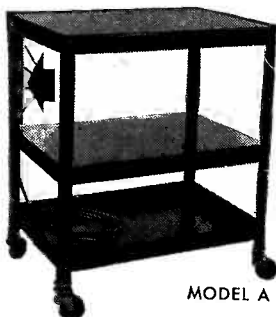
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- Pan for Test Leads, Notebooks, etc.

Price **\$49.50**

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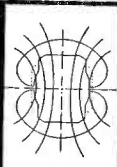
**YOKE**

**SPECIALISTS**

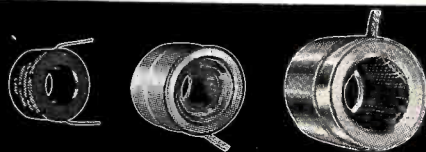
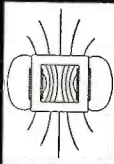
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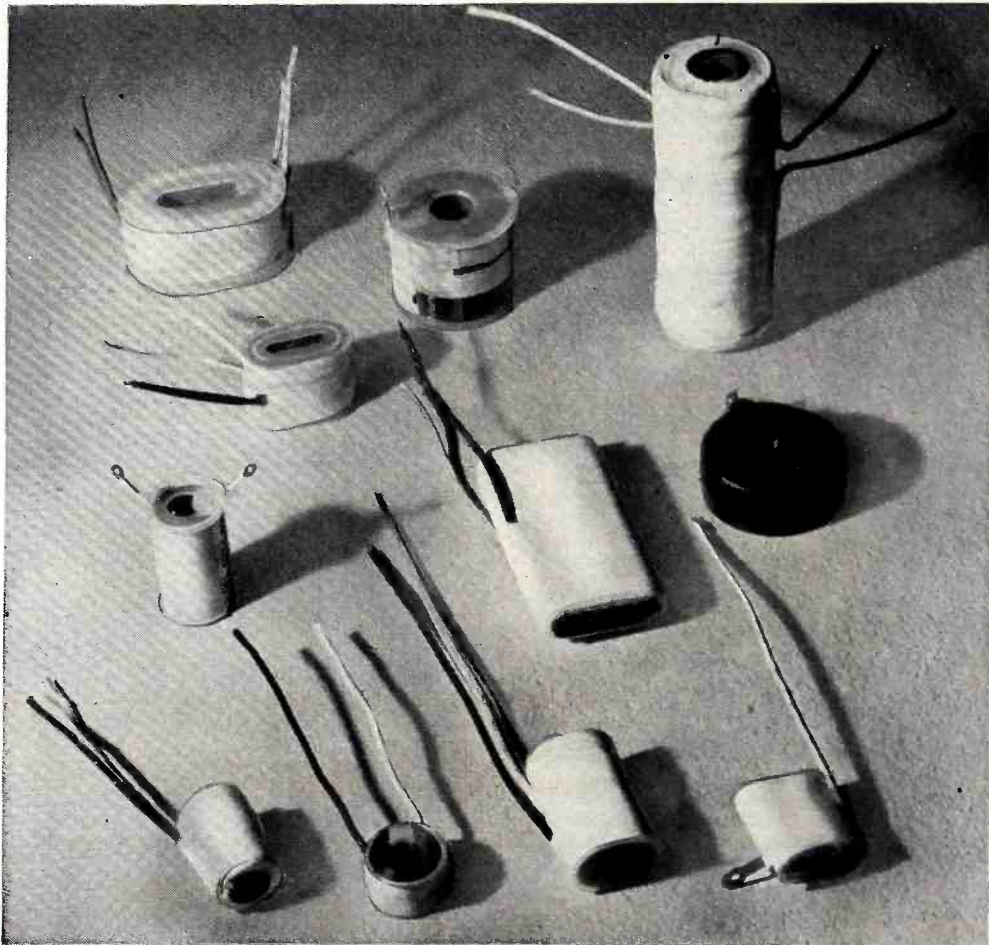
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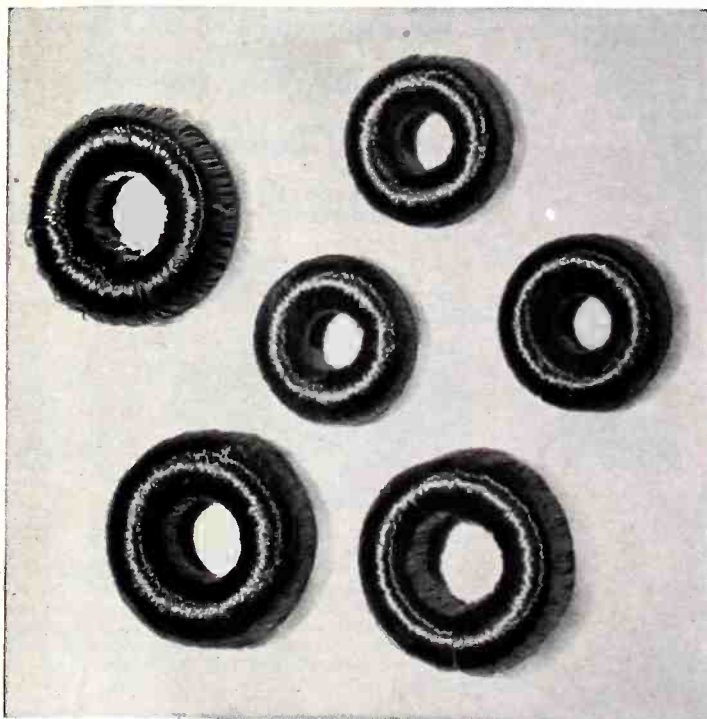
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Random bobbin, thread interweave and toroidal coils . . . impregnated, potted, encapsulated . . . for solenoids, relays, computers, clocks, timers, filters . . . to the most rigid commercial and military, electrical and mechanical requirements.

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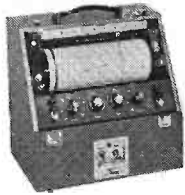


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Phone 9-1051

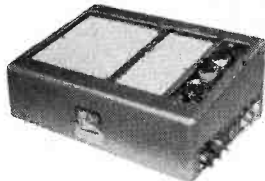
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A pioneer in its field, the Moseley AUTOGRAF X-Y Recorder is being adapted to an ever increasing number of graphic recording and data translating problems. Carefully manufactured to precision standards, the AUTOGRAF is available in five models to fit your particular requirement.

In addition to curve drawing, a full complement of accessories facilitate use of the AUTOGRAF in point plotting, curve following, card and tape reading, and gain-frequency plotting.



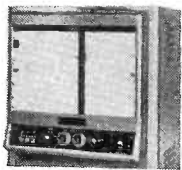
Model 1 portable type



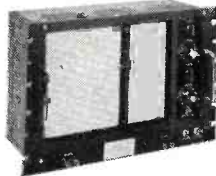
Model 2A flat-bed



Model 3 desk type



Model 4 rack type



Model 5 rack type

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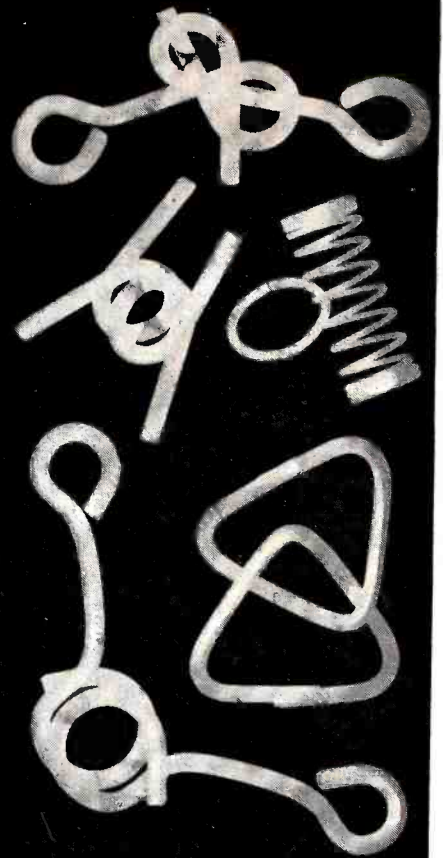
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plot your GAIN-FREQUENCY curves  
 AUTOMATICALLY with the  
 Moseley **AUTOGRAF** X-Y recorder &  
 Model 60 **LOGARITHMIC CONVERTER**






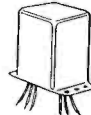
In conjunction with the Moseley AUTOGRAF X-Y Recorder and a motor-driven oscillator, the Model 60 LOGARITHMIC CONVERTER plots gain-frequency curves as rapidly and as often as desired, expediting the design and test of amplifiers, filters, transformers, and numerous other devices formerly requiring time consuming hand-plotting methods. AC or DC models; 20-20,000 cps; 60 db dynamic range.

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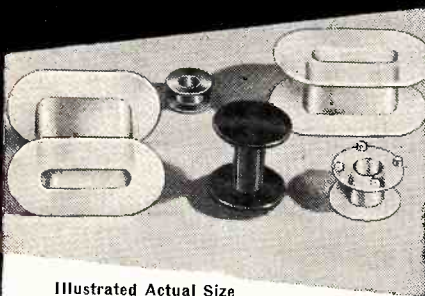
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weight: .03 oz.  
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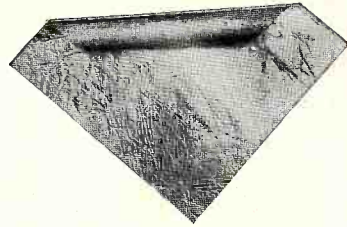
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# microwave absorbers by

# McMillan

McMillan Industrial Corporation makes various materials for the absorption of microwave energy, for indoor or outdoor use and for ground or airborne applications. Listed below are the three most popular absorbers, their typical applications, specifications and characteristics.



**TYPE "T"**  
THIN — FLEXIBLE

Especially adaptable for airborne applications, the type "T" is an extremely versatile absorber where space and weight limitations are essential. Easily formed, it is impervious to effects of moisture, hydraulic fluids, gasoline etc., when edge sealed.

### SPECIFICATIONS

Frequencies: 2500 to 35,000 MC.  
Bandwidth: ± 3%  
Power Reflection Coefficient:  
Perpendicular Polarization 1%  
Parallel Polarization 2%  
Perpendicular & Parallel Polarization 2%  
Power Dissipation: 2 watts/sq. in.  
Temperature Range: -62°F to 172°F  
Thickness & Weight: at 9375 MC., 3/16" thick, 4.7 oz./sq. ft.  
at 5400 MC., 1/4" thick, 5.7 oz./sq. ft.  
Standard Sheet Size: 18" x 36"



**TYPE "BL" & "BH"**  
PERMANENT — LIGHTWEIGHT

Two stable absorbers whose high performance and long life is not affected by moisture, humidity and dust. Type "BL" is fine for walls, ceilings and test panels. Type "BH" is excellent for test room floors and outdoor installations, as its high absorption characteristics are unchanged when it is walked on.

### SPECIFICATIONS

Frequency range: 1000 to 35,000 MC.  
Power reflection coefficient: 0.4% at 24,000 MC.  
(perpendicular and/or parallel polarization) 1.0% at 9,400 MC.  
2.0% at 5,400 MC.  
Power dissipation: 2 watts/sq. in.  
Temperature range: (type "BL") -62°F to 155°F  
(type "BH") -62°F to 175°F  
Standard block size: 2" or 4" thick, 4' long, 1' wide  
Weight: (type "BL") .5 lbs./sq. ft.  
(type "BH") .7 lbs./sq. ft.



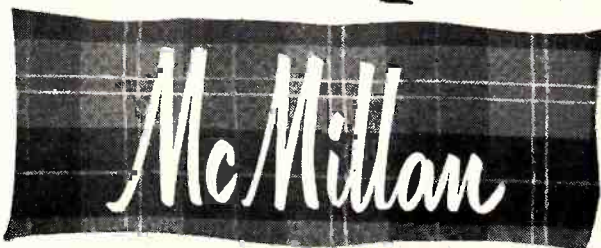
**TYPE "BL-48"**  
BROADBAND — PERMANENT

Recommended for use in the low frequency range where permanent attenuation characteristics are required, for both indoor and outdoor applications.

### SPECIFICATIONS

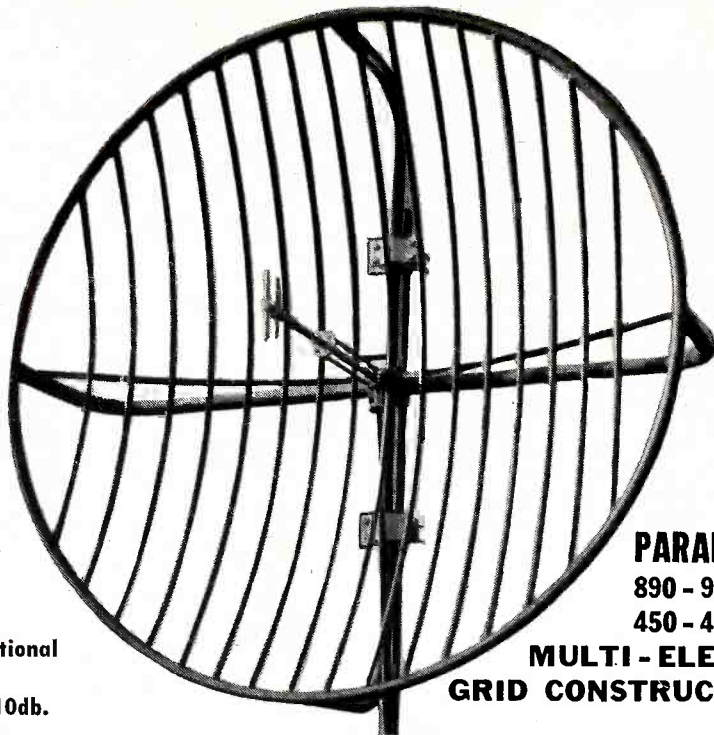
Frequency range: 40 to 35,000 MC.  
Power reflection coefficient: 2 1/2%  
Power Dissipation: 2 watts/sq. in.  
(perpendicular and/or parallel polarization)  
Size: Base — 1' x 2'  
Height — 48"  
Weight: 5 lbs./sq. ft.  
Temperature range: -62°F to 155°F

Also available — Type "H" Hair Mat Absorbers in thicknesses from 1" to 8" for frequencies from 500 to 35,000 MC



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When ordering or seeking information  
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also  
150 &  
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Omnidirectional  
Arrays—  
gains to 10db.

**PARABOLAS**  
890 - 960 MC  
450 - 470 MC  
**MULTI-ELEMENT  
GRID CONSTRUCTION\***

*light weight, low windage, rugged HELIARC welded aluminum  
open construction permits lighter, lower cost towers  
Parabolas up to 15' diameter  
retain electrical properties of solid spun dish up to 1000 MC*

\* patent applied for

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**WIDE BAND SWEEP GENERATOR...**

**JERROLD MODEL 900 \$114500**  
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- OUTPUT AGC CONTROLLED
- COMPLETE VOLTAGE REGULATION
- INTERNAL DETECTOR
- INTERNAL OSCILLOSCOPE PREAMPLIFIER
- INTERNAL MARKER AMPLIFIER

**SWEEP WIDTHS—AS WIDE AS 300 MC.  
RANGE FROM—200 KC TO 1,000 MC.**

**SPECIFICATIONS**

**VHF SWEEP RANGE**

Center frequency continuously variable from 0.2 MC to 250 MC. Sweep Width continuously variable from a minimum of 0.1 MC, at any center frequency setting, to a maximum of 250 MC at a center frequency setting of 125 MC.

**UHF SWEEP RANGE**

Center frequency continuously variable from 275 MC to 900 MC. Sweep Width continuously variable from a minimum of 0.1 MC, at any center frequency setting, to a maximum of 100 MC at a center frequency of 275 MC, and to a maximum of 300 MC at a center frequency of 850 MC.

For complete information on the Model 900 and other special test equipment, write to →

**SOURCE IMPEDANCE**

50 ohms—VSWR less than 1.2.

**OUTPUT VOLTAGE**

0.3 volts RMS.

**MAX. OUTPUT VOLTAGE VARIATION AT MAX. SWEEP**

VHF Range—±0.5 db.  
UHF Range—±3.0 db.

**FREQUENCY MODULATION**

60 cycle sinusoidal

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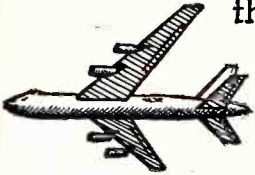
**GUIDE**



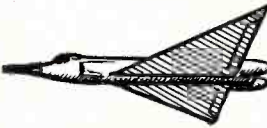
A McGRAW-HILL PUBLICATION  
330 WEST 42nd ST., N. Y. 36, N. Y.

# Want to save weight?

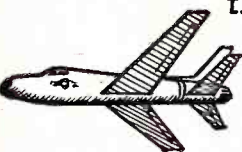
**FINN** lightweight mounting bases could save 7¾ lbs. on the **B-52**



**FINN** lightweight mounting bases could save 5½ lbs. on the **F-102**



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What about your project? Finn engineers will be glad to show you how you can eliminate extra weight yet pass all JAN and MIL specs. Write today for evaluation.

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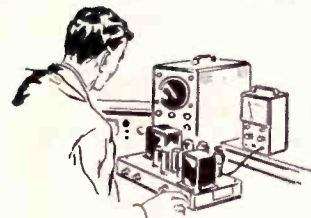
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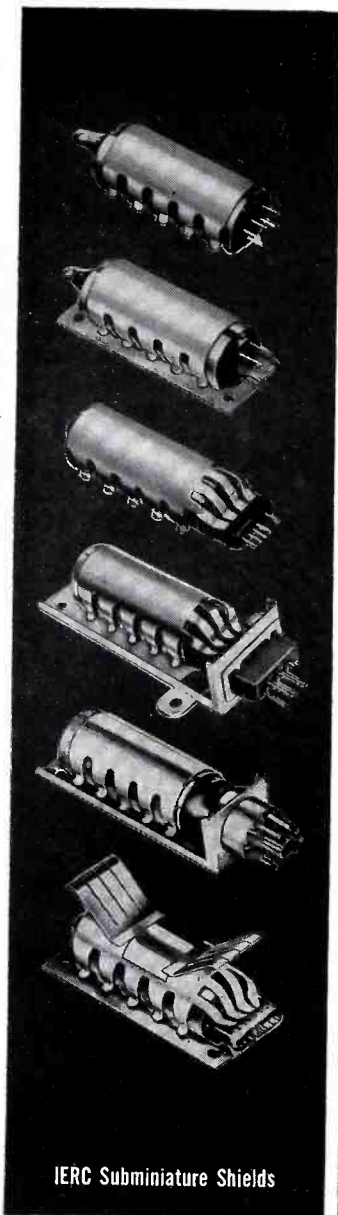
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Address \_\_\_\_\_

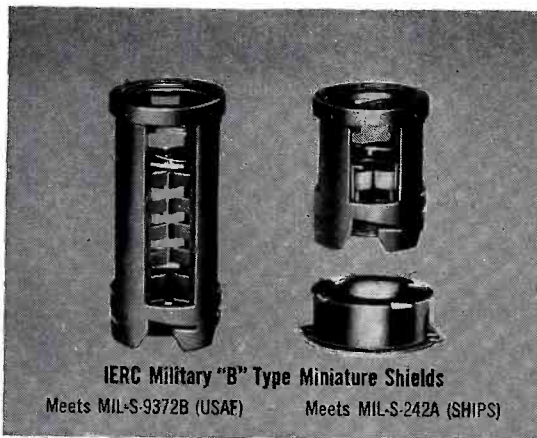
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IERC Subminiature Shields



IERC Military "B" Type Miniature Shields  
Meets MIL-S-9372B (USAF) Meets MIL-S-242A (SHIPS)



IERC Miniature Hardmount Shields

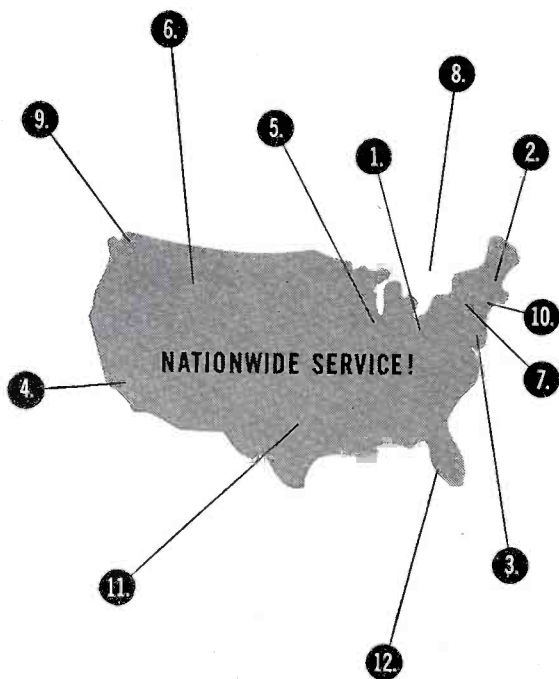
## IERC Heat-Dissipating Electron Tube Shields give maximum cooling, retention, shock protection and longest tube life!



IERC "TR" Shields Meets MIL-S-19786A (NAVY)



IERC Octal / Power Shields



**NATIONWIDE SERVICE!**

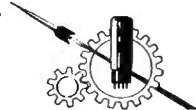
### CHOOSE IERC—THE ONLY COMPLETE LINE OF HEAT-DISSIPATING ELECTRON TUBE SHIELDS FOR MINIATURE, SUBMINIATURE, OCTAL & POWER SIZE TUBES!

For fast service by a highly trained Engineer-representative to solve your electron tube failure and reliability problems, call the nearest Sales Office in your area as listed below.

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Branches: San Diego, Redwood City, Calif., Tucson, Ariz.
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10. **THE B. B. TAYLOR CORPORATION**—241 Sunrise Hwy., Rockville Centre, N. Y.—  
Rockville Centre 4-6000
11. **THOMSON ENG. SERVICE**—2712 W. Mockingbird Lane, Dallas 35, Tex.—EDison 6-5340
12. **ARTHUR H. LYNCH & ASSOC.**—35 W. North Shore Ave., Fort Myers, Fla.—EDison 2-1109

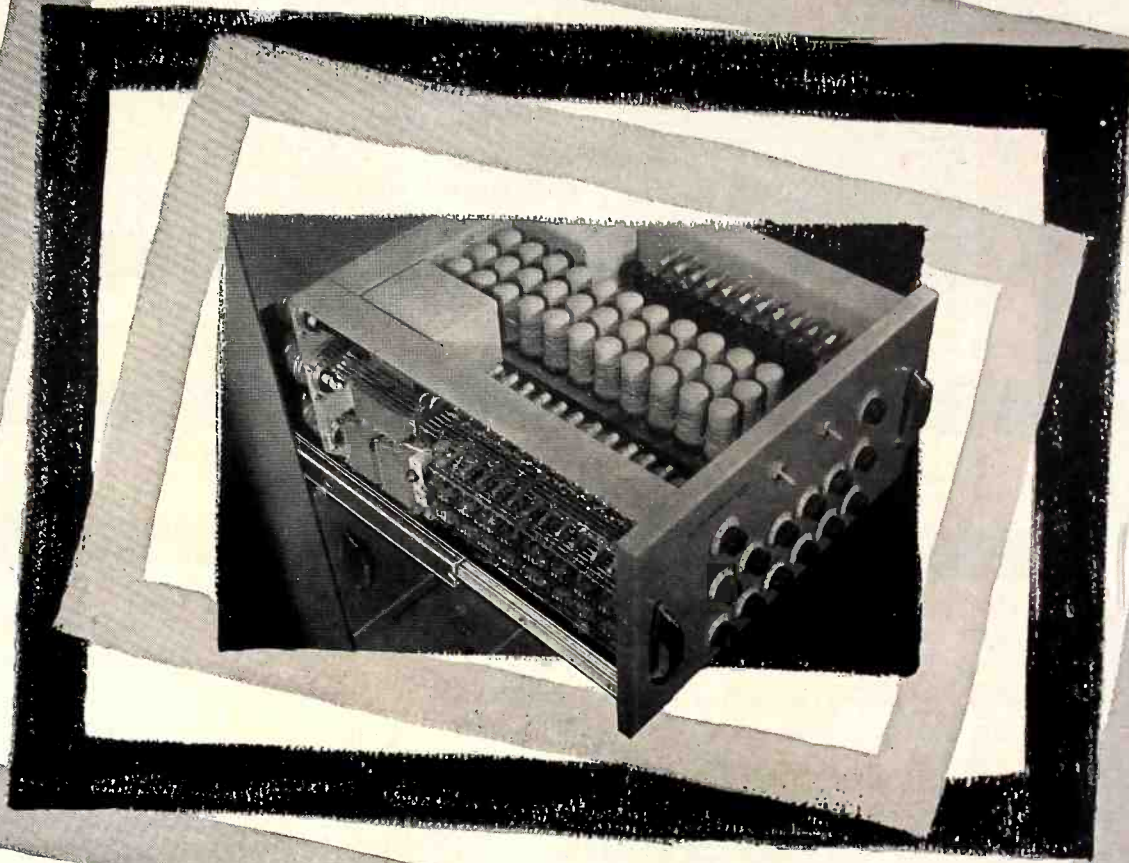
PATENTED OR PATS PEND. CROSS-LICENSED WITH NORTH AMERICAN AVIATION, INC.

# International



**electronic research corporation**  
145 West Magnolia Boulevard, Burbank, California

European Sales: Bo Palmblad Aktiebolag, Torkel Knutssonsgatan 29, Stockholm, Sweden • Inter-Technique, 81 rue Escudier, Boulogne (Seine) France.



photograph courtesy Consolidated Electrodynamics Corp.

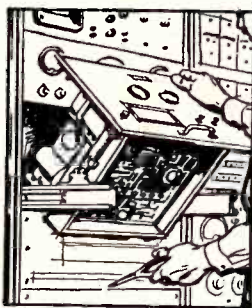
you "build-in" Accessibility with

## GRANT INDUSTRIAL SLIDES

**IF** it's important to keep your electronic equipment functioning with as brief interruptions as possible...**IF** even minor testing and replacement takes undue time because of the nuisance of getting at the equipment mechanically...**IF** certain components *must* be accessible for on-the-spot servicing in seconds... **THEN** you should investigate Grant Industrial Slides.

Grant Industrial Slides provide *built-in* accessibility, without effort or costly loss of operating time. Unlimited varieties of standard and custom types are available and Grant offers complete engineering services including at-

your-plant discussions regarding the development of slides that fit your requirements perfectly.



*Five seconds to put chassis in testing position. Slides smoothly out of rack, locks. Pivoting mechanism brings under-chassis parts to easiest working angle. Functioning of unit need not be interrupted!*

Write for Grant Industrial Slide technical data. Free copy will be mailed on request.

**Grant** INDUSTRIAL SLIDES

Grant Pulley & Hardware Corporation, High Street, West Nyack, N. Y., Long Beach Avenue, Los Angeles 21, Calif.



# Frequency Standards

ASBURY PARK, NEW JERSEY  
TELEPHONE PROSPECT 4-0500

## CAVITIES, PRESELECTORS, DIRECT READING FREQUENCY METERS

	Model	Type	Freq. Range (MC)	Features
<b>L BAND</b>	912	Freq. Meter	900-1200	0.01%, portable
	1217	Freq. Meter	1200-1700	0.01%, portable
<b>S BAND</b>	1628	Freq. Meter	1600-2800	0.02%, portable
	2335	Freq. Meter	2300-3500	0.02%, portable
<b>C BAND</b>	3545	Freq. Meter	3500-4500	0.01%, four models
	4458	Freq. Meter	4400-5850	0.01%, four models
	5882	Freq. Meter	5800-8200	0.01%, four models
	7182	Freq. Meter	7100-8200	0.01%, Type N input
	5459-1DRX	Freq. Meter	5400-5900	0.01%, Direct Reading, Xtal
	5865-1DR	Freq. Meter	5850-6500	0.01%, Direct Reading
	5865-1DRX	Freq. Meter	5850-6500	0.01%, Direct Reading, Xtal
<b>X BAND</b>	8397	Freq. Meter	8300-9700	0.01%, waveguide mount
	7010	Freq. Meter	7000-10000	0.02%, Feedback control
	8211	Freq. Meter	8200-11500	0.02%, Feedback control
	9096-1DR	Freq. Meter	9000-9500	0.01%, Direct Reading
	1011-1DR	Freq. Meter	10650-11750	0.01%, Direct Reading
<b>Ku BAND</b>	12150	Freq. Meter	12400-15000	0.02%, waveguide mount
	15180	Freq. Meter	15000-18000	0.02%, waveguide mount

Many of the frequency meters listed above are available in both waveguide insertion and portable cased types. When supplied as a portable instrument, the meter is mounted in a handsome, waterproof, ruggedized metal carrying case. An external-internal switch allows the crystal output to be applied either to the internal microammeter, or to pin jacks for external metering or oscilloscope display.

The mechanical design of the meter is centered around the precision micrometer screw and nut famous in the Frequency Standards micrometer head. On the direct-reading meters, this screw and a precision external thread work together to provide a scale directly calibrated in frequency.

### PRESELECTORS AND FILTERS

Frequency Standards, Inc. can supply a line of fixed and gang-tuned preselectors (standard or engineered) in the range from L through X band. These low-loss, narrow bandwidth, sub-miniature devices have found application in beacons, radar, missiles, commercial instruments, and airborne devices. Inquiries are invited on your specific application.

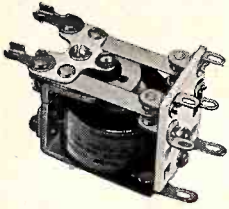
FREQUENCY STANDARDS, INC., P. O. BOX 504, ASBURY PARK, N. J.  
PRespect 4-0500



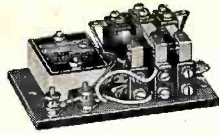
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- UP-TO-DATE . . . backed by Elgin's extensive research and development facilities.

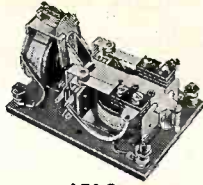
CHECK THESE SPECIFICATIONS ON THE TYPICAL ADVANCE RELAYS SHOWN AT LEFT — SEE WHY YOU'RE AHEAD WHEN YOU SPECIFY ADVANCE



AM2C



DM2C



LE2C



GH2C



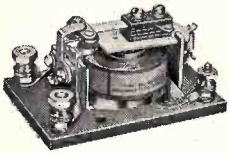
MK2C



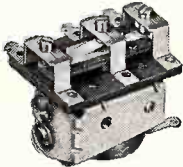
NM1C



PC2C



PV1A



SO1C



CB1C



SV1C

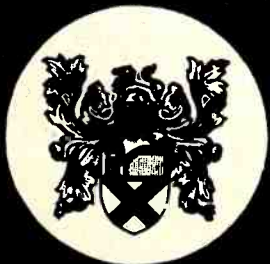


TQ4C

TYPE	USE	CONTACTS		COILS	DIMENSIONS		
AM	Antenna	2 Amps	DPDT	1 to 220 VAC 1 to 150 VDC	1 $\frac{1}{16}$ "	1 $\frac{5}{16}$ "	1 $\frac{15}{16}$ "
DM	Time Delay	15 Amps	DPDT	6-12-24-110-220 A.C. 6-12-24-48- 110-220 D.C.	1 $\frac{7}{8}$ "	2 $\frac{5}{8}$ "	3 $\frac{3}{4}$ "
LE	Latching	15 Amps	DPDT	Adjustable 250 MA to 500 MA	2 $\frac{3}{8}$ "	2 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "
GH	General Purpose	5 Amps	3PDT	6 to 220 VAC 6 to 120 VDC	2 $\frac{1}{8}$ "	1 $\frac{3}{8}$ "	1 $\frac{3}{8}$ "
MK	Miniature	.5 Amps	DPDT	.8 to 140 VDC	1 $\frac{3}{32}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "
NM	Neomite	.25 Amps	SPDT	3 to 30 VDC	.530"	.195"	3 $\frac{3}{32}$ "
PC	Power Control	15 Amps	DPDT	1 to 440 VAC 1 to 220 VDC	1 $\frac{1}{16}$ "	1 $\frac{5}{8}$ "	2 $\frac{5}{8}$ "
PV	Power Transfer	30 Amps	SPST	1 to 440 VAC 1 to 220 VDC	1 $\frac{7}{8}$ "	2 $\frac{1}{4}$ "	3 $\frac{1}{4}$ "
SO	Sensitive	1.5 Amps	SPDT	4000 OHMS 6500 OHMS 10,000 OHMS	1 $\frac{7}{32}$ "	1 $\frac{1}{8}$ "	1 $\frac{1}{4}$ "
CB	Coaxial	.75 KW	SPDT DPDT	440 AC 230 DC	1 $\frac{7}{8}$ "	3 $\frac{1}{16}$ "	3 $\frac{3}{8}$ "
SV	Sensitive	2 Amps	SPDT	1 to 40,000 OHMS	1 $\frac{1}{2}$ "	2"	2 $\frac{1}{16}$ "
TQ	Telephone	5 Amps	6PDT	1 to 220 VDC	1 $\frac{1}{32}$ "	1 $\frac{1}{16}$ "	1 $\frac{1}{16}$ "

AVAILABLE FROM STOCK  
THROUGH LEADING DISTRIBUTORS

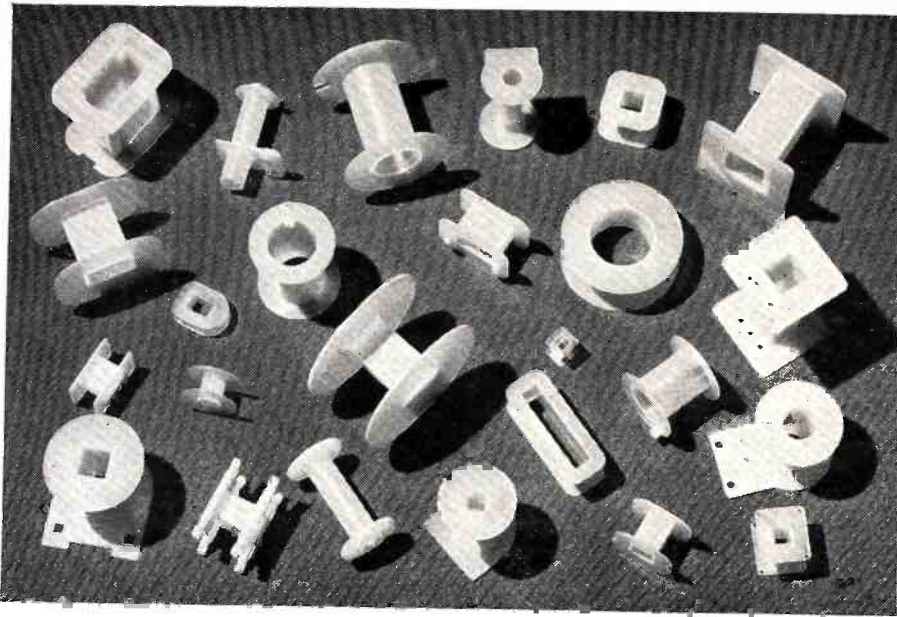
Write for  
Complete Catalog



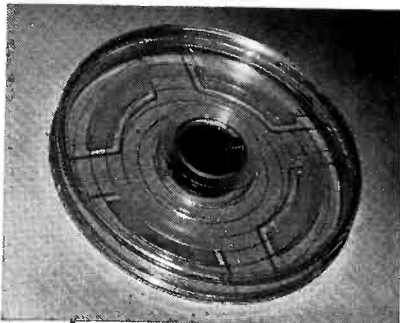
**ELECTRONICS DIVISION**  
**ELGIN NATIONAL WATCH COMPANY**

FOR RELAYS: 2435 North Naomi Street, Burbank, California

# STOCK MOLDED NYLON COIL FORMS AND BOBBINS

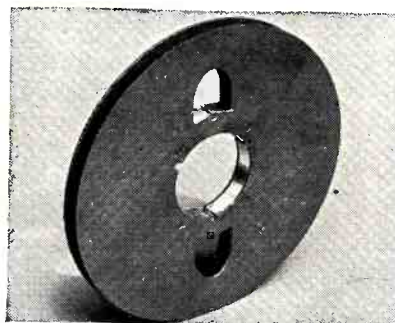


- FOR  
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**MOTORS • HEAD SETS • CUP CORES • C CORES**
- No tool cost for stock parts
  - Special parts to your specification



**STOCK CONTAINERS  
 FOR 10½" DIA  
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 TAPE REELS**

- Dust proof—completely rubber gasketed
- Reel held rigid at center
- No pressure on flanges
- Clear material for quick identification of contents



**STOCK 10½" FIBERGLAS  
 REEL FLANGES AND  
 ALUMINUM HUBS FOR  
 INSTRUMENTATION TAPE**

- Precision machined hubs to insure maximum concentricity
- Fiberglass flanges to resist bending
- No sharp edges on inside of flanges
- Spring lock to allow unbroken hub
- Rigid assembly by means of four screws

**AMERICAN MOLDED PRODUCTS CO.**  
**2739 W. CHICAGO AVE., CHICAGO 22, ILL.**

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**STANDARD TYPES** Our catalog shows our complete line of standard products. The variety is so extensive that most requirements for radio, television, or other electronic purposes are adequately met.

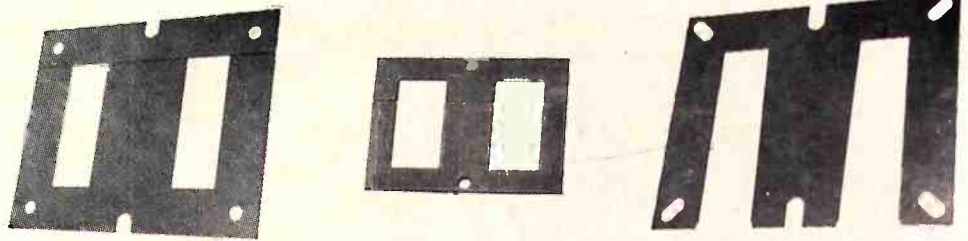
**SPECIAL TYPES** Our design engineers will gladly cooperate with you in the development of special parts. We are geared to produce such parts in accordance with your specifications. Kobzy high quality is assured in every case.

*Immediate delivery  
from stock*

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**KOBZY  
CATALOG**

*Keep it handy  
for reference*



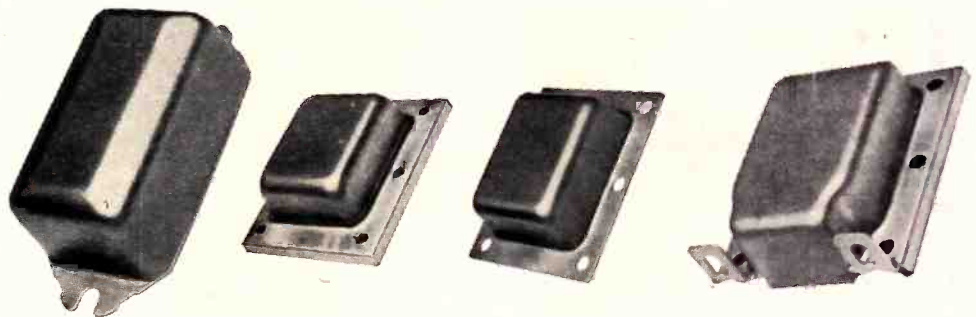
## GET EVERY IMPORTANT VALUE

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When you put your requirements up to Kobzy, you make sure that the quality is exactly right for each application. The highest standards are maintained throughout our production. Our facilities are complete and modern. All this insures full quality control.

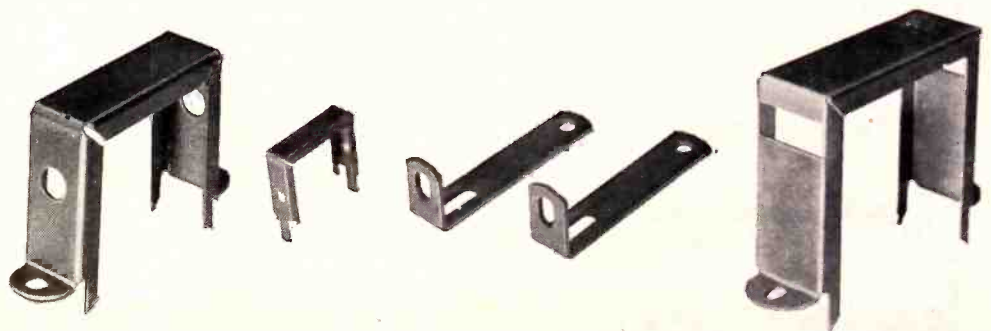
### ■ DESIGN

Our engineers and designers have worked closely with both the radio and electronic industries over a long period of years. Ideas suggested by these various sources have been a factor in the development of the Kobzy line. This practice is continued as these industries grow and their requirements increase.



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When you order a few or many of any one Kobzy product, you can be sure that the entire order is uniform. This is also true on repeat orders. You take no chances. Strict inspection is maintained all along the production line.

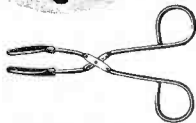


# KOBZY TOOL COMPANY

1539 Dayton Street

Chicago 22, Illinois

*Looking  
for*



**TUBE EXTRACTOR**  
No. 1001

Zinc plated spring steel. Molded soft neoprene cushion over the two claws permits quick manipulation.



**SPLIT BANANA PLUGS**  
No. 883

Fits all standard banana jacks. Set screw provided at side of tenite barrel to fasten wire without soldering. Red and black.



**NEW MULTI-WAY  
BINDING POST No. 640**

Made of durable tenite with nickel plated brass parts. Permits SIX different methods of connecting above panel and three below panel.

**COMPONENTS**



**PENCIL TYPE TEST  
LEADS No. 373**

Has finger-grip molded tips. Made of tenite, with 48" rubber kinkless wire. Handles are 5" long.



**ALL-PURPOSE TEST  
LEAD KIT No. 312**

Has interchangeable tips. Sturdy tenite. Overall length 6". 48" kinkless live rubber leads.



**TELEPHONE TYPE PLUGS**  
No. 24

2 conductor phone plug, with sure-grip ribbed barrel. Hardware is brass, nickel-plated. Accepts two pairs of cord tips.



**INSULATED TIP JACKS**  
No. 889

One-piece tinned phosphor bronze spring contact loop. Insulated top. For standard phone tips.



**INSULATED BINDING  
POSTS WITH JACK**  
No. 623

For banana type plugs. Knurled grip, non-removable head. Hole in stem for wire or phone tip connection.



**PLUG TEST PRODS**  
No. 390

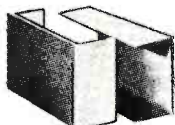
With solderless plug chuck. Slim tapped tenite handles. Brass parts are nickel-plated.

**OR METAL GOODS**



**COMPOSITE SPEAKER  
CABINET No. 3988**

Houses either a 4" or 5" speaker. Gray ripple finish, 20 gauge steel with embossed grille.



**"FLEXI-MOUNT"  
ALUMINUM CASES**

2 pc. case with maximum accessibility. Has wide application. .050 aluminum in gray hammertone (Series No. 29435) or natural (Series No. 29335).



**"CHANNEL-LOCK"  
ALUMINUM BOXES**

2 pc. box. Easily accessible and assembled. .050 aluminum in black wrinkle (Series No. 29300) gray hammertone (Series No. 29400) and natural (Series No. 29200).



**DELUXE SLOPING PANEL  
CABINETS No. 3990**

Deluxe all-purpose 20 gauge steel cabinets. Front panel already mounted. Upper corners are rounded and topped with chrome trim.



**DELUXE TRANSMITTER  
RACKS No. 3865-7**

16 gauge steel relay rack for wide range of mounting applications. Panel spaces are 36 $\frac{3}{4}$ " x 19", 61 $\frac{1}{4}$ " x 19", 77" x 19". Ultramarine finish.

*Ask the man from*  
**insuline**  
CORPORATION OF AMERICA

186 Granite St., Manchester, N. H. (Van Norman Industries, Inc.)



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A McGraw-Hill Publication

# GAMEWELL *Blue Line* PRECISION POTENTIOMETERS

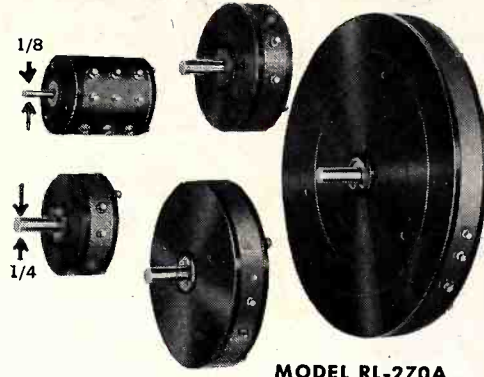
ALL ILLUSTRATIONS SHOWN APPROXIMATE 1/2 SIZE, EXCEPT RVG MINIATURE.

## The RL-270A and B Series

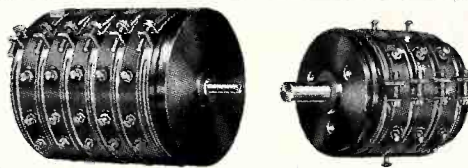
Operates to 150C at 65° ambient • Only 3/8" per section • Taps limited only by physical spacing • High unit pressure spring connections • High "G" and vibration characteristics • RL-270B style recommended if more than two sections required.

	5	3	2	1 1/2	1 1/4
Diameter (inches)	5	3	2	1 1/2	1 1/4
Rating (watts)	12	6	3	2	1.5
Torque, Max. (oz.-in.)	1	1	1	1/2	1/2
Weight (ounces)	15	6	3	2	1
Mounting: 3 holes (1/8" deep)	#8-32	#8-32	#8-32	#6-32	#4-40
Mounting-circle Diam. "B" (inches)	3.250	1.750	1.250	1.000	1.000
Max. Resistance (ohms) $\pm 5\%$	500K	250K	150K	100K	65K
Min. Resistance (ohms) $\pm 5\%$	115	60	35	25	20
Max. Number of Turns	13,500	7,300	4,200	3,100	2,200
Electrical Functional Angle (deg.)*	358.5	357	355	353	350
Linearity, Standard (%)	$\pm 0.1$	$\pm 0.1$	$\pm 0.15$	$\pm 0.25$	$\pm 0.25$
Maximum Number of Taps	74	40	26	20	14

\*Tolerances not shown on angles

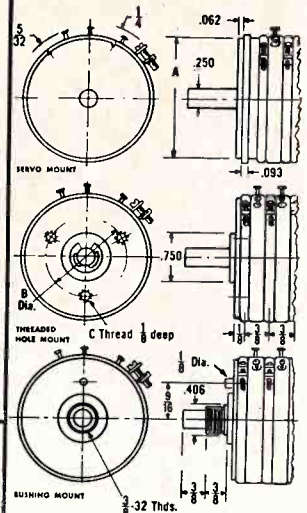


MODEL RL-270A



MODEL RL-270B

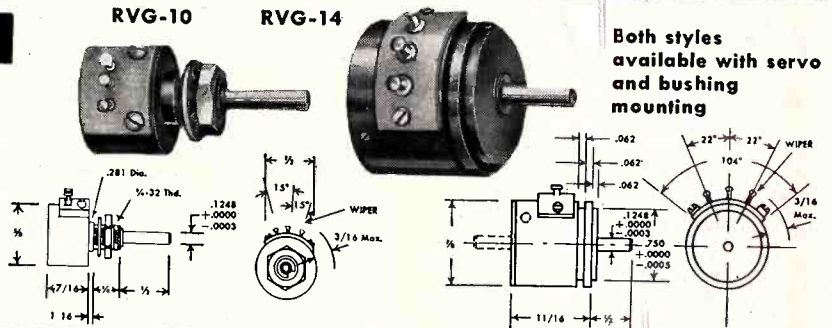
... Exclusive Gamewell Phasing Clamp Style



MODEL	MAX. DIA.	A	B
RL-270B-1 1/4	1 1/4	1.500	1.000
RL-270B-2	2	1.875	1.250
RL-270B-3	3	2.875	1.750

## The RVG Miniatures

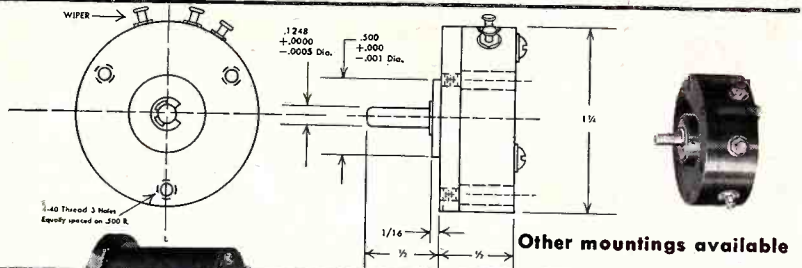
	RVG-10	RVG-14
Diameter	3/8	1/2
Rating (Watts)	1	1.25
Torque, Max. (oz.-in.)	0.2	0.25
Weight (ounces)	3/8	3/8
Max. Resistance (ohms) $\pm 5\%$	30,000	50,000
Min. Resistance (ohms) $\pm 5\%$	25	40
Max. Number of Turns	1230	1800
Electrical Function Angle (deg.)	345 $\pm 3$	354 $\pm 2$
Linearity, Standard (%)	$\pm 0.5$	$\pm 0.5$



Both styles available with servo and bushing mounting

## The LOW COST G-20

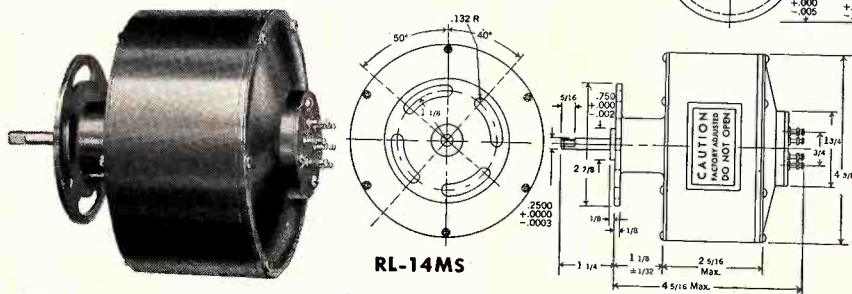
Rating (Watts)	1.5	Min. Resistance (ohms) $\pm 5\%$	20
Torque, Max. (oz.-in.)	1	Max. Number of Turns	2,100
Weight (ounces)	1 1/4	Electrical Function Angle (deg.)	340 $\pm 3$
Max. Resistance (ohms) $\pm 5\%$	63,000	Linearity, Standard (%)	$\pm 0.5$



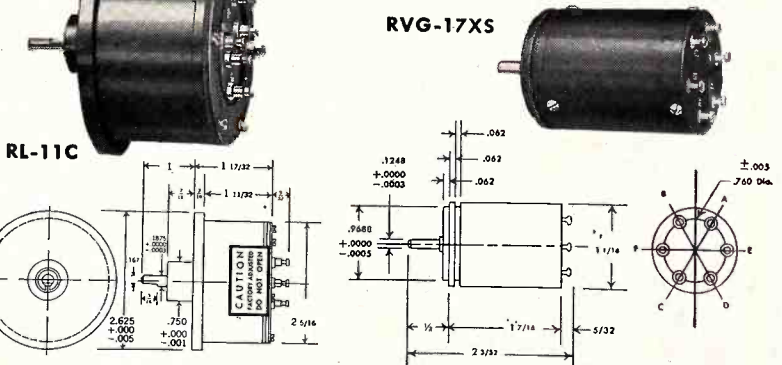
Other mountings available

## The SINUSOIDAL Type

	RL-14MS	RL-11C	RVG-17XS
Total Resistance (ohms)	35,400 $\pm 1\%$	16,000 $\pm 10\%$	18,000 $\pm 5\%$
Approx. % Resistance within brush circle	98.5 $\pm 1/2$	85	95
Angle of Rotation	360°	360°	360°
Weight	1.8 lb.	4.75 oz.	1.5 oz.
Torque (Approximate)	2 oz.-in.	3/4 oz.-in.	1/4 oz.-in.
Wire	80 Ni-20 Cr	80 Ni-20 Cr	80 Ni-20 Cr
Resolution	0.2°	0.4°	0.5°
Angular Accuracy	$\pm 0.5^\circ$	$\pm 0.6^\circ$	$\pm 1^\circ$
Amplitude Accuracy	$\pm 0.6\%$	$\pm 0.8\%$	$\pm 1.5\%$
Maximum Volts across winding	350	150	150
Maximum Speed	60 RPM	60 RPM	60 RPM
Nominal Life	200,000 cycles	350,000 cycles	350,000 cycles



RL-14MS



RVG-17XS

**THE GAMEWELL COMPANY**  
 Newton Upper Falls 64, Mass.  
 Telephone: Bgelow 4-1240



**PRECISION POTENTIOMETER DIVISION**

Send for complete CATALOG on Precision Potentiometers

POTENTIOMETERS

DIGITOMETERS

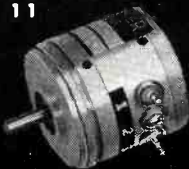
ELECTRO-MEC

PRECISION • ULTRA LOW TORQUE • ACCURATE LINEARITY

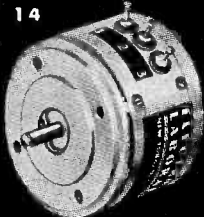
POTENTIOMETER  
TYPE 9



TYPE 11



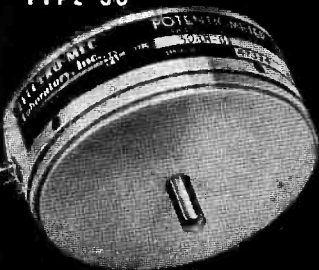
TYPE 14



TYPE 18



TYPE 30



DIGITOMETER  
TYPE D-15



EXTREME ACCURACY • RUGGEDNESS • HIGH RELIABILITY

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LABORATORY, INC.

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# DANO COILS

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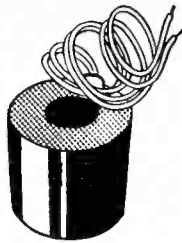
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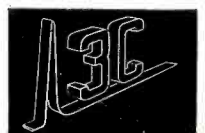
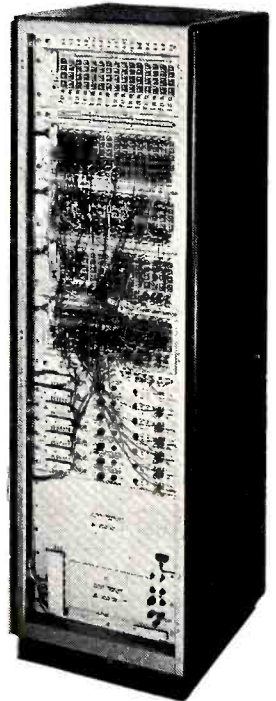
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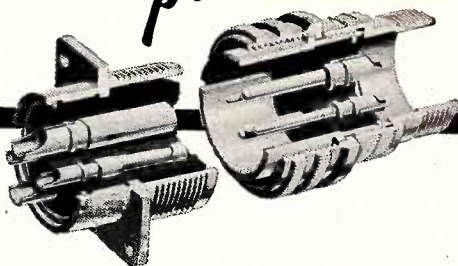
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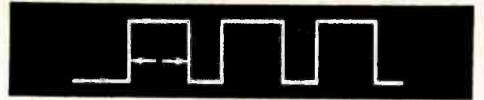
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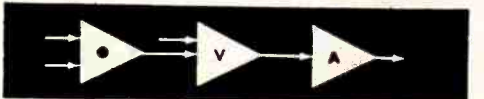
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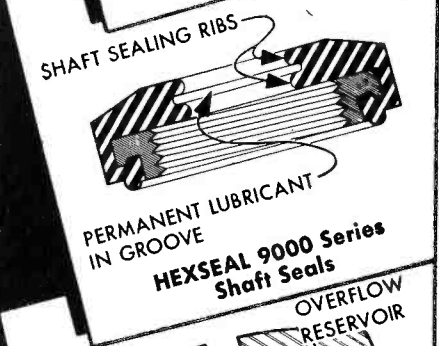
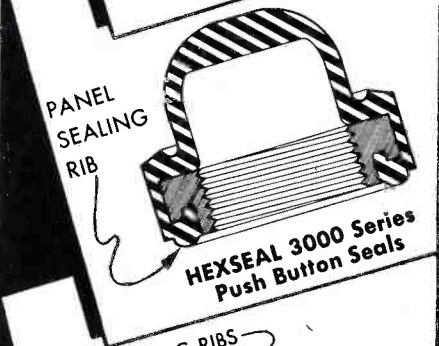
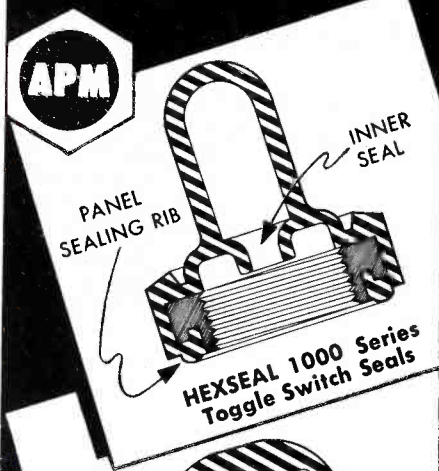


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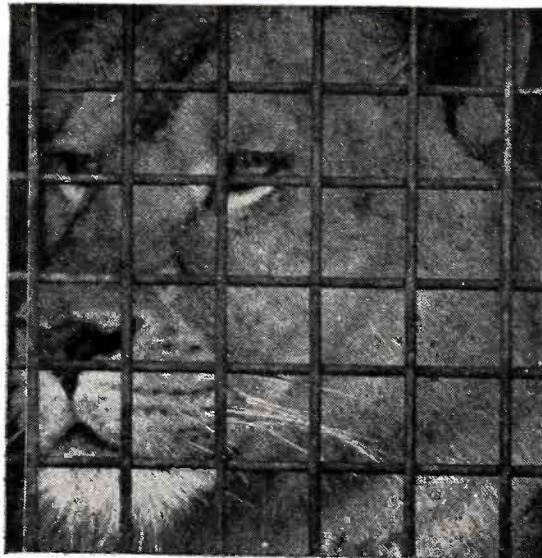
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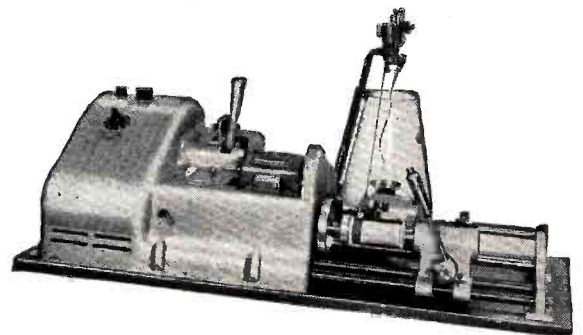


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.001	to 2.	2,000
.001	to 1.	3,000
.001	to 1.	4,000
.001	to .5	5,000
.0005	to .2	8,000
.00025	to .2	10,000
.0005	to .06	15,000
.0005	to .04	20,000
.0005	to .02	30,000
.0005	to .01	40,000
.0005	to .01	50,000
.0005	to .006	60,000

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JE-13B with 8 holes for 7-pin tubes, and JE-15B with 10 holes for 9-pin tubes.



SUB-MINIATURE TYPES



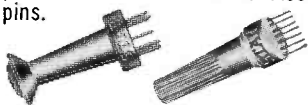
JE-5 with 9 holes for 8-pin tubes.

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JE-31 SPECIAL FOR BURROUGHS TUBE 27 holes of .043 diameter in two pin circles, designed exclusively for use with Burroughs Beam Switching Tube, Types 6700-6701.

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MINIATURE JE-10 with 7 pins and JE-9 with 9 pins.

SUB-MINIATURE JE-7 inline for pinch-base tube sockets.

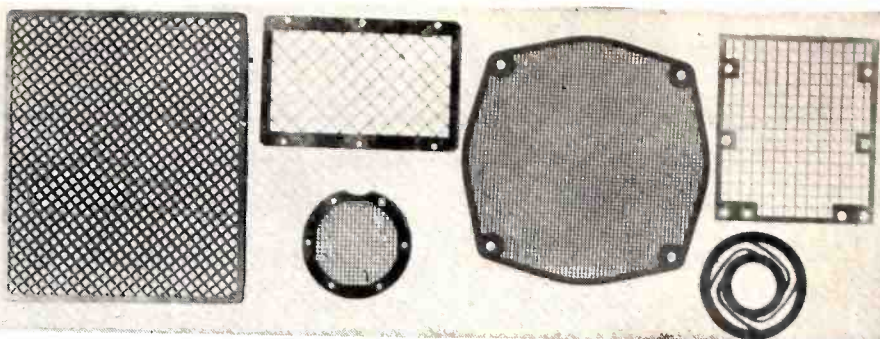
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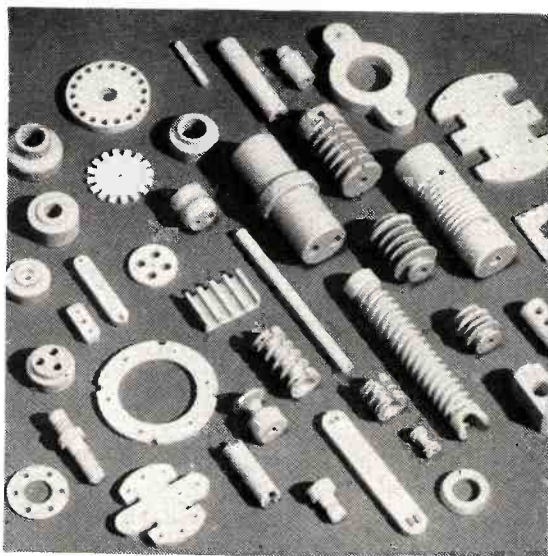
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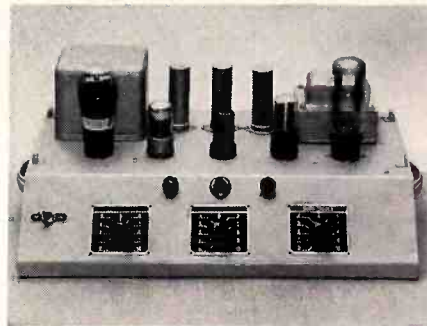


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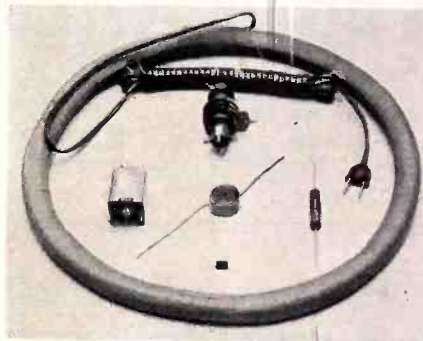
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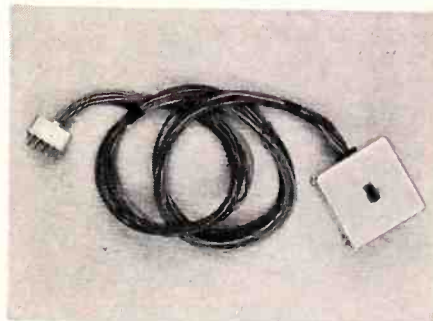
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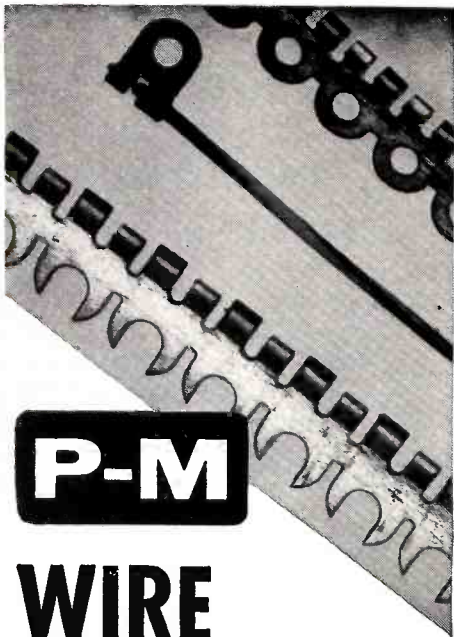
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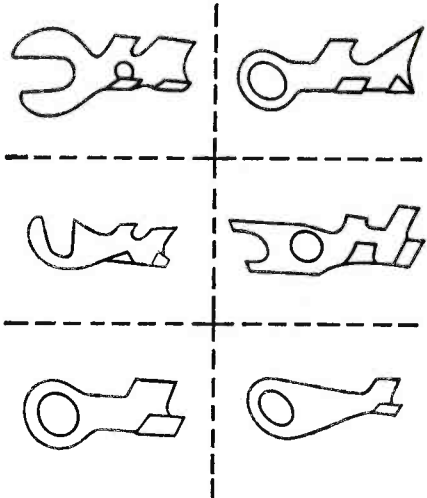
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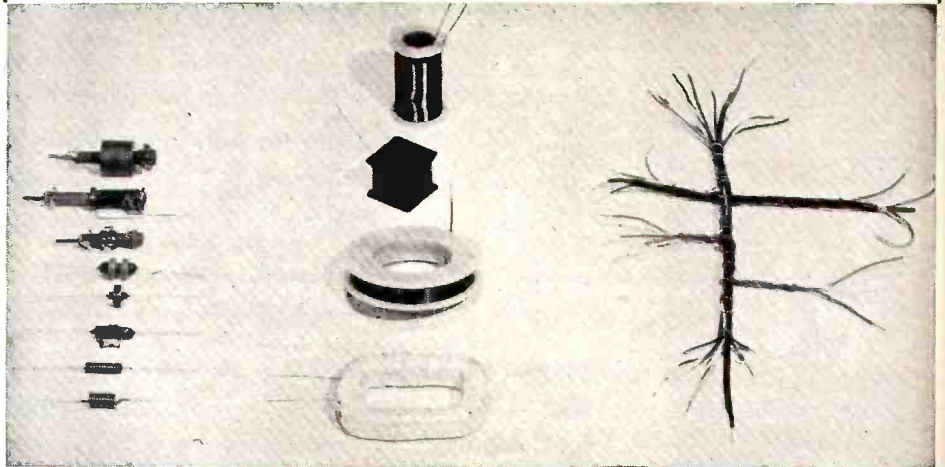
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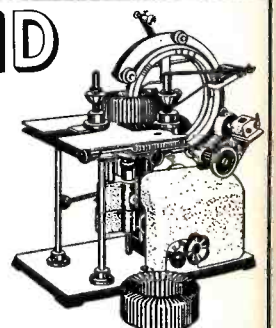
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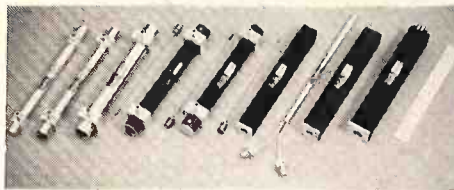
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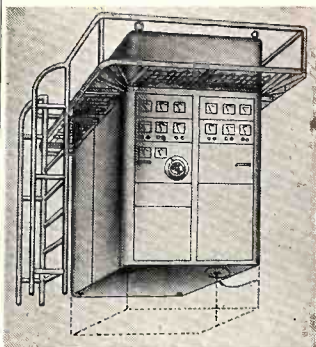


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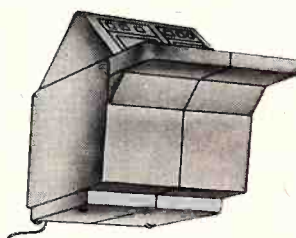
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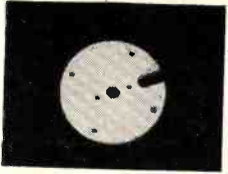
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**WESGO "AL-300"** An extremely high strength, vacuum tight, non "gassing", very low loss, 97.6% alumina content ceramic. Withstands temperatures up to 1600°C. without deformation or deterioration. Used for vacuum tube insulators, tube envelopes and various other shapes for high frequency applications requiring a very low loss and high mechanical strength ceramic. **Its extremely low loss factor at microwave frequencies plus freedom from extraneous "lossy" impurities indicates the use of AL-300 in R. F. "Window" applications.**



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- Porosity is variable within certain limits (avg. 21%).
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- No loss of strength at high temperatures.
- Low thermal conductivity.
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Maximum recommended temperature for continuous service is 1200°C., for intermittent service it can be used up to 1450°C. Boats, slabs, short tubes, crucibles, etc. available from stock. Special shape can be molded to close tolerances. Shapes can be ground with silicon carbide wheels and drilled with carbide-tipped tools.

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\***INCURO 20** (Solidus 970°C-Liquidus 1015°C) 20% Gold, balance Copper and Indium. Used as an economic substitute for the 35% Gold-65% Copper Alloy.

\***NIORO** (Solidus 950°C-Liquidus 950°C) Very high strength alloy of Gold and Nickel possessing high corrosion resistance. Due to its favorable melting point, and exceptional wetting and flow characteristics on Tungsten and Molybdenum, it is widely used for brazing those metals to Copper, Nickel and Kovar.

\***INCURO 60** (Solidus 860°C-Liquidus 900°C) 60% Gold, balance Copper and Indium. Fills the need for a low vapor pressure, non-silver-bearing alloy with a melting point lower than the binary alloys of Gold and Copper or "Nicoro". Its principal use is for "step brazing" techniques on metals such as "Kovar".

\***SILCORO 60** (Solidus 835°C-Liquidus 845°C) 60% Gold, balance Silver and Copper. For intermediate brazes on Copper and Nickel components.

**CUSIL** (Silver-Copper Eutectic) (Solidus 780°C-Liquidus 780°C) "Decarbonized" by a special process. Free of mechanically entrapped carbon present in brazing alloys of this type.

\***INCUSIL 10** (Solidus 685°C-Liquidus 715°C) Alloy of Silver, Copper and Indium. A ductile, low vapor pressure brazing alloy with melting range below Silver-Copper Eutectic alloy and is widely used for brazing structures previously brazed with that alloy.

\***INCUSIL 15** (Solidus 630°C-Liquidus 685°C) is similar to Incusil 10 but having a higher Indium content has an appreciably lower melting range.

\*Proprietary alloys of WESTERN GOLD AND PLATINUM COMPANY, Patents Pending.

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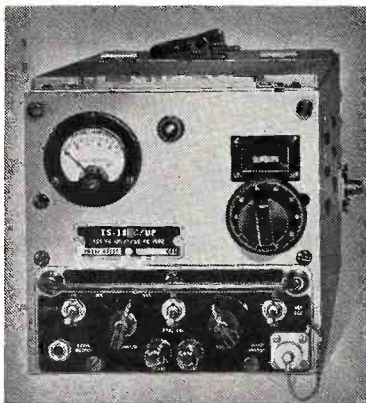
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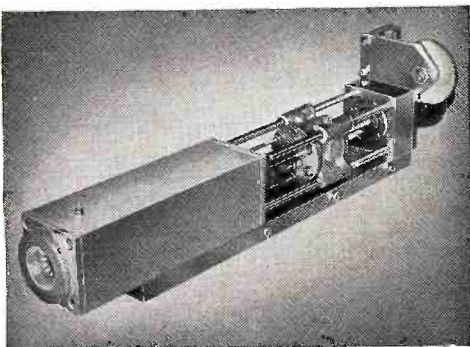


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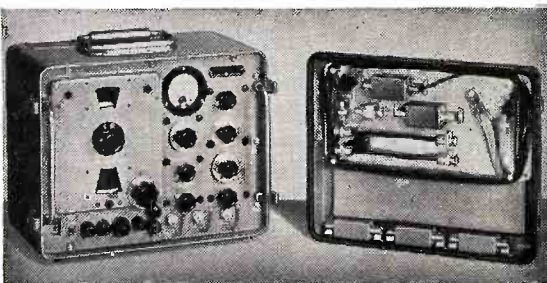


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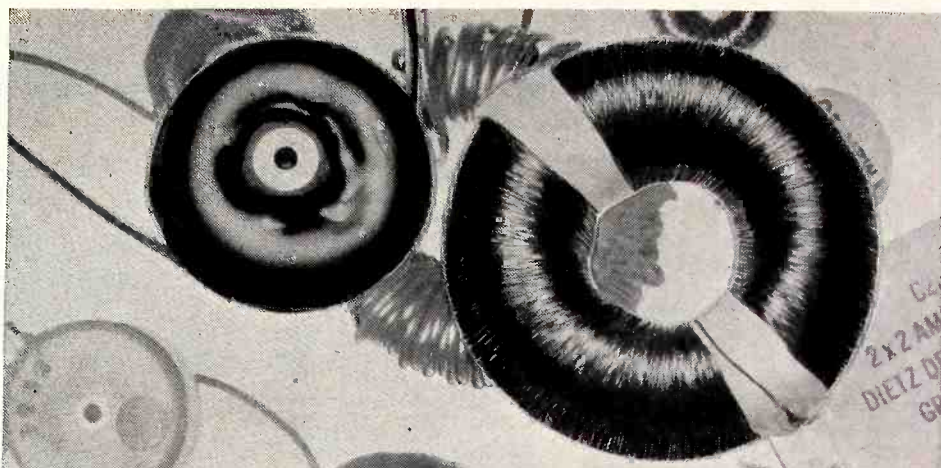
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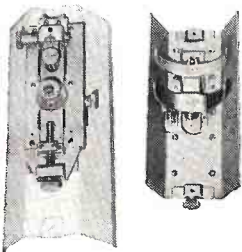
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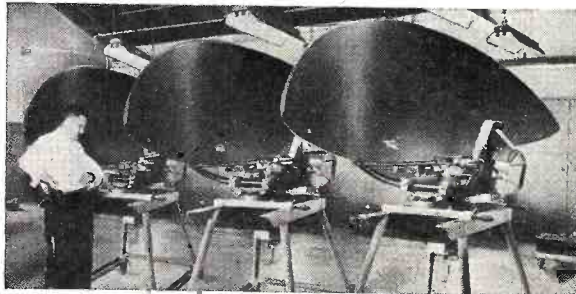
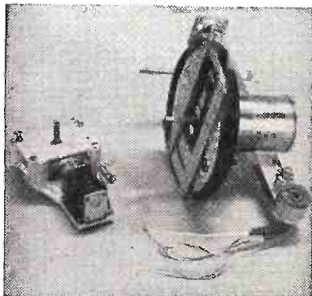
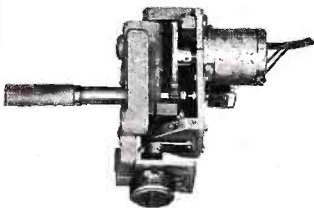
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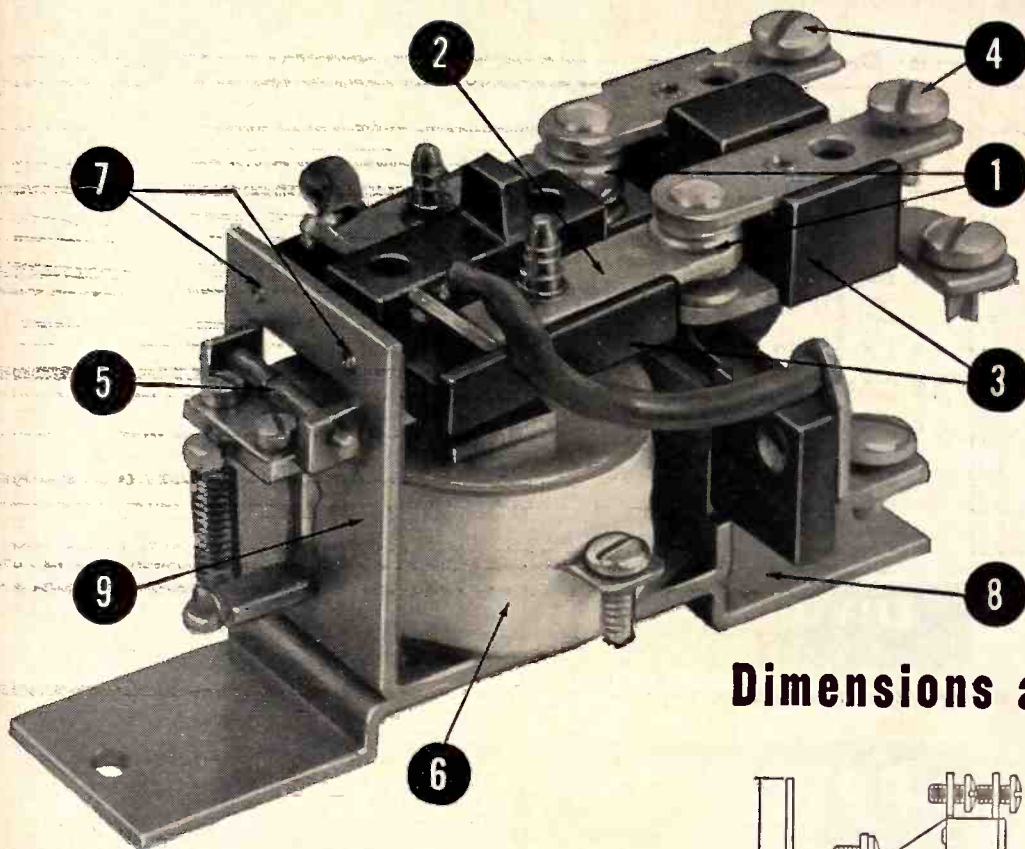
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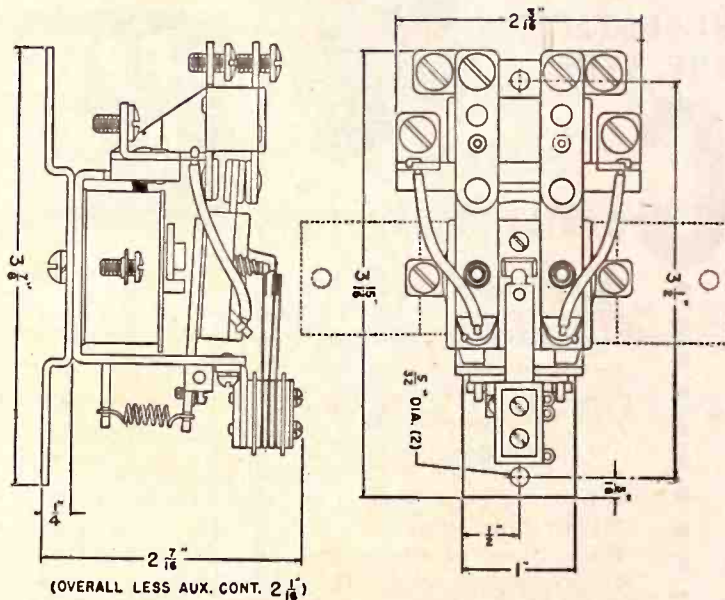
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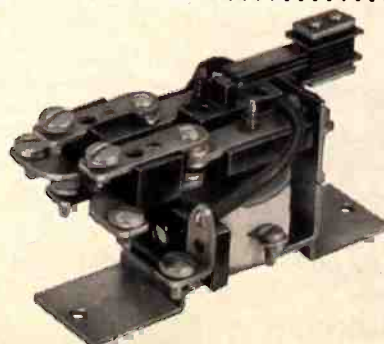


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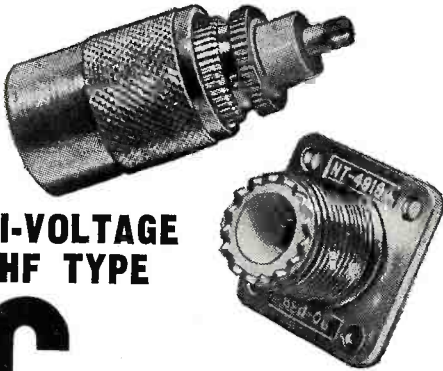
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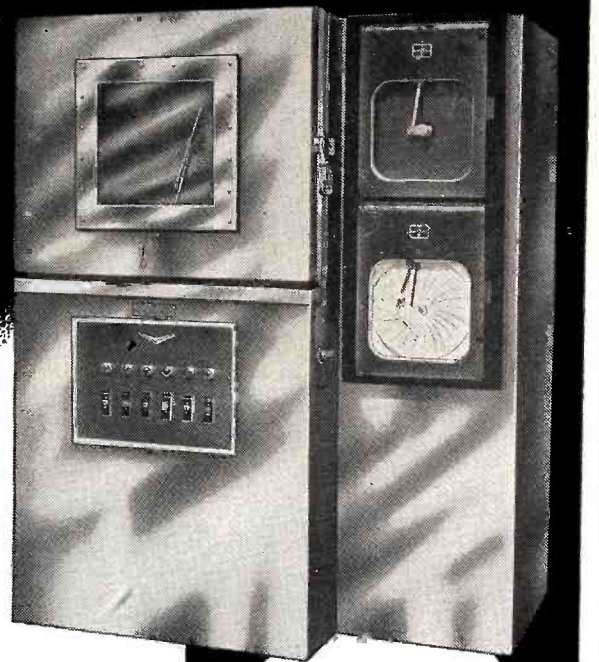
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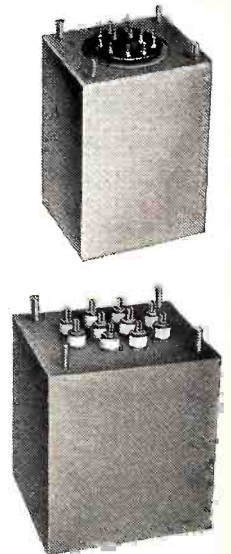
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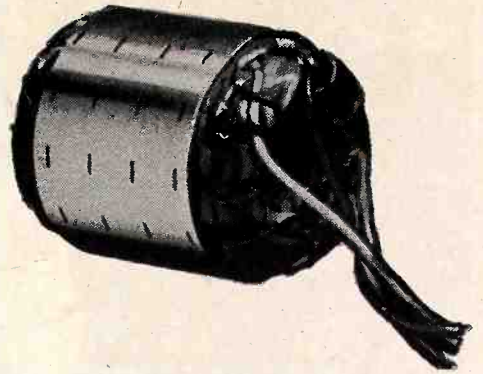
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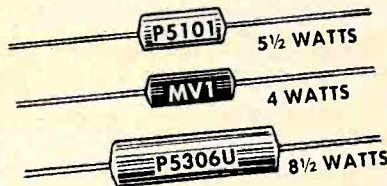
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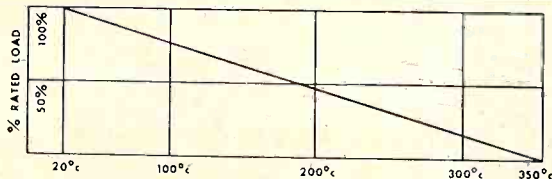
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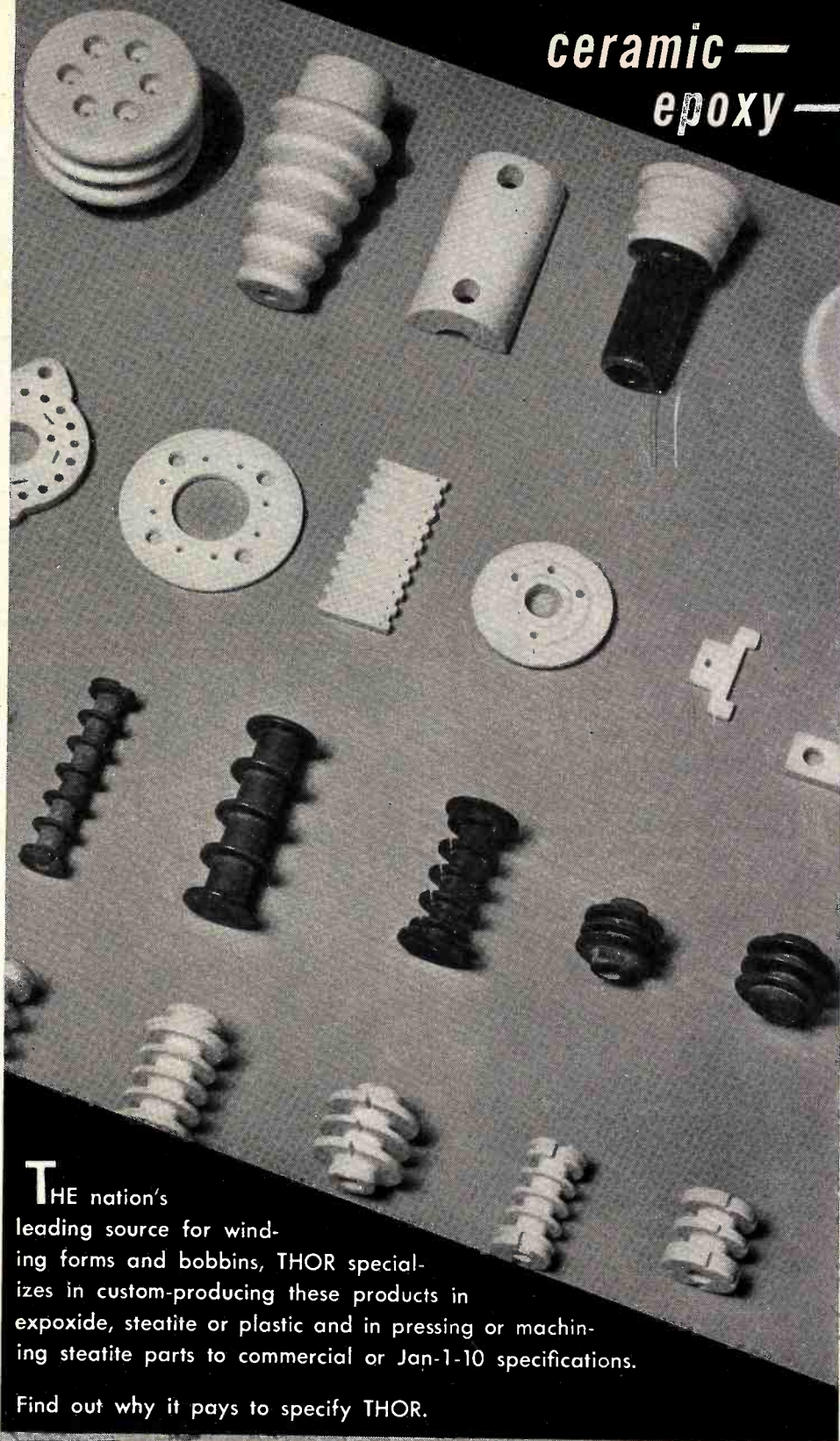
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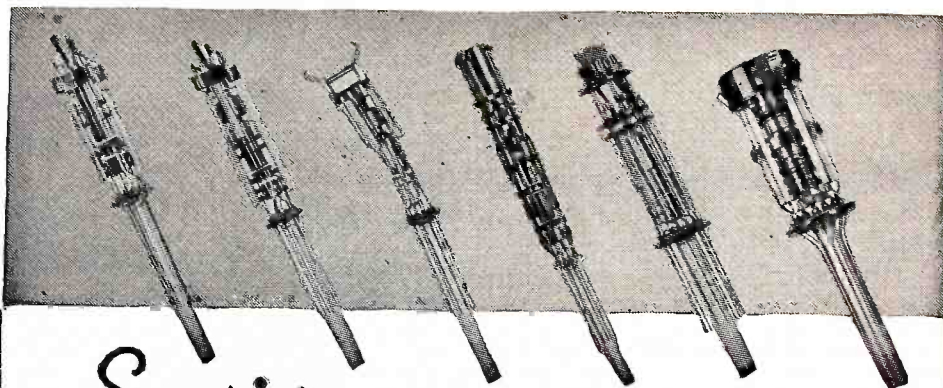
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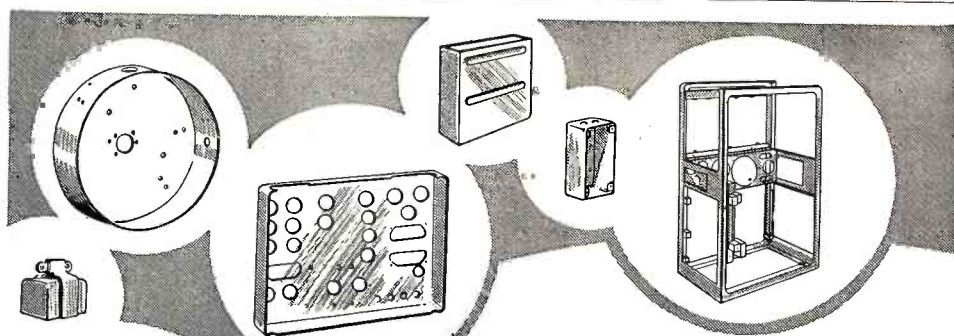
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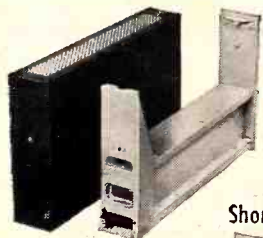
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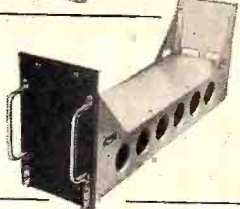
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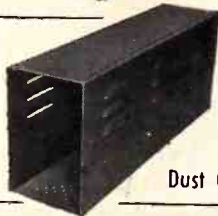
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with nickel-chrome conductor and laminated insulation for operation at 500°F. extensively used by central stations to maintain proper temperatures in pipe lines exposed to wide variations in ambient temperature.

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with stainless steel braided shield for special high temperature applications, used by atomic energy facilities.

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with segregated circuits individually shielded, and with over-all shielding or with special shielding and jacketing.

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for circuits required to operate in 2000°F. flame for fifteen minutes. Excellent for fire-detector circuits and for use in temperatures up to 600°F.

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By utilizing and combining the various qualities of fire, heat, abrasion and moisture resistance of asbestos, glass, silicones and Teflon\*, we have developed many special wires and cables for avionic and electronic applications. We invite inquiries for cables and wire constructed to customers' specifications for special applications.

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## THIS WILL ASSURE YOU OF PROMPT ATTENTION

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# Pulse Components



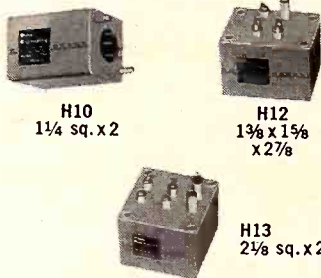
## \* miniatures



EF71 7/16x3/4      EF7 9/16 diam.      H8 11/16 high

Five standard design types, including "STAT-TRAN"; for use in coupling, blocking oscillator, reversing, computer read-out, video transformer circuitry. Peak power ranges from 75 w (EF71, EF6) to 1 kw (H8).

## \* medium power



H10 1 1/4 sq. x 2

H12 1 3/8 x 1 5/8 x 2 7/8

H13 2 1/8 sq. x 2

Four standard design types for medium power (4 kw-15 kw) applications in blocking oscillator, modulation, modulation-magnetron, coupling circuitry.

## \* high power

Three standard design types for high power (200 kw to 1 mw) applications in modulation-coupling, modulation-magnetron, coupling circuitry.

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Pulse-forming networks, delay lines, charging chokes, wave filters, magnetic amplifiers, computer and video transformers.

NEW PULSE COMPONENT CATALOG includes design and performance data, specifications, applications and prices on PULSE ENGINEERING's complete component line. Write now for your copy of this valuable guide; please address Dep't. \_\_\_\_\_

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# Pulse Engineering

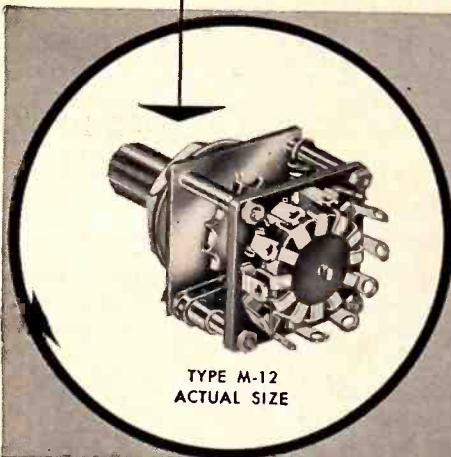


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# NEW MINIATURE

## 12-position Multipole Rotary Switch

- Small size — only 3/4 inch square.
- Light weight — one-half ounce.
- Versatile circuitry — contact arrangements from 1-pole 12-position, to 3-pole 4-position for a single deck.
- Ganged assembly — up to six decks can be combined for single-knob operation.
- Current-carrying capacity — capable of carrying 3 amperes without excessive temperature rise.
- Interrupting capacity — 0.5 amperes, non-inductive, at 125 volts 60 cps.
- Electrical life — 250,000 operations.
- Voltage rating — 125 volts a-c.



TYPE M-12  
ACTUAL SIZE

*Here is the switch  
that meets these  
specifications*

- Breakdown voltage — between live parts or to ground — over 1000 volts RMS at 60 cps.
- Insulation resistance — 1000 + megohms. All insulating parts meet specification MIL-P-3115B, MIL-P-15037B, or MIL-I-3190.

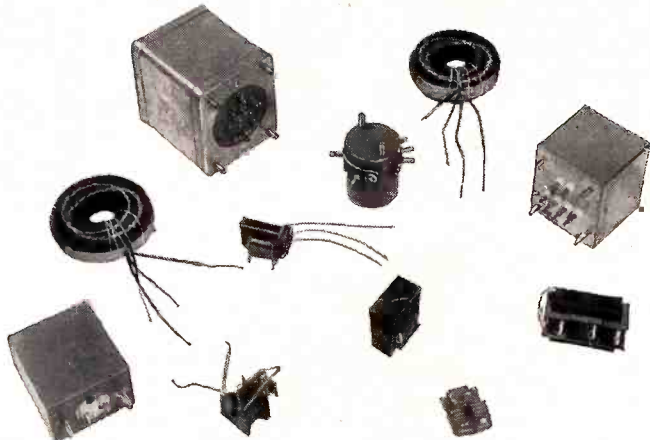
## R-F ELECTRONICS, inc.

DIVISION OF ELECTRO SWITCH CORPORATION

Weymouth 88, Massachusetts



# Electrically-Variable INDUCTORS



Let our five years of design and manufacturing experience in this *exclusive* field work for you.

We maintain a line of stock units, the characteristics of which are fully described in our Catalogue #E 9/55 (available upon request) and which are usually on the shelf for same-day-as-order shipment.

From these types our customers can often determine the efficacy of the VARI-L inductor in their proposed circuits and then describe a tailor-made version to suit their exact needs.

*The custom-designed models we have recently produced include the following:*

**VHF** types — used at frequencies as high as 400 M.C. Significant new work in this region was in progress as this advertisement went to press.

**SUB-MINIATURE** types.

**FREQUENCY-MODULATOR** types — with near-zero-drift temperature compensation for center-frequency stability.

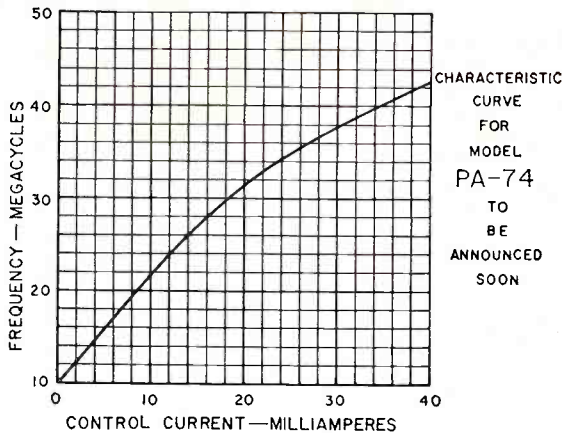
**MULTI-CONTROL** winding types — for combined A.F.C. and F.M. from the same inductor.

**OVENIZED** types — both inductors and complete low-drift oscillators.

**SYNTHESIZER** types — for adaptability to wide ranges of frequencies through the use of shunt and series coils.

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*Full details concerning these and other special VARI-L units will be gladly supplied. We urge you to put our knowledge of this art to work on your problem.*



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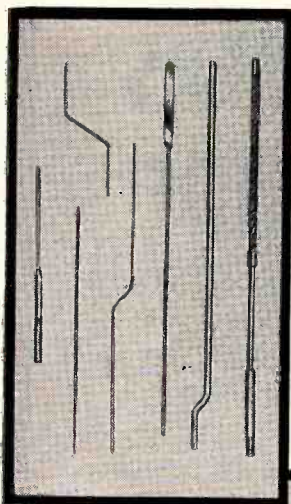
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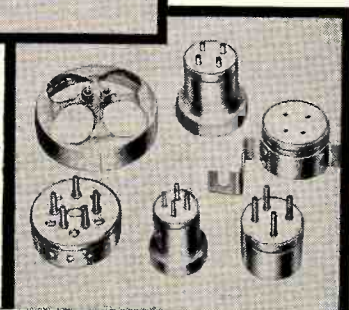
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Quality controlled throughout production with Tungsten hard glass leads produced under General Electric Timing Control. Each tungsten lead is microscopically inspected for flaws. DKE offers highest quality and LOW PRICES. Send drawings for quotations and let us prove the economy of our prices.

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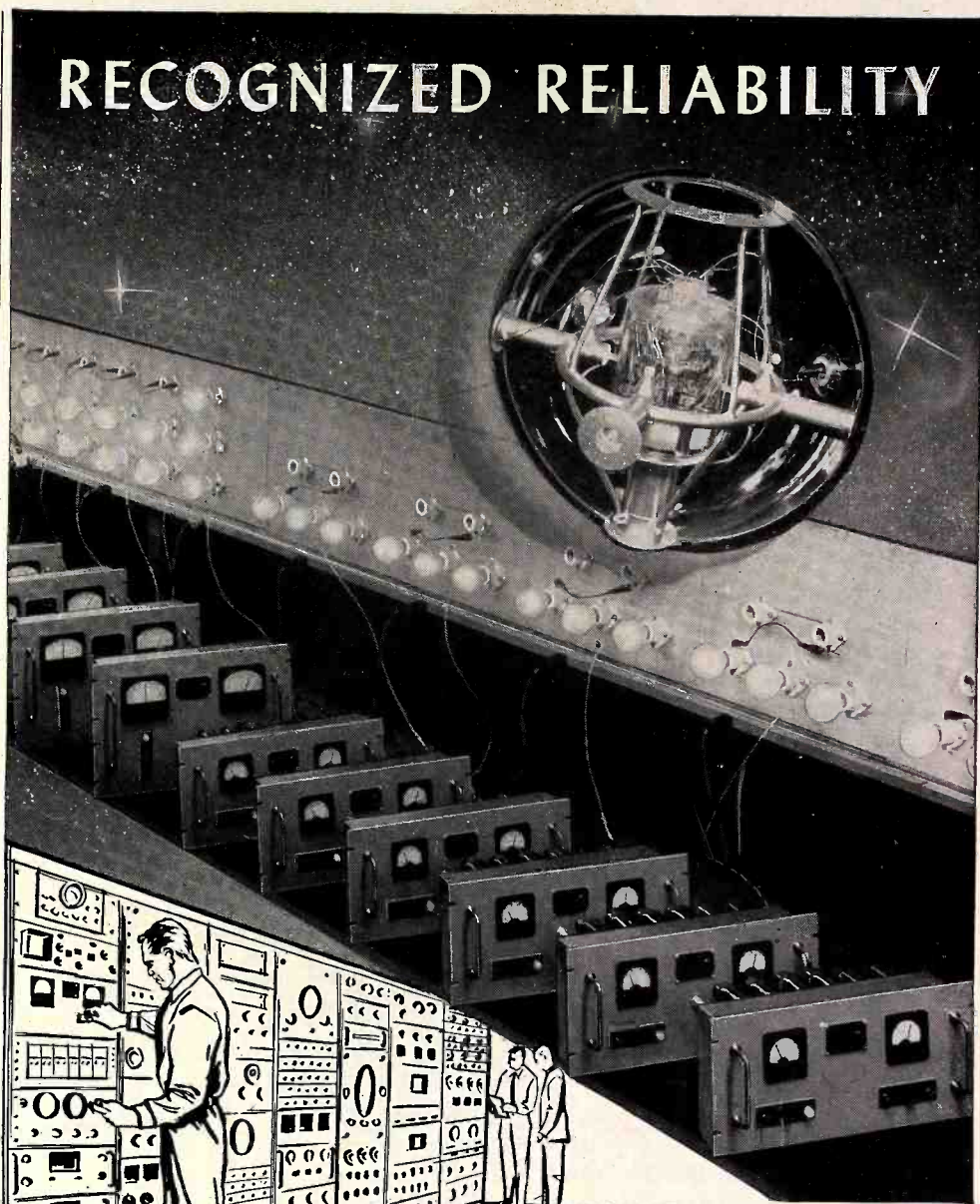
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# 'DIAMOND H' RELAYS



## MINIATURE HERMETICALLY SEALED AIRCRAFT—MISSILE RELAYS

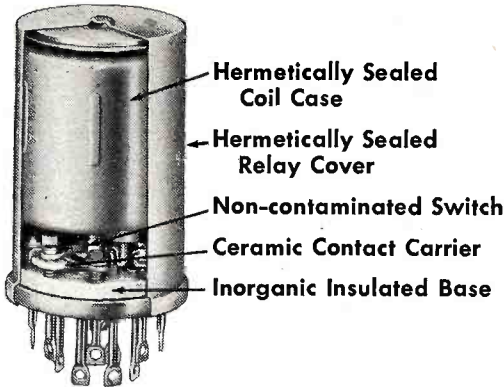
### Series R 4PDT (Form C)

Extremely wide range of performance characteristics at temperatures from  $-65^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$ . Stable and resistant to vibration and impact. Ratings available up to 10 amperes at 120 VAC and  $26\frac{1}{2}$  VDC. Special ratings up to 400ma. at 350 VDC or down to millivolts and milliamperes are also available. Size: 1.6 cu. in., Weight: 4 oz. or less. Wide choice of mountings including ceramic plug-in sockets. Get Bulletin R 250 for further information.



### Series S 4PDT (Form C)

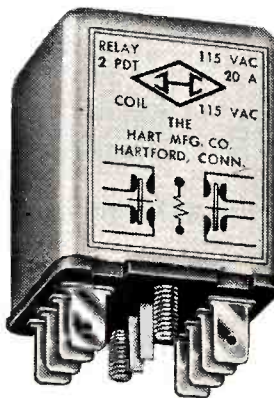
For use where reliability and long storage life are most essential. Reliably switches "Dry" circuits involving millivolts and microamperes. The coil itself is hermetically sealed within the hermetically sealed enclosure. The switch mechanism contains no organic matter; contact contamination is virtually eliminated. Get Bulletins S 260 and R 250 for further information.



## GENERAL PURPOSE AC or DC POWER RELAYS

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These relays are designed for general purpose switching where small space and low cost are required in addition to dependability. Standard voltages are from 6 to 220 VAC or VDC. Contact ratings up to 25A resistive, 120 VAC—240 VAC, 1 H. P. 120 VAC, 2 H. P. 240 VAC, other ratings by specification. Unit measures  $1\frac{1}{2}'' \times 1\frac{1}{2}'' \times 1\frac{7}{8}''$ , weighs 10 oz. or less. Side stud, panel stud and plug-in socket mountings are standard, others are available on request. Ask for Bulletin W 75A.



Engineered specials: You can obtain variations from the above standard relays for your specific requirements. Send your specifications for recommendations and quotations. Call or write today. Ask about "Diamond H" switches and thermostats.

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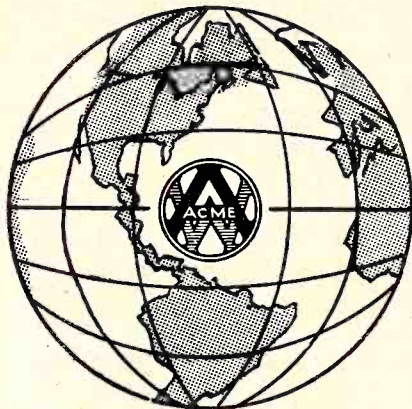
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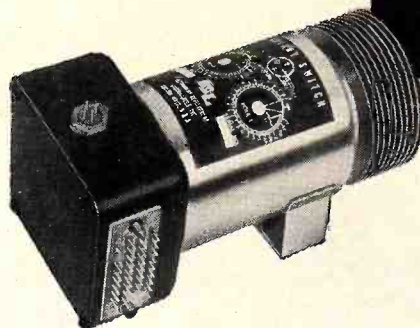
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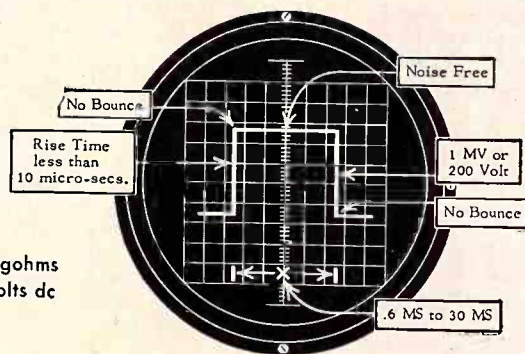
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30 Contacts per pole, BBM  
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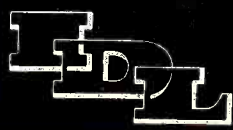
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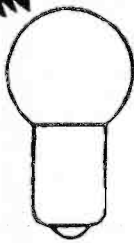
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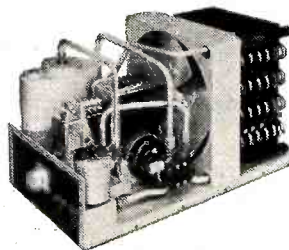
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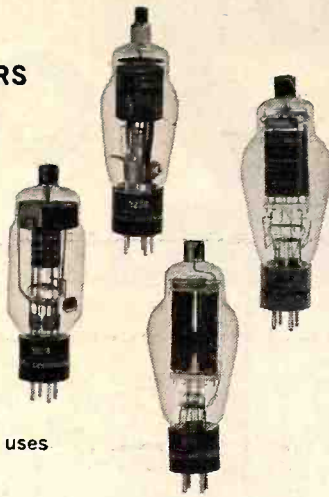
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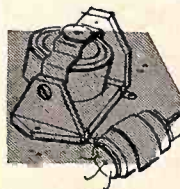
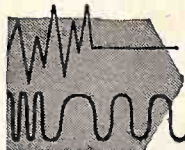
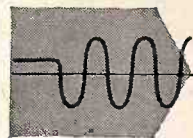
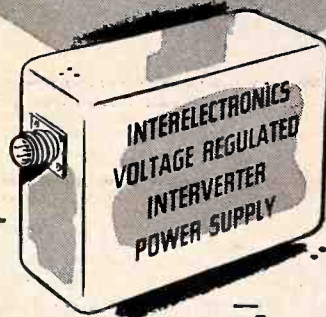


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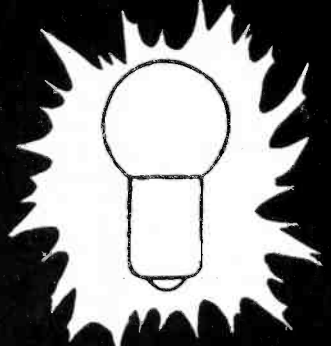


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AND  
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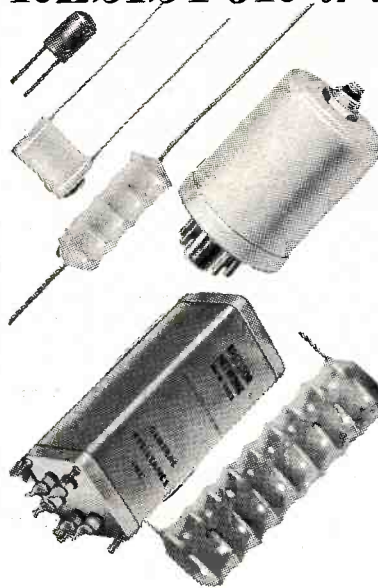
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- Full line of encapsulated resistors to meet Mil R-93A or Mil R-9444
- Resistor networks matched to 0.01% accuracy or better
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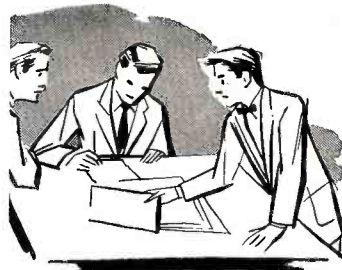


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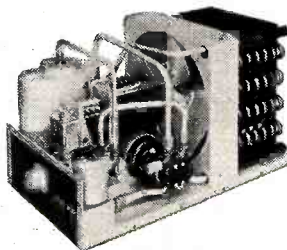
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Enable specified components to be held to fairly constant temperatures by use of various types of refrigeration units. Because of the variation in methods possible, Eastern units fill every requirement where the use of a refrigeration cycle is called for.

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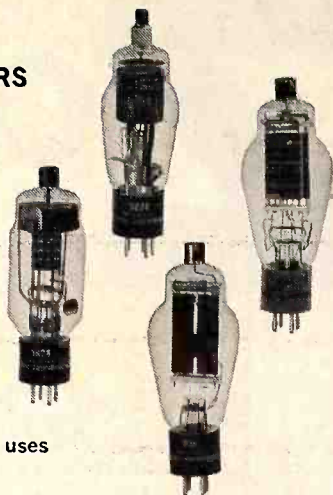
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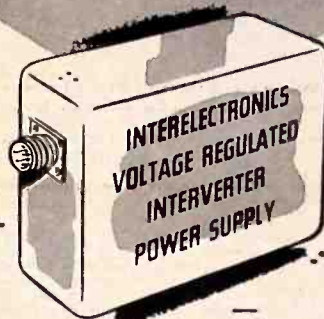
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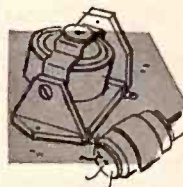
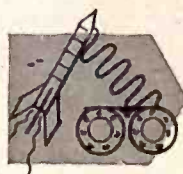
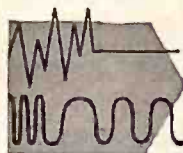
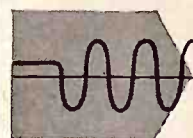
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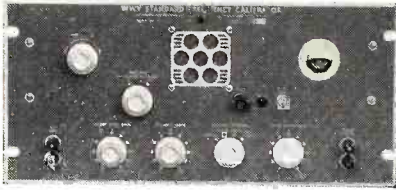
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**Sensitivity**—better than 1.0 microvolts  
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**Selectivity audio filters** (440 and 600 cycles)— -10 DB at  $\pm 10\%$  from resonance
- Inputs**—two antenna, one for reception of WWV signals and one connection of R.F. signal under test  
**Outputs**—audio output adjustable from 0-5 volts  
**Indicator**—Eye tube indicates zero beat between unknown signal and WWV  
**Aural output**—panel speaker with volume control  
**Power requirements**—105-125 volts 50/60 cycles, 85 watts
- Mechanical features**  
 —supplied with standard  $8\frac{3}{4}$  x 19" rack panel with dust cover  
 —panel is done in smooth grey and the dust cover in grey wrinkle  
 —panel connectors will accommodate banana-type plugs  
 —dimensions: Height  $8\frac{3}{4}$ ", Width 19", Depth  $10\frac{1}{2}$ "  
 —weight 25 lbs.



## Klystron Power Supply TVN-11

- Beam voltage**  
 —continuously variable from 250 to 500 volts at 50 MA  
 —regulation is better than 1%  
 —ripple is less than 3 milli-volts or better  
 —stand-by beam voltage switch
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 —continuously variable from 25 to 875 volts  
 —regulation is better than 1%  
 —ripple is less than 5 milli-volts or better
- Square wave modulation**  
 —variable from 500-5000 cps  
 —amplitude variable 0-100 volts
- Modulators**—may be synchronized from external voltages  
**Power**—105/125 volts 50 to 60 cycles A.C., 150 watts
- Mechanical features**  
 — $8\frac{3}{4}$ " aluminum rack panel finished in light grey  
 —rugged steel cabinet finished in durable grey wrinkle  
 —Dimensions: Height 9", Width  $20\frac{1}{2}$ ", Depth 12"  
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- Step attenuator**  
 —permits reading of SWR up to 50 decibels  
 —VSWR 1 to 4 and 3 to 10 volts
- Inputs**  
 —dual selectable, will accommodate crystal or bolometer detectors  
 —protection against accidental burn out of crystals or bolometer
- Power requirements**—105/125 volts, 50/60 cycles, 70 watts
- Outputs**  
 —remote metering  
 —DC recorder
- Mechanical features**—standard  $8\frac{3}{4}$  x 10" rack panel  
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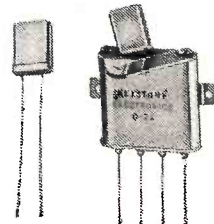
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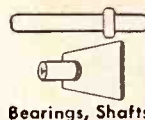
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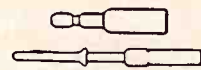
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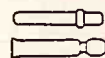
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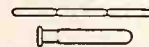
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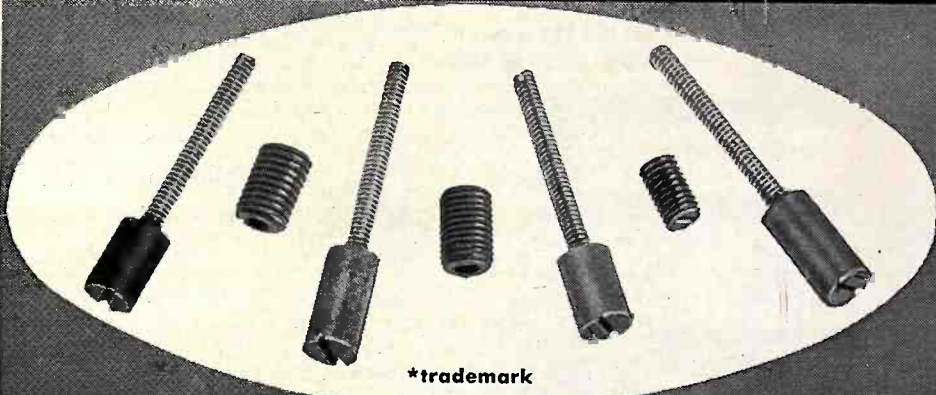


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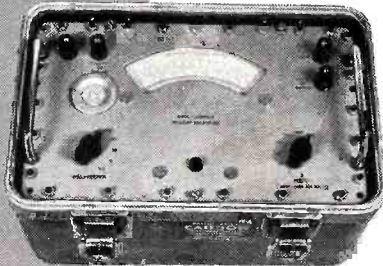
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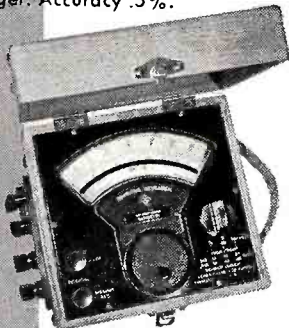
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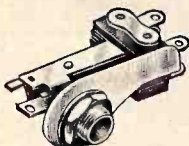
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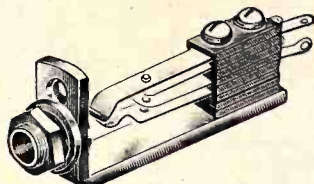
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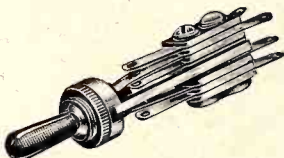
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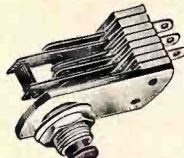
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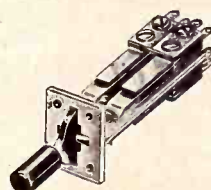
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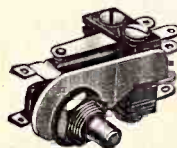
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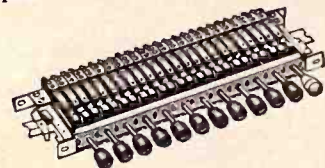
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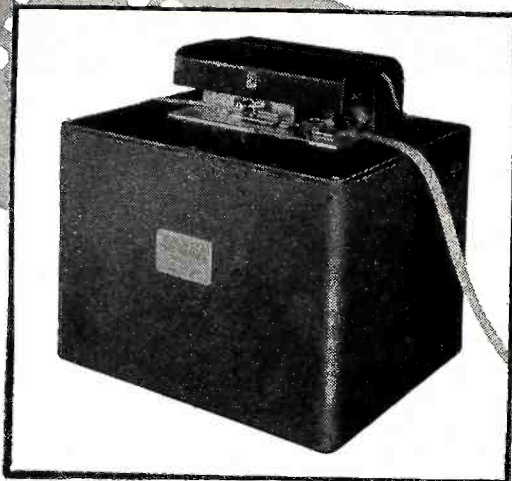
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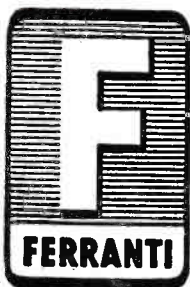
**FAST** (1) Mark II model reads at speeds up to 200 characters per second, and stops the tape from full speed within a character position — within .03 inch. The tape is accelerated to full speed again in 5 milliseconds and the following character is ready for reading within 6 milliseconds of rest position.

(2) Mark IIA model reads at speeds up to 400 characters per second, and stops within .1 inch.

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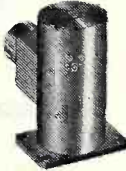


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PSP high pressure DC solenoids, engineered in accordance with aircraft solenoid specification MIL-S-4040A, will withstand internal fluid burst pressures to 7,500 psi, operate at pressures to 1,500 psi in the plunger cavity, withstand ambient temperatures to 500°F! Other features: dynamically balanced plungers, precision adjustable plunger stroke, continuous duty operation on 30 Volts DC.

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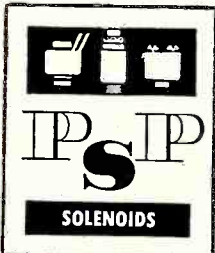


#### CO-AXIAL VALVES?

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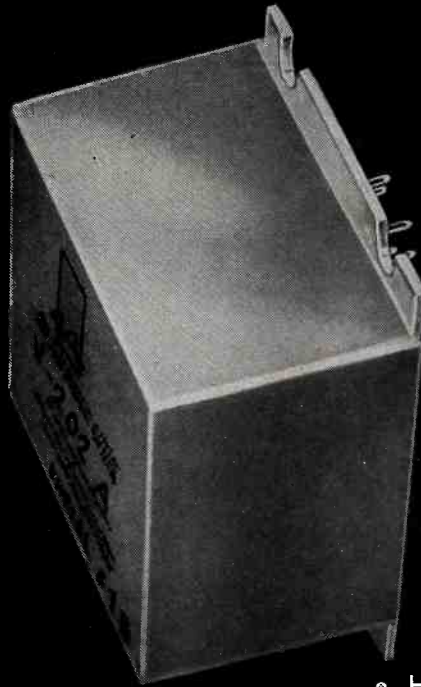
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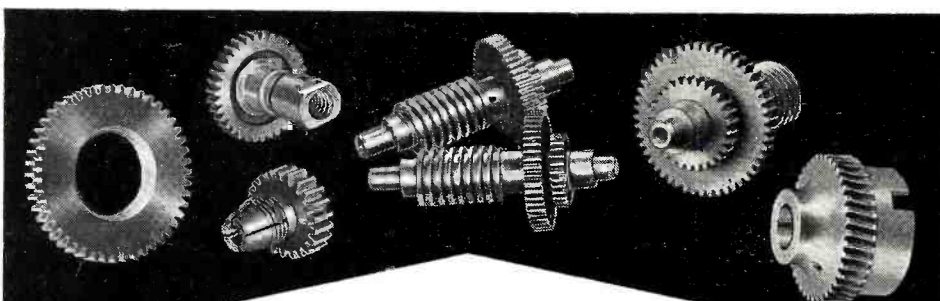
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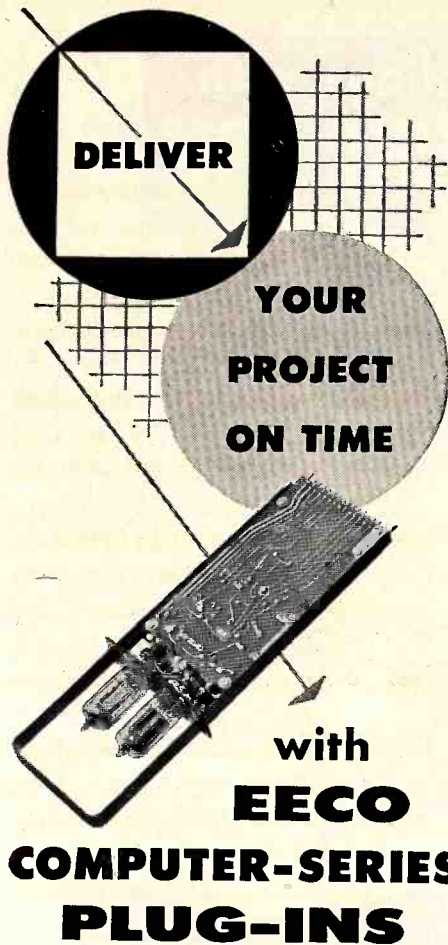
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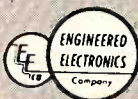
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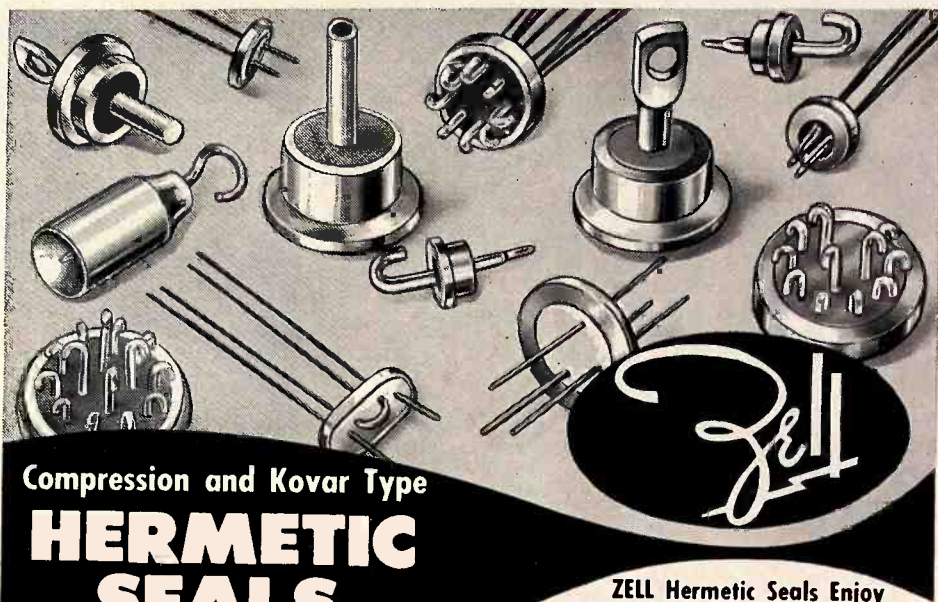
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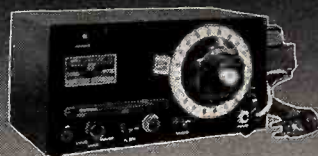
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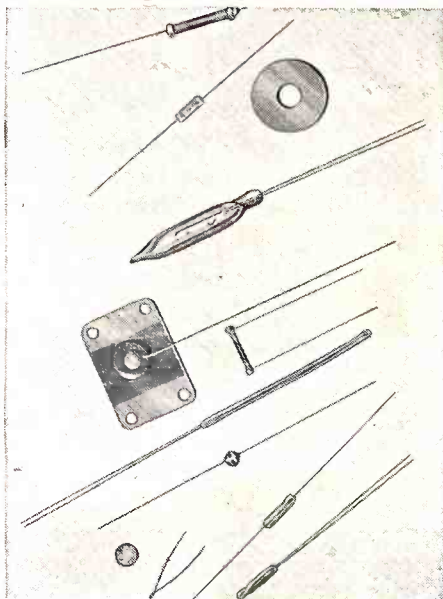
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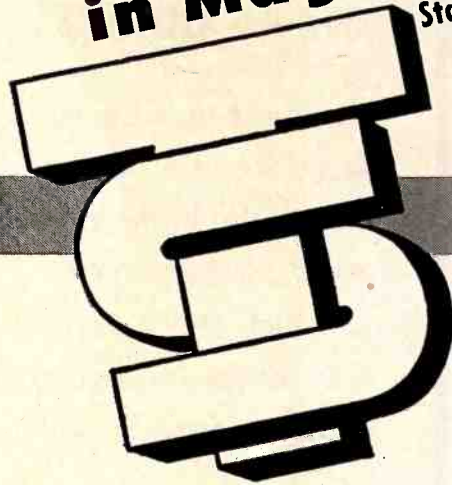
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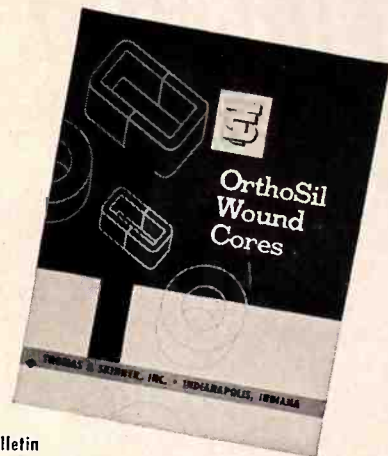
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Bulletin  
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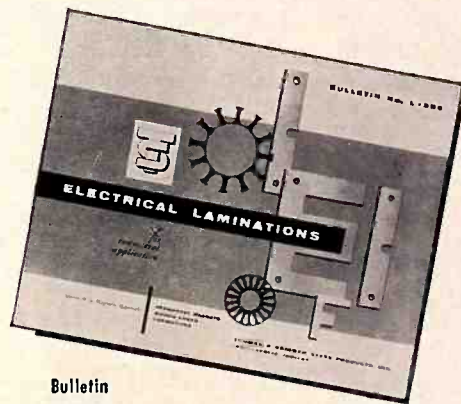
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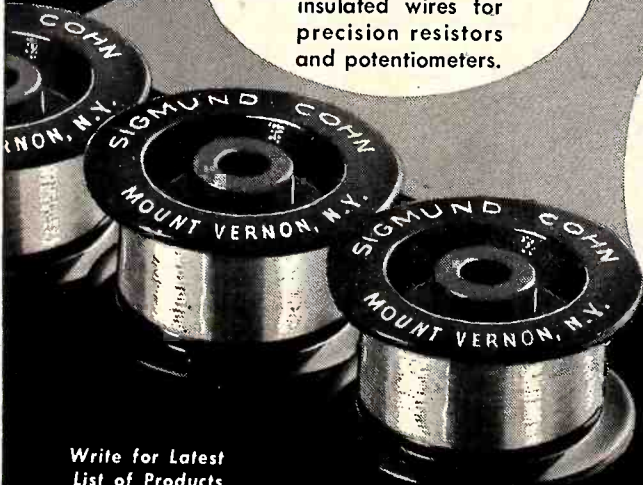
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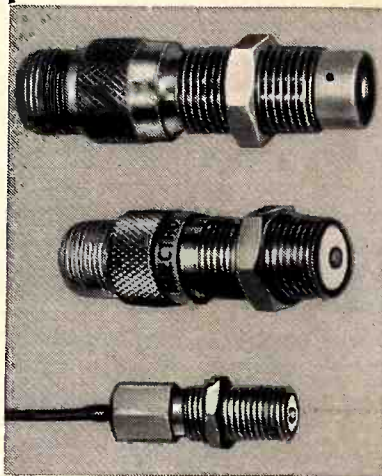
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Generate voltages from mechanical motion without contact

Pickups produce AC voltage proportional to the rate of motion of any nearby ferrous object. Voltages are generated by the motion of metallic material within the field of the pickup—such as a gear tooth, shaft keyway, screw, pin or slot. Voltage output can be made to operate electronic devices or control relays.



**New Power-Mite 3040** operates 100 milliwatt relay directly without amplification.  $\frac{3}{4}$  x  $2\frac{5}{8}$ " O.A.

**High Sensitivity, High Temperature 3030 HTAN** for temperatures up to 500° F. AN type connector,  $\frac{3}{4}$  x  $2\frac{1}{4}$ " O.A. High Sensitivity 3030 same except for temperatures up to 250° F. and different connector.

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**Standard 3010A** for temperatures up to 250° F.  $\frac{3}{4}$  x  $2\text{-}1/16$ " O.A. 3010-AN same except that it has AN type connector.

*Air-Cooled and Sub-Miniature models also available*

### Electro Proximity Pickup Systems count, control, batch and position

Generate voltages from any moving ferrous or non-ferrous metal object—even at speeds approaching zero.

Each system consists of (a) one control unit, (b) one pickup, (c) one cable with connectors. Any combination of the following will serve your particular requirement:

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- 4901-RAC standard relay
- 4951-RAC high speed relay
- 4901-AN DC output
- 4905-RAC standard JIC enclosure
- 4955-RAC high-speed JIC enclosure

#### Pickups

- 4910-AN threaded mount
- 4915-AN flange mount
- 4920-AN hollow coil
- 4925-AN pancake type

### Electro Power Supplies for testing, design work and servicing transistor circuits and electronic equipment

Model	DC Output Voltage	Amperage Output Continuous	Ripple
GFA	0-125	10	1%
EFB (dual range)	0-16	8	1/10%
	0-32	4	1/10%
NFB	0-32	15	3/4%
D-612T (dual range)	0-16	10*	1/2%**
	0-8	10	1/2%**
H (dual range)	6	20	5%
	12	10	5%

\*At 12 volts

\*\*At 5 amps.



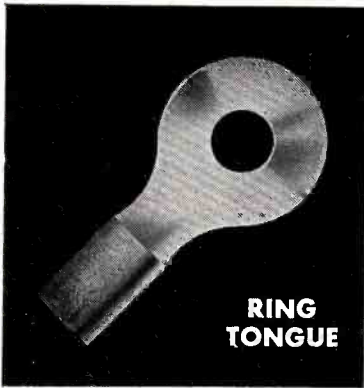
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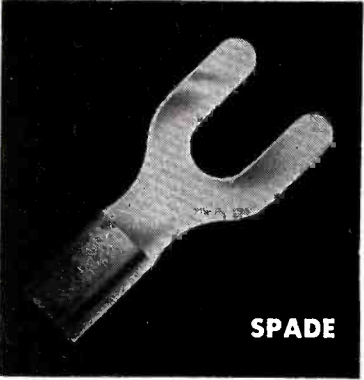
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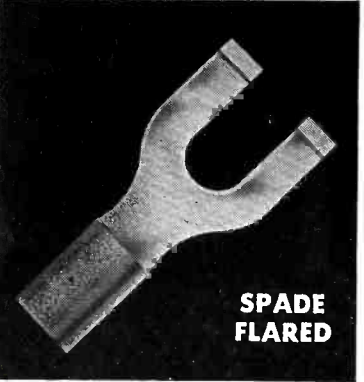
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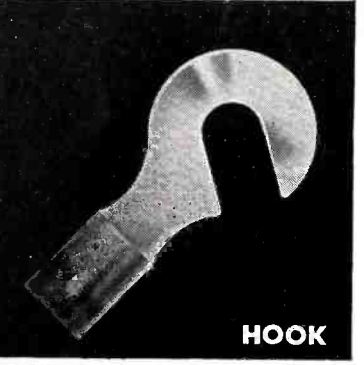
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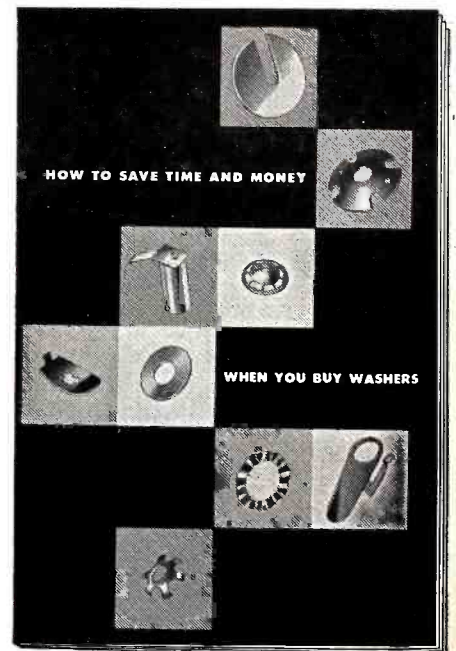
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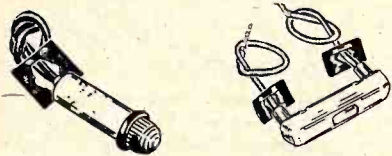
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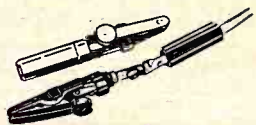
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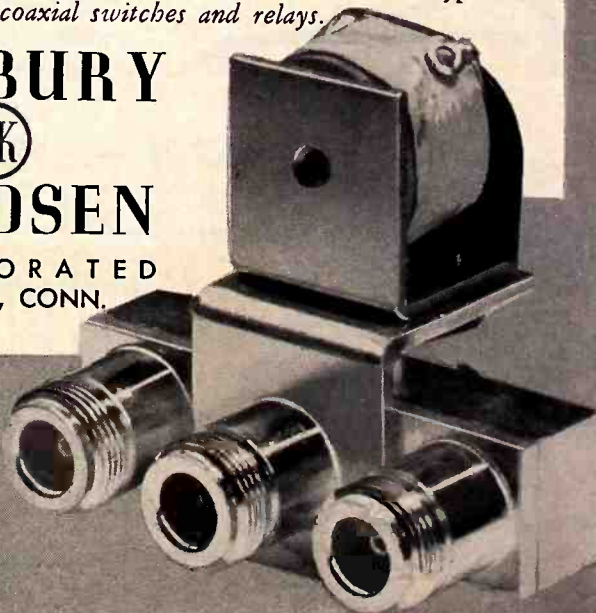
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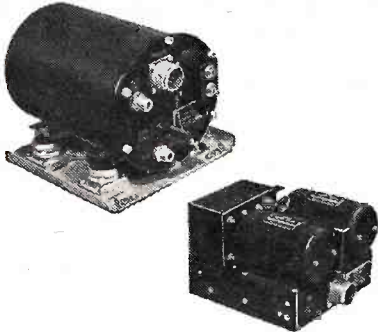
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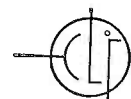
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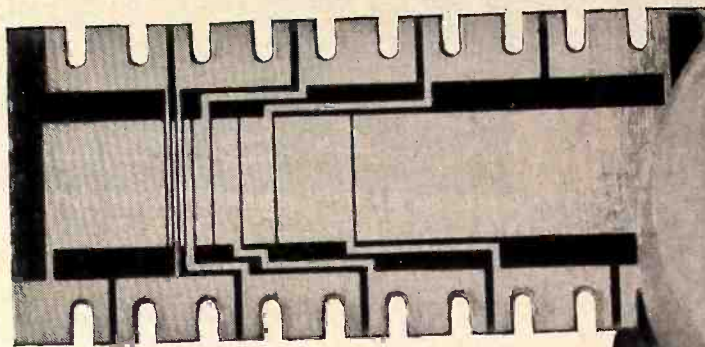
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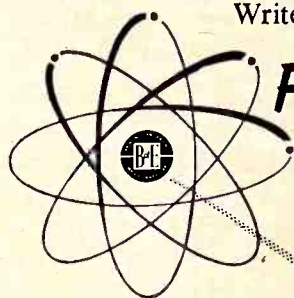
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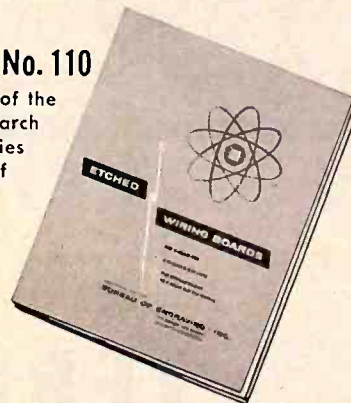
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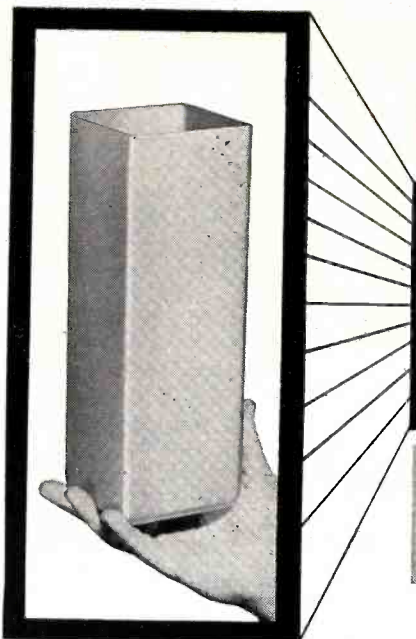
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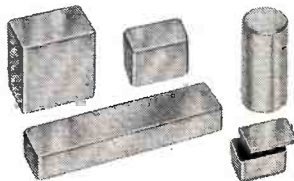
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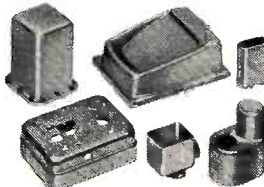
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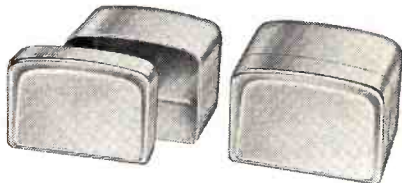
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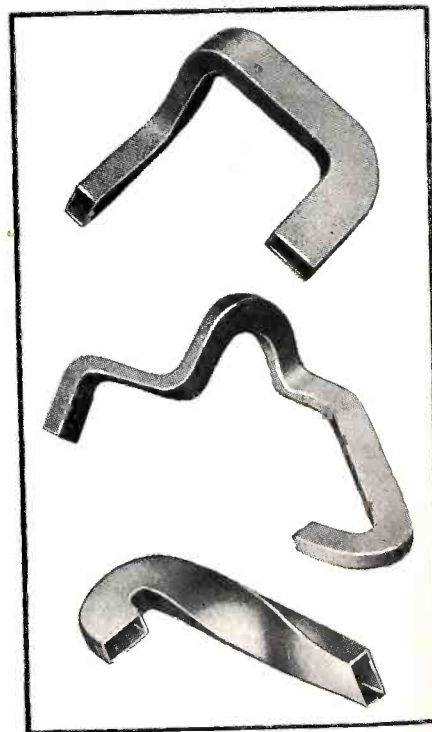
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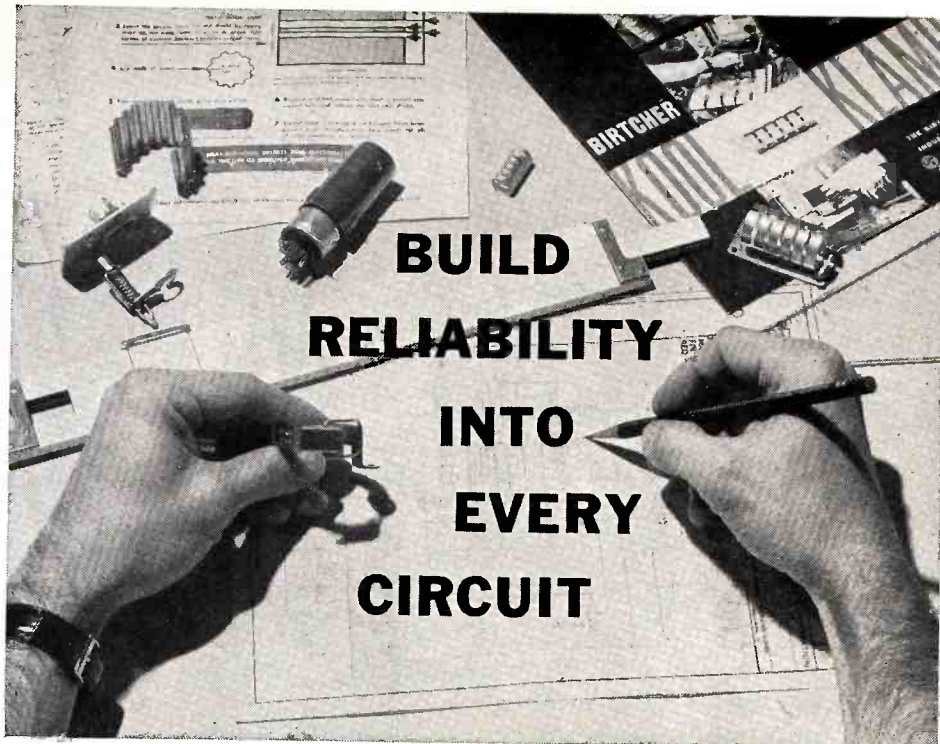
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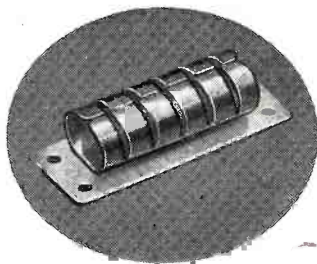
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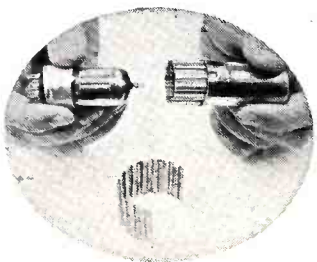
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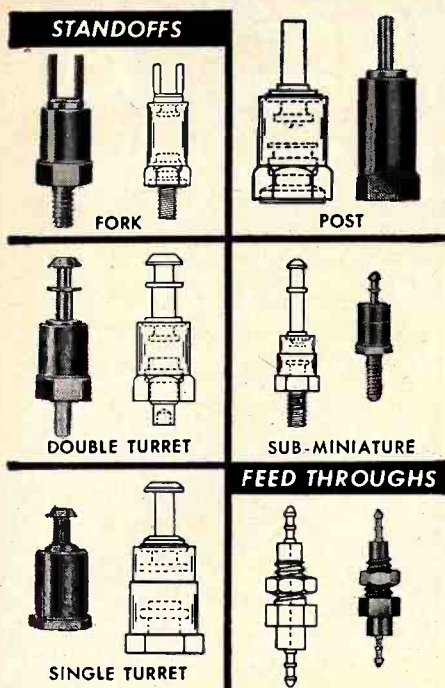
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Over 100 varieties are furnished as standard. This includes a full range of types, sizes, body materials and plating combinations. Specials can be supplied to any specification. The Whitso line is complete to the fullest extent of every industrial, military and commercial requirement.

Standoff terminals include fork, single and double turret, post, standard, miniature and sub-miniature body types—male, female or rivet mountings—molded or metal base. Feed through terminals are furnished standard or to specification.

Whitso terminals are molded from melamine thermosetting materials to provide optimum electrical properties.

**Body Materials:** Standard as follows—melamine, electrical grade (Mil-P-14, Type MME); melamine impact grade (Mil-P-14, Type MMI); and phenolic, electrical grade (Mil-P-14, Type MFE).

**Plating Combinations:** Twelve terminal and mounting combinations, depending on electrical conditions, furnished as standard.

**Specials:** Body materials and plating combinations, also dimensions, can be supplied to any custom specifications.

**PROMPT DELIVERY IN ECONOMICAL  
QUANTITY RUNS**

Get facts on the most complete, most dependable source for terminals and custom molded parts. Request catalog.



**WHITSO, INC.**

9328 Byron Street, Schiller Park, Illinois  
(Chicago Suburb)



*Accurate, Stable, Completely Electronic*

# AC POWER

*Tailored to Your Precise Needs!*

**MODEL 161-D-1**  
POWER OUTPUT: 160 VA  
single phase, FREQUENCY:  
350 to 450 cps variable,  
FREQUENCY ACCURACY:  
0.5% (0.2% and 0.1%  
available), INPUT: 115v  
60 cps single phase,  
OVERALL SIZE: 22" wide  
x 10" high x 15" deep.



**THE VERSATILE BEHLMAN**

# INVERTRON®

**FOR SILENT, DEPENDABLE OPERATION**



Completely electronic in nature, the Behlman INVERTRON may be ordered to suit any desired degree of accuracy . . . with assurance that it will maintain this accuracy during the foreseeable future.

- POWER OUTPUT RATINGS from milliwatts to kilowatts
- OUTPUT FREQUENCIES, fixed or variable, from subsonic to supersonic
- ACCURACY to .001% for fixed frequencies . . . to .1% for variable frequencies
- SINE WAVE distortion never greater than 2%, with .5% or less available
- REGULATION from no load to full load—standard 1% . . . with .5% or better available
- MODULAR CONSTRUCTION TECHNIQUES provide custom instrumentation at production line prices

The Behlman INVERTRON is widely used for research, development, and production of magnetic amplifiers, servo systems, airborne instrumentation, synchros, motors, shaker tables, and choppers.

**MODEL 2003-D-1**  
POWER OUTPUT: 2000 va three  
phase, FREQUENCY: 350 to 450  
cps variable, FREQUENCY AC-  
CURACY: 0.5% (0.2% and 0.1%  
available), INPUT: 230v 60 cps  
single phase, OVERALL SIZE: 24"  
wide x 73" high x 24" deep.

**WRITE FOR  
ADDITIONAL  
INFORMATION**

**BEHLMAN**  
ENGINEERING COMPANY

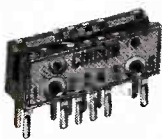
ELECTRONICS • MECHANICS • OPTICS  
DESIGN • DEVELOPMENT • PROTOTYPE

114 SOUTH HOLLYWOOD WAY  
BURBANK, CALIFORNIA

POWER AMPLIFIERS • OSCILLATORS • FREQUENCY STANDARDS • CUSTOM INSTRUMENTATION

# CIRCON

**SPECIALIZED  
MINIATURE and  
SUB-MINIATURE  
ELECTRONIC-INSTRUMENT  
EQUIPMENT  
PRINTED CIRCUIT  
CONNECTORS**



FEMALE Compression loaded Contact Connectors gives a wide range of flexibility of contact arrangement, cabling, and design application. They are open end design for all standard circuit thicknesses in one and two ampere models. 4, 12, 24, 36, 48 and 60 contacts—**IN STOCK.**



MALE Connectors in compatible sizes give two-way cabling to precision printed or instrument circuits with highest contact performance. All connectors exceed temperature requirements MIL-E-5400, humidity MIL-P-15035, Type PRE-P, and conform to N.E.M.A. tolerances.

## MINIATURE PRECISION HARDWARE



Finest premium quality instrument and electronic hardware. Instrument screws, nuts, split lock and flat washers. Gold plated, shot burnished instrument rivets and eyelets. Forty-five sizes start at 1/16" X 3/64" and up in 1/32" increments. **IN STOCK.** MICROMINIATURE Terminal Lugs and 1/32" diameter Rivets for extremely compact printed circuits and other electronic and instrument applications.

## NEW MINIATURE INDICATOR LAMP ASSEMBLIES



For printed or regular circuits. 3/8" X 5/16" front, 1/2" rear projection. Mount 7/16" centers. Over 1000 on 12" panel. Available in 1.3, 2.7, 6, 14, 28 volts in stock. Standard and special message indications and colors. Vibration proof mounting without fasteners and easily replaced standard incandescent bulbs are prime service features of the unit. Finest quality materials and sealed construction for military end use and finest commercial applications.

Representatives in  
United States and Canada

**CIRCON**  
Component Company

Santa Barbara Municipal Airport  
Goleta, California  
Telephone W0odland 8-2011

## ● MAGNETIC AMPLIFIERS

Stabilized for Operation in Thermal Ambient  
-70° C. to +250° C. Output Power Levels  
to 500 W.



MODEL MHL-400-1



MODEL MLL-60-2

## ● MAGNETIC AMPLIFIERS

Commercial Type Stabilized for Operation in  
Thermal Ambient. -40° C. to +110° C.



MODEL MMH-400-1

## ● MAGNETIC MODULATORS

High Temperature Type. -65° C. to +250° C.  
For Fundamental Frequency or D.C. Output.

# McKay Electric Company

19790 STAHELIN AVENUE •

• DETROIT 19, MICHIGAN

## DIMCO-GRAY

# SNAPSLIDE FASTENERS

**PROVIDE VIBRATION-PROOF HOLDING  
AND QUICK, FOOL-PROOF RELEASE!**

APPROVED UNDER ARMY-NAVY STANDARDS

Here's a simple, easy means of securely fastening assemblies to withstand shock or vibration, and yet allow quick removal for inspection or repair. Instant snap action engages or releases fastener . . . no tools are required! After installation, fasteners never need adjustment . . . even with repeated use.

Three sizes available for different load requirements. Large and medium sizes are made of corrosion-resistant stainless steel. Small size is made of nickel-plated brass. Stock parts fit various thicknesses of flanges and mounting plates . . . special parts can also be supplied.

WRITE FOR FULL DETAILS TODAY!

# DIMCO-GRAY COMPANY

204 E. SIXTH STREET DAYTON, OHIO



Design  
Your Circuits  
With

# MOTOROLA TRANSISTORS



## "Productioneered"

FOR  
DEPENDABLE PERFORMANCE  
HIGHEST STABILITY  
VOLUME PRODUCTION

Motorola Semiconductors offer a variety of performance-proven transistor types, in production quantities, for a wide range of applications. And, the development team which produced the "industry standard" power transistor design has many exciting new types which will be released soon.

Whatever your requirements, you can depend upon Motorola Semiconductors for advanced design, competent applications assistance, and competitive prices. Write, today, for complete specification and application data.



## MOTOROLA SEMICONDUCTORS

### MOTOROLA, INC.

5005 E. McDowell • Phoenix, Arizona  
BR 5-4411

### Regional Sales Offices

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540 Bergen Blvd., Ridgefield, N. J.  
WH 5-7500  
(From New York WI 8-6828)

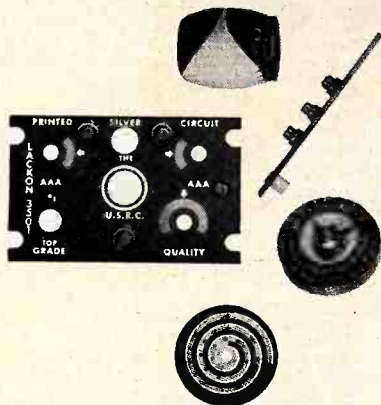
#### MIDWESTERN

William Blinoff  
589 Illinois Street  
Chicago 11, Illinois  
MI 2-1252

# SPECIFY U.S. RADIUM FOR...

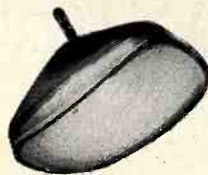
## EDGE-LIGHTED DIALS AND PANELS

All USR dials and panels manufactured by the LACKON® process satisfy MIL-P-7788. Skilled personnel and advanced production techniques provide dials, panels, knobs and knob skirts with pinpoint reproduction and accuracy, as well as resistance to solvents and weathering. USR's integral edge-lighted panels represent the most significant development in the instrument and control panel field since introduction of printed circuits. These new panels simplify lighting circuit assembly and provide greater flexibility for the design engineer.



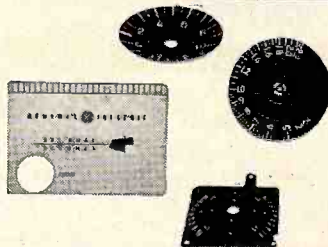
## CATHODE-RAY TUBE PHOSPHORS

Phosphors for all cathode-ray tube applications are unsurpassed in adhesion and brightness. Closely controlled through every step of processing, USR phosphors feature high batch-to-batch uniformity. Colors are prepared to customer requirements.



## DIALS AND PANELS

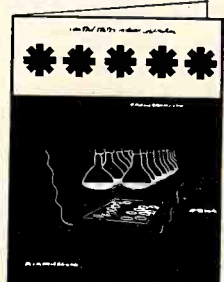
Metal and plastic dials and panels are available for instrument and control panel application. USR offers the widest selection of marking techniques and an extensive array of materials from which to choose.



## RADIATION AND LIGHT SOURCES

Radioisotopes and radioisotope-excited phosphors packaged in a wide variety of custom-engineered, permanently sealed containers are designed to provide optimum radiation or illumination for research, process control, data display and signalling applications.

U. S. Radium's IDEA FILE, a guide to selection of proper materials and techniques for dials, panels and nameplates, is available on request. Write for Bulletin 10.30C



# UNITED STATES RADIUM CORPORATION

Morristown, New Jersey

5942 W. Chicago Ave.,  
Chicago 51, Illinois  
5420 Vineland Ave.,  
North Hollywood, California

#### Affiliates

CANADA: Radelin-Kirk Ltd., 1168 Bay St., Toronto, Ont.  
EUROPE: United States Radium Corporation (Europe)  
36 Avenue Krieg, Geneva, Switzerland.



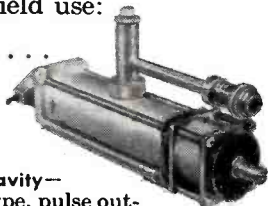
# NOW...ANY MICROWAVE COMPONENT CAN BE BUILT AND ENGINEERED TO YOUR PARTICULAR APPLICATION

Regardless of complexity, design or tolerance problems—you can get UHF or microwave components that are job-engineered to your application. All units are delivered, *electrically tested and proven*, ready for immediate operation.

Components can be built from your prints or can be designed and built to integrate with the application. Close and confidential coordination is maintained from drawing board stage to installation.

Range of assemblies is practically unlimited—from dc. to over 40,000 mc., military or industrial. Typical examples are these components, delivered ready for field use:

## Telemetering . . .



Tuneable S-Band

Transmitter Cavity—re-entrant type, pulse output 150 w., operates at extreme altitudes and under extreme conditions of temperature, humidity and salt spray.

## Improving signal-to-noise ratio . . . selectivity . . .



Tuneable UHF

Pre-Selector—relatively low frequency coaxial resonator with very low insertion loss, extreme selectivity and very high signal-to-noise ratio. Especially adapted to use in aircraft or in crowded communication bands.

## Calibrating . . . designing S-Band components . . .



S-Band Signal Generator Cavity—

re-entrant type, complete with thermistor mount and calibrated variable attenuator. Frequency range 2700 to 3400 mc.

Get the facts on our complete design, engineering and mechanical fabrication facilities. Have us quote on your needs—cavities, mixers, duplexers, multipliers, rotary joints, twists, bends and other components or assemblies.

Contact us today. Request catalog.

CUSTOM-ENGINEERED  
MICROWAVE  
PARTS



J-V-M ENGINEERING COMPANY

4631 LAWDALE AVENUE, LYONS, ILLINOIS  
(Chicago Suburb)

When ordering or seeking information please mention *Electronics Buyers' Guide*.

# MACARR

Inc.

## MODEL 999 BATTERY CHARGER

Model 999 Charger is a fully automatic, constant current type unit, capable of charging three batteries independently and simultaneously. Includes a discharge circuit designed specifically for the maintenance of silver-zinc batteries.

Constant current is maintained throughout the entire charging cycle except at the initial start when battery is practically a short circuit. At this point the charger surge is limited to less than ten amperes for the short duration required to bring battery terminal voltage up.

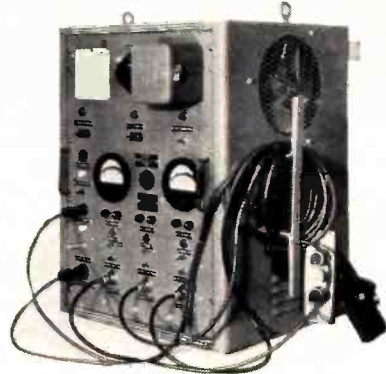
Charger terminal voltage automatically regulates to maintain current constant from a theoretical starting voltage of zero to a critical range of 28-28.5V.

At this level the battery is considered charged and charger automatically shuts off. Charger is equipped with input line cord, three sets of charging leads with Cannon 11751 plug and one set of discharge leads.

Input: 115 volts, 1 phase, 50/60 cycles

Output: 3- independent outputs, each 5-6 A @28.5 Volts

Discharge Circuits: 1-75 Amps, 1-20 Amps



## MAGNETIC AMPLIFIER REGULATED RECTIFIER—MODEL MAR 120-10

Input: 115 volts, 1 phase, 60 cycles

Output: 10 A @ 120 volts nominal  $\pm 10\%$

Regulation: Less than 1% from zero to full load with  $\pm 10\%$  line change

Ripple: 1% RMS

Response: .2 seconds

Cooling: Convection

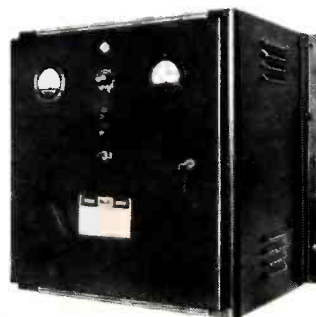
Meters: 3 1/2" Voltmeter and Ammeter

Cabinet Size: 28" H x 22" W x 15" D

Wall or bench mounted

Model MAR 120-10 is a ruggedly constructed magnetic amplifier regulated power supply using high efficiency silicon diodes for reference circuits and germanium or silicon for the power rectifiers.

SEND FOR COMPLETE INFORMATION



# MACARR, Inc.

2543 BOSTON ROAD • BRONX 67, NEW YORK  
Telephone: OLinville 3-3306-7

## 4 WAYS TO END ALL CORD AND CABLE SERVICE FAILURES

*Economically*

# GRIPMASTER STRAIN RELIEFS

Interruptions due to cable and cord connection failures are eliminated because they anchor the cord to the product at the point of strain. GRIPMASTER Strain Reliefs can withstand pulls up to 100 lbs., and are acceptable to Underwriters Laboratories. All types Reg. U. S. Pat. Off.



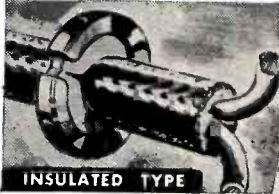
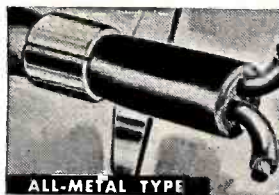
## PROTECT YOUR PRODUCT

at point of strain  
Protect product saleability too — by insuring long life for cords, cables and conductors. Genuine "GRIPMASTER" Strain Reliefs provide these vital features—

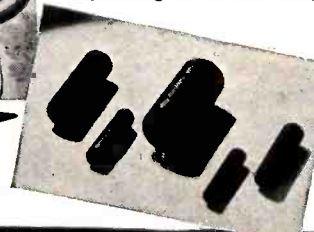
- ★ Anchor cords to housings
- ★ Eliminate taping or threading
- ★ Prevent unraveling
- ★ Prevent cord pull damage
- ★ All sizes and styles
- ★ Easy to apply
- ★ Inexpensive

Gripmaster Strain Reliefs are "tremendous trifles" that make good products better!

Ask for samples.



WIRE BINDING SLEEVES—Preventing fraying of cord ends, these specially-treated rubber tubes are available in five sizes to fit wires to .790



WRITE FOR SAMPLES AND LITERATURE TODAY!

# GEORGE WALKER COMPANY

STRAIN RELIEF SPECIALISTS

118 AMSTERDAM AVE., PASSAIC, NEW JERSEY



# PRECISION SUPPLIES

## Portable Pattern



Model	Voltage	Current
RE-1601	200-1600	0-25 Ma
RE-1602	300-1600	0-10 Ma
RE-1901	300-1900	0-25 Ma

## Rack Pattern



Model	Voltage	Current
RE-1603	300-1600	0-10 Ma
RE-1610	300-1600	0-100 Ma
RE-2003	500-2000	0-25 Ma
RE-2006	500-2000	0-50 Ma
RE-3002	500-3000	0-20 Ma
RE-3004	500-3000	0-40 Ma
RE-3006	500-3000	0-60 Ma
RE-5001	500-5000	0-10 Ma
RE-5002	500-5000	0-20 Ma
RE-5003	500-5000	0-30 Ma
RE-5502	1000-5500	0-25 Ma
RE-10001	1000-10000	0-10 Ma

### Features

Either positive or negative of any supply may be grounded.

Regulation: .01 to .001%

Line Stability: .05 to .005%

Long-term Stability: .01-.05% per hour, about 0.1% per day

Impedance: 1 to 5 Ohms

Ripple: 0.5 to 3 Mv P-P

Standard tubes used

### Constant Current Supplies

RI-222E	.01-220 Ma	0-340V
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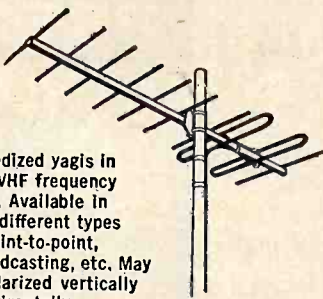
### Millimeter Wave Generators

KSG-291	36.2-33.5 kmc	8.3-8.9 mm
KSG-290	33.5-29.7 kmc	8.9-10. mm
KSG-289	30-27.3 kmc	10.-11. mm
KSG-33	25-22 kmc	12.-13.6 mm

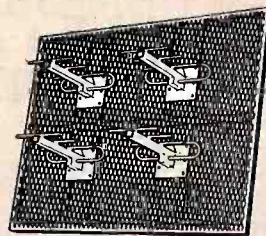
Any of these supplies can be modified or special designs built to meet specialized requirements.

## Northeast Scientific Corp.

617 CONCORD AVENUE  
CAMBRIDGE 38, Mass.

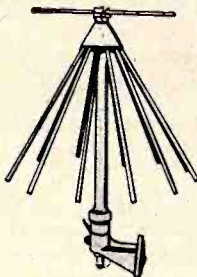


Ruggedized yagis in wide VHF frequency range. Available in many different types for point-to-point, rebroadcasting, etc. May be polarized vertically or horizontally.

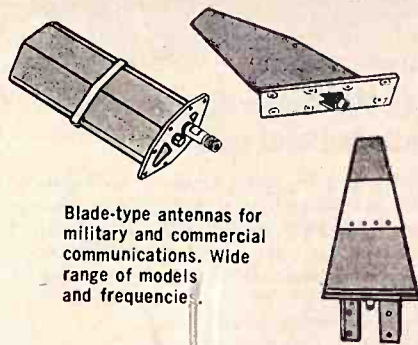


SY-44 Screen type reflector with 4 yagi antennas. 450-470 MC range. Mounting for tower or pipe mast available. 13 db gain over half-wave dipole.

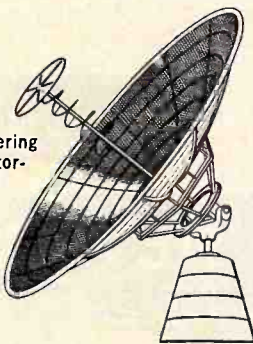
## when it comes to antennas...



AT-197  
Disc cone type.  
Frequency range  
225-400 MC.

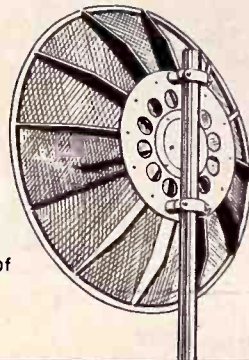


Blade-type antennas for military and commercial communications. Wide range of models and frequencies.



16-foot telemetering parabolic reflector-antenna. Helical driver for operation in range of 215-235 MC. Other drivers available.

4-foot, one-piece parabolic reflector-antenna. Wide selection of drivers. Also, 6, 8, 10, 16, 19 and 32-foot dishes available with drivers to meet the needs of the system.



## you name it—we make it

Taco is the world's largest organization devoted solely to design, development and production of fine antenna systems for the military, commercial and home markets. A wide choice of 'stock' antenna types makes Taco the place to look for antennas to meet your needs. If we don't have what you need, we'll make it.

Send for complete technical catalog...



D-322 Parabolic reflector-antenna, 32' diameter. Available for ground or tower mounting.

# TACO

TECHNICAL APPLIANCE CORPORATION, SHERBURNE, N. Y.

In Canada: Hackbusch Electronics, Ltd., Toronto 4, Ont.



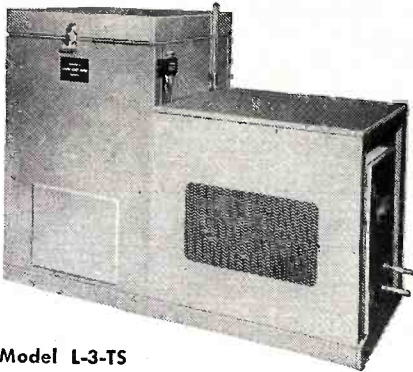
# TEST CHAMBERS



Model LHH-FS

## Low-High Temperature Chamber with Controlled Humidity

Supplied in sizes from 2 to 100 cu. ft. net working space, these chambers operate to  $-100^{\circ}$  F at rapid reduction rate and provide controlled humidity through a range of 35 to  $175^{\circ}$  F at 20 to 95% r.h. Full controls available.



Model L-3-TS

## Chest Type Low-Temperature Cabinet

Available in sizes from 2 to 30 cu. ft. net working space. Optional controls furnished to customer specifications. Temperature range to  $-100^{\circ}$  F. Capacity for rapid temperature reduction.

Equipment available to meet U. S. Govt. specs for environmental testing. Electronic or pneumatic recording or indicating control systems. Walk-in rooms, temperature baths and custom chambers manufactured to specifications. Optional finishes in hammertone, aluminum or stainless steel. Rounded corners standard on all equipment.

### WALK-IN ROOMS TEMPERATURE BATHS

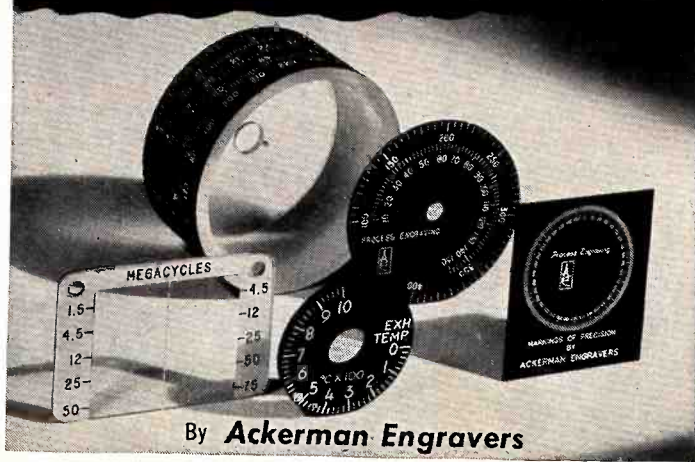
Manufacturers of Environmental Test Equipment Since 1941

MEMBER of Environmental Equipment Institute



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# PRECISION DIALS



By **Ackerman Engravers**

**STOCK DIALS.** In many sizes and styles, calibrated and engraved to close tolerance. Stocked for your convenience.

SAVE DESIGN TIME — Send for Standard Dial Catalog.

**PROCESS ENGRAVING.** Process Engraving is a Photocontact Process which will produce dials in short or long run production, to an accuracy of 2' minutes of arc.

SURE ACCURACY — Send for Process Engraving Folder.

**MECHANICAL ENGRAVING.** Most modern engraving and machine shop facilities, automatic tooling for accuracy and speed, produced by a skilled and experienced personnel.

LARGE PRODUCTION FACILITIES —

**EDGELIGHTED PANELS.** Dialglo 1211 — Produced by Photocontact (Process Engraving) meets all requirements of MIL-P-7788 Approved by Bureau of Aeronautics.

BEST FOR ILLUMINATION — Send for Dialglo 1211 Folder.

Whatever your Dial specification, stock or custom consult Ackerman Engravers.



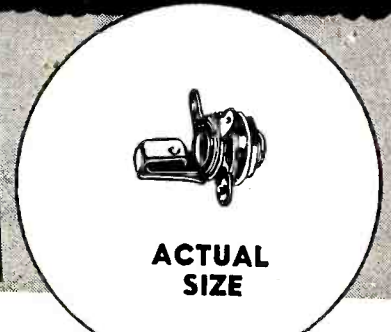
**ACKERMAN ENGRAVERS**

458 Broadway, New York 13, N. Y.

# NEW SUB-MINIATURE JACK

## for Miniature Electronic Applications

- Tape Recorders
- Miniature Radios
- Computing Machines
- Dictating Machines



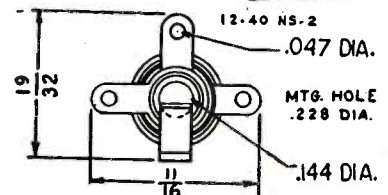
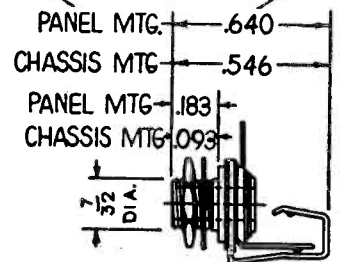
ACTUAL SIZE

Part No.	Type	Mounting
311	Closed Circuit	Panel
312	Closed Circuit	Chassis
313	Open Circuit	Panel
314	Open Circuit	Chassis

Despite its tiny size (about one-third the size of standard models) this new jack is precision made, and ruggedly built for all electronic applications.

Mounting bushing is made of brass, nickel plated, requires .228 dia. mounting hole. Insulators are laminated phenolic, and spring contacts are silver plated.

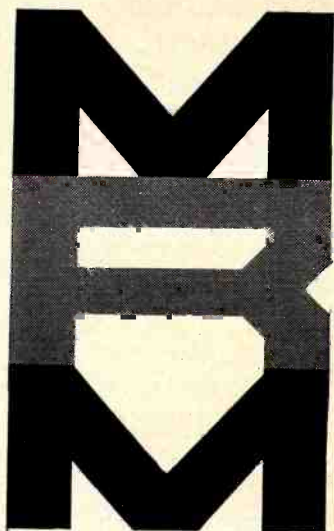
Manufacturers of Electronic components of the highest quality . . . . . now serving the leading manufacturers in the United States & Canada. For complete information send for our catalog.



**NATIONAL TEL-TRONICS CORPORATION**

52 ST. CASIMIR AVENUE, YONKERS, N. Y. TEL. YONKERS 8-6400

need  
precision  
plastics?



- **has** complete facilities to serve the electronic industry from mold design to finished product.
- **will** take the time to experiment, design engineered plastic components to fill any need.
- **can** produce economically in small quantities.
- **meets** the most exacting tolerance requirements.

**• INJECTION, TRANSFER and COMPRESSION MOLDING.**

Silicone, diallyl, phthalate, phenolic, alkyd, melamine, fluorocarbon, nylon, PVC, polyethylene, Teflon, butyrate, acrylics.

**• INSERT MOLDING.**

**• SPECIALISTS IN MINIATURIZATION.**



Davisville Rd. — Bucks County  
Davisville, Pa.  
Phone — Elwood 7-5562

# GRAY INSTRUMENT

FOR  
PRECISION RESISTORS  
AND  
INSTRUMENTS FOR MEASURING  
RESISTANCE, MILLIVOLTS, ETC.  
PRECISELY



STANDARD RESISTOR  
BU. OF STDS TYPE



STANDARD RESISTOR  
REICHANSTALT TYPE



E-1005 WHEATSTONE BRIDGE

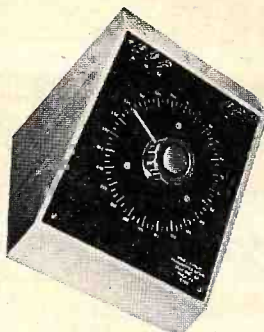
**POTENTIOMETERS & VOLTAGE DIVIDERS**

E-3040 AW LABORATORY STANDARD  
Accuracy .01%

E-3035 BROOKS DEFLECTION TYPE  
For Instrument Calibration

E-3030 WHITE DOUBLE POTENTIOMETERS  
For Precise Thermocouple Work

E-2554 VOLTAGE DIVIDER  
Accurate to 1 Part in 100,000



E-2582 TRANSMITTER BRIDGE

RESISTANCE BOXES  
SHUNT BOXES  
VOLT BOXES

**WHEATSTONE BRIDGES**

E-1000 ANTHONY PATTERN  
Accuracy .01%, 10  $\Omega$  to 1 Megohm

E-1005 DIAL TYPE  
Accuracy .05%, 10  $\Omega$  to 1 Megohm

E-1002 MUELLER BRIDGE  
Accuracy .02%, Designed  
For Resistance Thermometry

Portable Types in Various  
Ranges and Models



RACK MOUNTED E-3043 POTENTIOMETER

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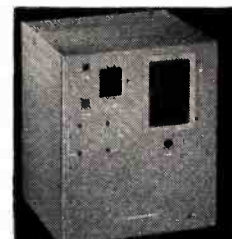
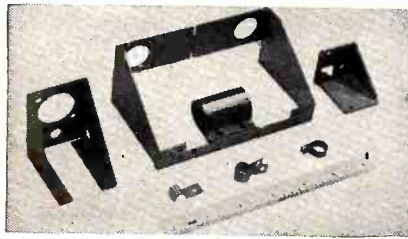
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Secondaries:

570-0-570V 240 mad\*

5.0V 3 A

6.3V 3 A

6.3V 1.2A

6.3VCT 6 A

\*Note 40 ma provided

Size: 5 1/4 x 4 3/8 x 5 1/2 H

Mtg. Centers: 3 1/2 x 3 1/2

Weight 15 lbs.

Associated Choke: ST2009

4 Henries at 240 madc.

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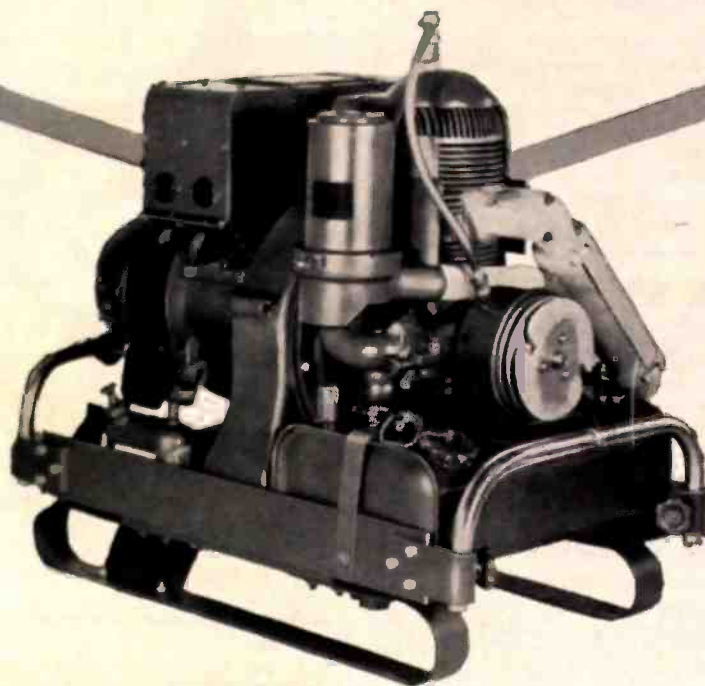
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FROM STOCK Easy-to-apply *Class H* insulation or non-stick facing. -100° F to 400° F (-70° C to 200° C) temp. range, ¼" to 2" rolls. Special widths to 12", .006" and .013" thickness. 1500 vpm dielectric strength, volume resistivity 2x10<sup>14</sup>, dielectric constant 2.3 (60 cycles) 2.2 (1 meg.); power factor .0040 (60 cycles), .0033 (1 meg.) white and NEMA colors.

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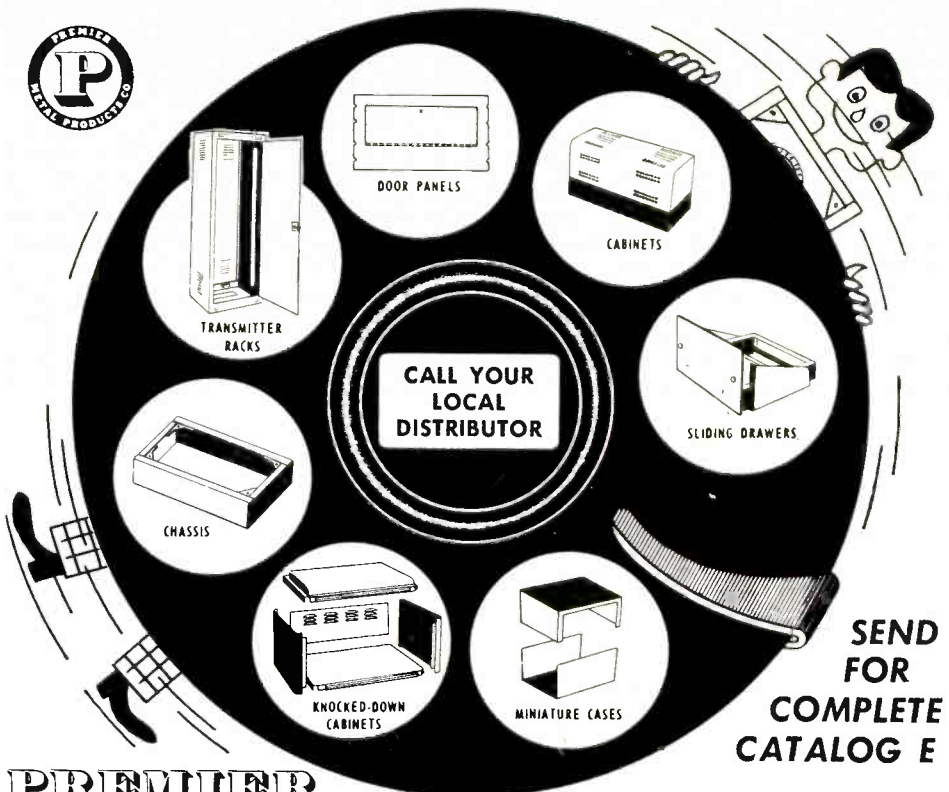
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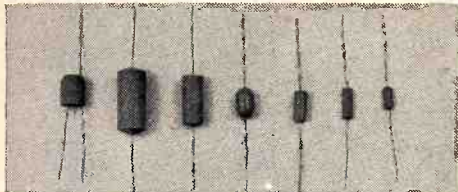
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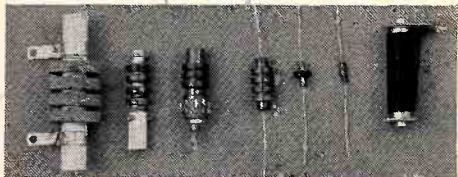
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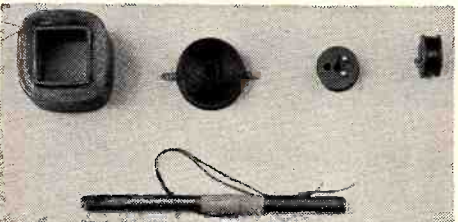
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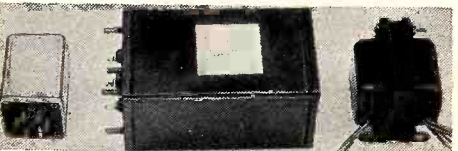
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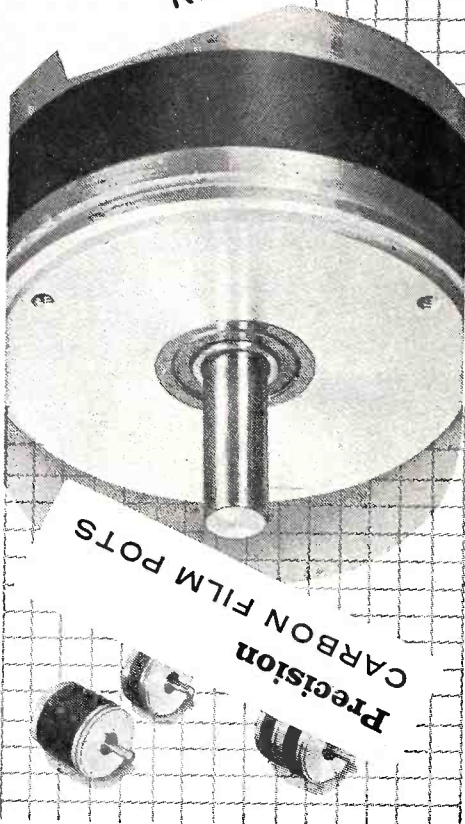
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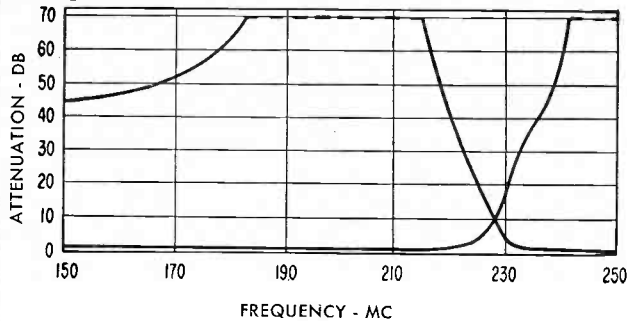
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High & Low Pass.	110-147	1.0	157-210	50	50	2	700
	157-212	1.0	110-147	50	50	2	700
High & Low Pass	157-212	1.0	236-246	50	50	2	700
	236-246	1.0	157-212	50	50	2	700

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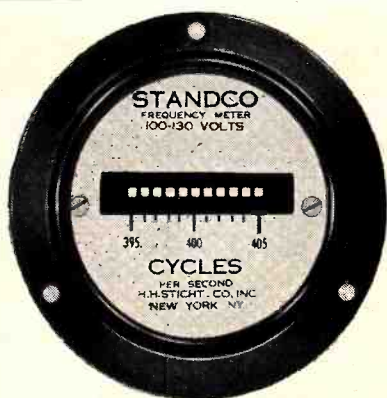
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Special Ranges:  
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- **PORTABLES:** In large or small cases.

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**AUTOMATIC CONTROL NEWS**

by Dynamics Research Associates

**dynamag**

operational magnetic amplifiers are  
widely used for signal amplification

The highly stable **dynamag** D-C Operational Magnetic Amplifier has linear, reversible polarity output and variable gain features. It has wide application in automatic feedback control systems and D-C instrumentation where amplifying and mixing low level signals are involved.

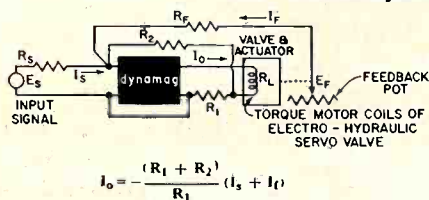
Many important features contribute to the wide acceptance of **dynamag**. Extremely reliable, magnetic toroidal cores and silicon diodes replace vacuum tubes in the **dynamag**. It is rugged, requires no maintenance, and needs no warm-up time. Models are available to meet MIL-E-5272A and MIL-T-27A requirements. High stability is another impor-

tant **dynamag** characteristic. Zero Drift is 0.2% of full scale for a temperature range of zero to 170° F. Zero Error is 1% of full scale for a 10% variation in supply voltage or frequency.

Its linearity is 1% of reading in linear range. Highly sensitive, the **dynamag** has a small signal power drain. No D-C power supply is required. Power gains up to 300 are practical.

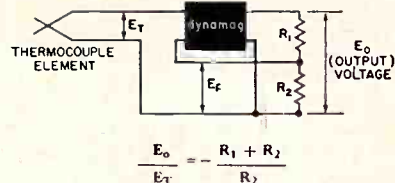
The versatile **dynamag** can be used as a lead-lag, summing or integrating element in servomechanisms; also as a D-C variable gain current-mixing amplifier or D-C voltage amplifier for low level, low impedance signal source.

**TYPICAL dynamag APPLICATIONS**



*Amplifier for an Electro-Hydraulic Servo-System*

Provides an output current through the torque motor coils of the electro-hydraulic valve. Mixes input and feedback signals.



*Amplification of a Low Level, Low Impedance Signal*

Voltage feedback makes input impedance of amplifier high to signal source such as a thermocouple or a low impedance bridge circuit.

SPECIFICATIONS	dynamag Type Number			
	MA 61	MA 41	MA 101	MA 501
Power Supply (1.5 watts):				
CPS	60	400	1000	5000
VRMS	115	115	20	20
Max. Output, Milliwatts	21	62	160	160
Max. Output, Volts	5.5	10	12	12
Internal Impedance, Ohms	400	400	300	300
Input Coil Resistance, Ohms	140	100	50	50
Voltage Range of Linear Operation	3	8	10	10
Approx. Band Width, CPS	6	40	100	500

WE DESIGN SPECIAL MODELS TO MEET YOUR REQUIREMENTS

**OTHER dynamag PRODUCTS**

DRA also manufactures Differential and Servo Motor Magnetic Amplifiers, as well as saturable reactors, transistorized inverters, transistorized frequency converters, D-C regulated power supplies, and line voltage regulators.

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**VOLTAGE REGULATED**

**RIPPLE:** 0.03% at Maximum Load.

**REGULATION:**

**LINE,**  $\pm 1\%$  for line change of  $\pm 10\%$  from nominal 115 V.

**LOAD,** Less than 4% for Load Change of zero to F.L. at Maximum Output Voltage and Nominal Input.

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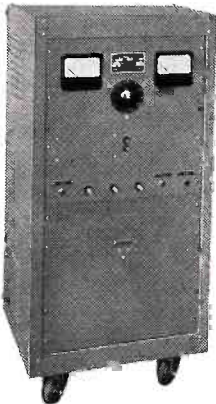


AMPS.	PORTABLE UNFILTERED (Full Wave Rectified)	RACK FILTERED (Ripple: Less than 1%)	PORTABLE FILTERED (Ripple: Less than 1%)
5	GM72	KM75*	KM75B*
10	GM78	KM81	KM81B
20	GM84	KM87	KM87B
40	GM90	KM93	KM93B

\*Ripple: Less than 0.5%

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**RIPPLE:**  
4 - 5% of Average DC Output.

**REGULATION:**  
1/10 Load, 31 1/2 V  
Full Load, 30 V.

**FULLY PROTECTED** against:

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- Overcurrent
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MODEL FR100.....100 Amperes  
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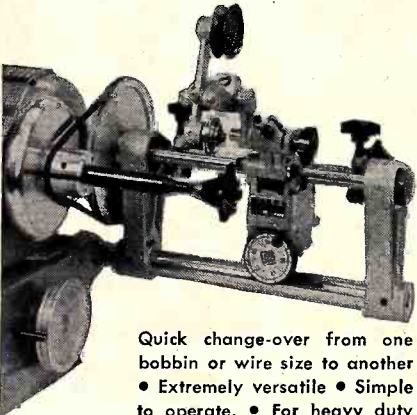


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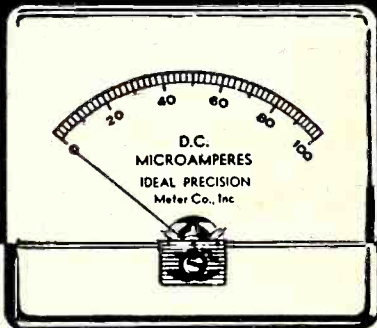
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*Electro-Pulse*

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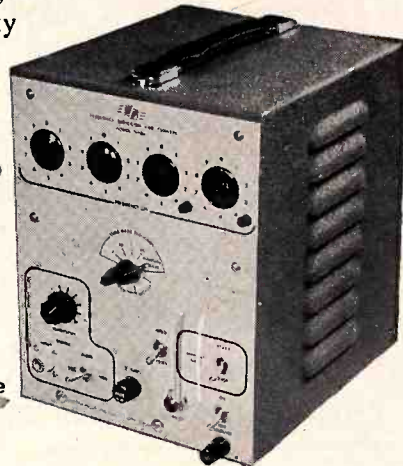
- PRESET COUNTERS
- FREQUENCY INDICATORS
- TIME INTERVAL METERS
- COMBINATION INSTRUMENTS

Using cold cathode glow transfer tubes for counting and indication, Electro-Pulse counting and measuring equipment features the reliability inherent in simplified circuitry.

Inputs are of sufficient sensitivity for direct operation from common transducers, and provide threshold controls for discrimination against unwanted signals.

**FREQUENCY INDICATOR AND COUNTER  
MODEL 7340A**

Available with Print-out  
Measures Frequency  
Measures Speed or Repetition Rate  
Counts Events Per Unit Time



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*Electro-Pulse*

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- PULSE GENERATORS
- TIME DELAY GENERATORS
- PULSE CODE GENERATORS
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**MEGACYCLE PULSE GENERATOR  
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20 CPS to 2 Megacycles  
0.1 to 5  $\mu$ s pulse width  
0.1 to 5  $\mu$ s pulse delay  
50 volt low impedance output



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Telephones: EXmont 8-6764 and TEXas 0-8006

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RANGE: 60 db • INPUT ATTENUATOR: 50 db. in steps of 5 or 10 db. • SENSITIVITY: 1 microvolt across 200 ohms for full scale deflection • AMPLIFIER FREQUENCIES: Wide-band, 400 cycles tunable  $\pm 5\%$ , 1000 cycles tunable  $\pm 5\%$  • AMPLIFIER: Q 25  $\pm 5$  • METER SCALES: VSWR 1-4, VSWR 3-10. DB 0-10 •

SIZE: 14 $\frac{1}{4}$ " d, 8 $\frac{1}{2}$ " w, 10 $\frac{1}{2}$ " h • PRICE: \$195.00.

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MICROWAVE • FREQUENCY: 2150-2350 Mc. • POWER OUTPUT: 15 Watts CW • MODULATION: Amplitude or Frequency ( $\pm 125$  Kc. deviation) • SIZE: 2" by 4" by 7"

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FREQUENCIES: 2.5, 5.0, 10.0, 15.0, 20.0, 25.0 Mc. • SENSITIVITY: better than 1.0 microvolt for standard output • SELECTIVITY: 10 Kc. • INPUT: dual • OUTPUT: 600 ohms and self contained speaker • TUNING EYE: zero beat indicator • SIZE: 14 $\frac{1}{4}$ " d, 8 $\frac{1}{2}$ " w, and 10 $\frac{1}{2}$ " h • PRICE: 195.00

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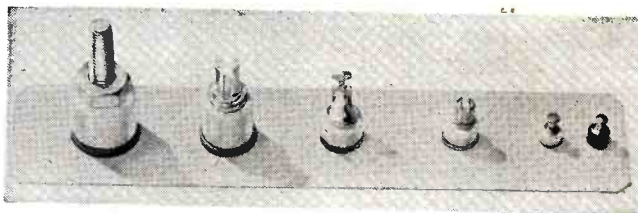
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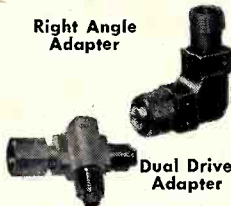
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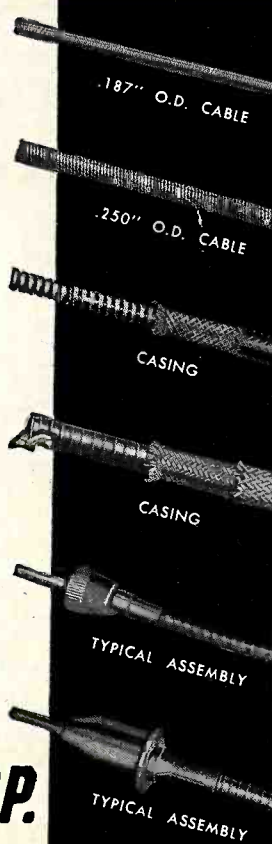


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WEST COAST PLANT: 1638 So. FLOWER STREET · LOS ANGELES 15, CALIFORNIA



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Sizes

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Field Tested—used with transistors by leading manufacturers in large quantities.

### NEW!

400 cps Servo transformer-Sub-Miniature Size  
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ac power: 12.5 watt 3/4"x1"x1" #427

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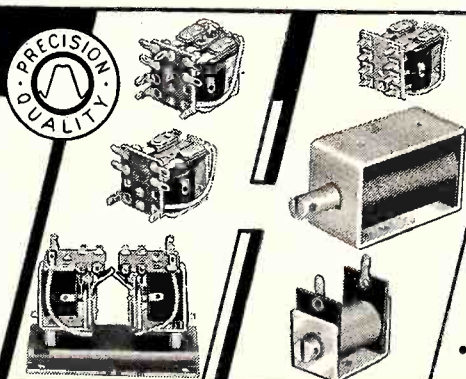
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60 cps Isolation transformer-Sec. ct

Spec. Output 115 v. 3.0 mw 3/4"x1"x1" #608

Enclosed: any manner

Special requisition will be constructed within two weeks.



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Protected against splashing water, oil, dust, condensation, and corrosive gases. Silicone boot seals clearance between case and operating pin. Cover sealed to base with thermostetting adhesive. Furnished with a wide variety of actuators. Electrical rating is 20 amperes 125/250 volts a-c.

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voltage regulators

test equipment

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7-57

# THE 17<sup>TH</sup> YEAR

for the

## electronics BUYERS' GUIDE

- For Product Information
- For Trade Name Listings
- For Manufacturers' Representatives

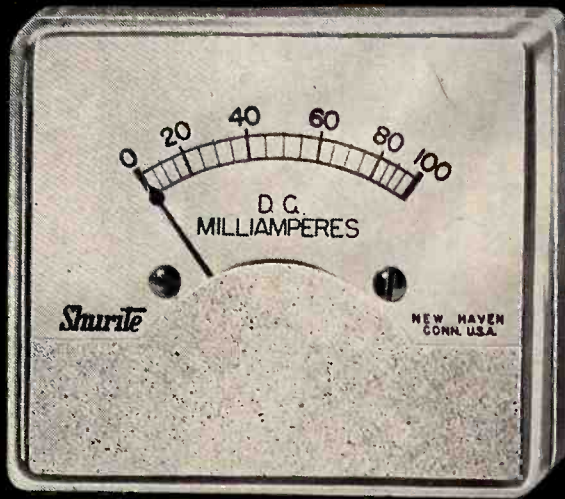
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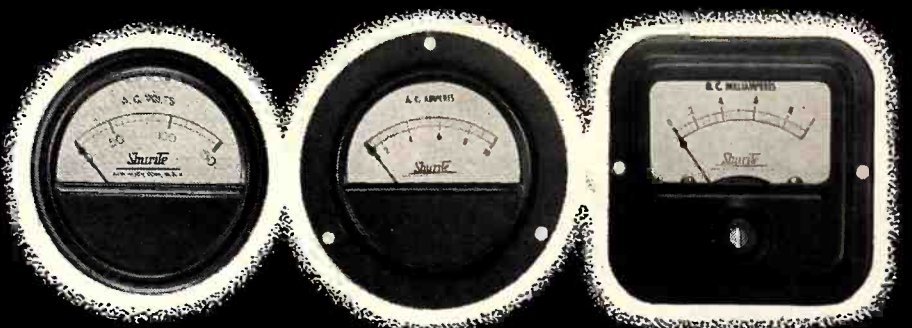
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- STURDY
- ATTRACTIVE
- EXCELLENT VALUE

263 MODELS  
AC or DC



850 Series  
Shown actual size



550 Series

650 Series

950 Series

Shown approximately half size.

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- **TYPES**—Ammeters, milliammeters, voltmeters, AC and DC. Resistance meters. AC are double-vane repulsion type with jeweled bearing. DC are polarized-vane solenoid type or moving magnet construction.
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- **DIALS**—Long scale—all metal—age and moisture resistant. Special calibrations, one to five colors.
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- Ease and speed of handling reduces costs
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- Now used in Aircraft, Electronic Devices and Motors
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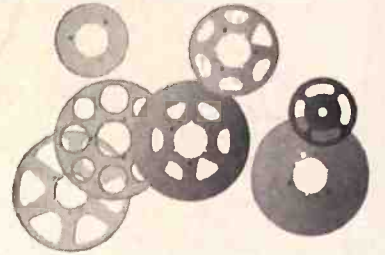
THE **NARROW FABRIC** COMPANY

Reading, Pa. • Tel. FRanklin 4-8311  
Athens, Ga.

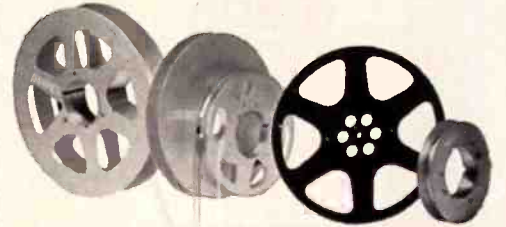
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**SOLID ALUMINUM HUBS:** 1/4", 1/2", 3/4", 5/8", 1", 2" machined to your required tolerance... intermediate sizes on special order. **ALUMINUM FLANGES:** Off the shelf; dia. 6", 8", 10 1/2", 12 1/2", 14"—.050 and .100 stock... other sizes and designs to your specifications. **PRECISION REELS:** Assembled for your needs from Standard Record components; or designed, developed and manufactured... any size, any quantity... to meet unusual space, weight, operational, or environmental demands.



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# WIDE BAND AMPLIFIERS

## SPECIFICATIONS

	M-530	M-500A*	M-400	M-395	M-510
Band Pass	10KC to 300MC	200KC to 220MC	200KC to 300MC	1KC to 50MC	200KC to 220 MC
Input Impedance	135 ohms	90 ohms	50 ohms	90 ohms	90 ohms
Output Impedance	150 ohms	185 ohms	90 ohms	90 ohms	185 ohms
Gain	18 DB	12 DB	10 DB	70 DB	16 DB (90 ohm load)
Rise Time	2 x 10 <sup>9</sup> sec	.0025 u-sec.	.0016 u-sec.	0.01 u-sec.	.0025 u-sec.
Average Power	-----	3 Watts CW	100 W. CW	-----	-----
Peak Pulse Power	-----	337 Watts (Negative pulse into 185 ohm load)	-----	-----	-----
RMS Voltage out—across rated load impedance	3.5 V	22 Volts	95 Volts	1 Volt	12 volts
Peak to Peak Voltage—across rated load impedance	7 V	62 Volts	270 Volts	2.8 Volts	33 volts
Price including Power Supply	\$245	\$390	\$4900	\$495	\$325

\*A modified version of the M-500A which operates only in the linear mode, is the M-500 which is available at a price of \$330.  
All Prices F.O.B., Mineola, New York



A



B



C

- A M-395
- B Std. size of M-530, M-500, M-500A, M-510
- C M-400

## I-F AMPLIFIERS



### SPECIFICATIONS OF STANDARD UNITS

	M-260	M-230	M235
Band center.....	60 mc.....	30 mc.....	30 mc.....
Band width.....	10 mc.....	2 mc.....	10 mc.....
Voltage gain.....	90 db.....	110 db.....	90 db.....
Input and Output Impedance.....	50 ohms.....	50 ohms.....	50 ohms.....

Each Unit Shown — \$180.00 F.O.B., Mineola, N.Y.

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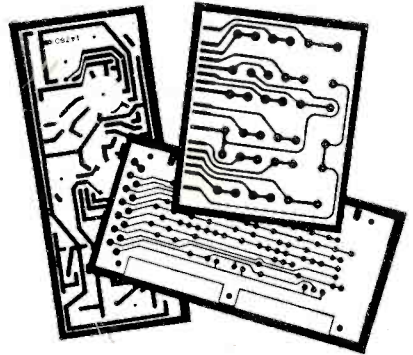
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**MICHIGAN**—Ben Z. Rubin, 16222 Cheyenne Ave., Detroit, Mich., UNiversity 4-4958  
**NORTH CENTRAL**—Edward Hoffman, 635 S. Cleveland Ave., St. Paul 16, Minn., MIDway 9-3371  
**OHIO & IND.**—Jack Carney & Assoc., 905 Knott Bldg., Dayton, Ohio, FU1ton 3943  
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**MIDWEST**—Edwin Murty, 3505 Ridgedale Ave., St. Louis, Mo., EVergreen 5-7728  
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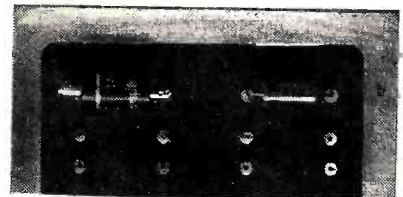


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- Dip soldering of circuits

MAKE SOLDERLESS CIRCUIT  
COMPONENT CONNECTIONS WITH

## "MICRO-PIN SOCKETS"



Protects delicate components from distortion during soldering process.

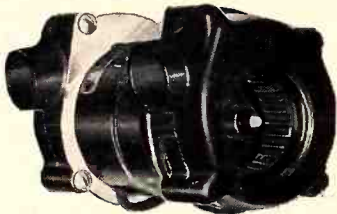
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**HEINZE****BLOWERS and MOTORS****DD DOUBLE BLOWER**

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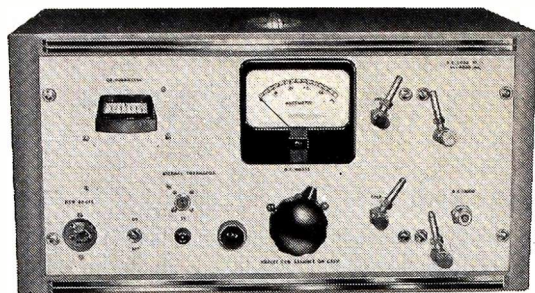
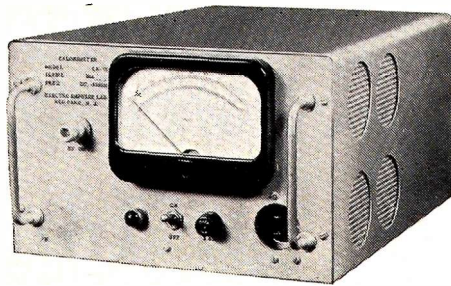
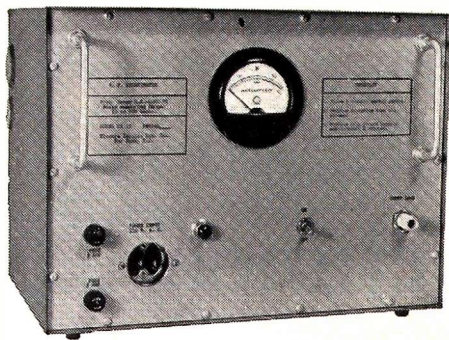
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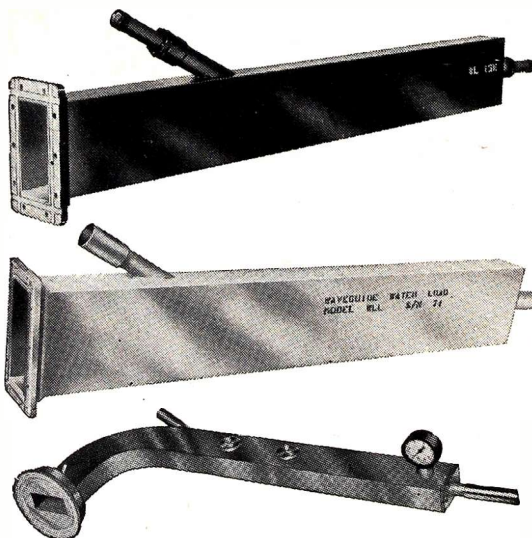
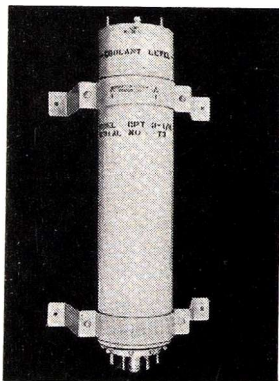


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1 TO 20,000 WATTS

- Direct Reading
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- Uses NO Thermometers
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- Can be Calibrated in the Field



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FOR CALORIMETRIC USE

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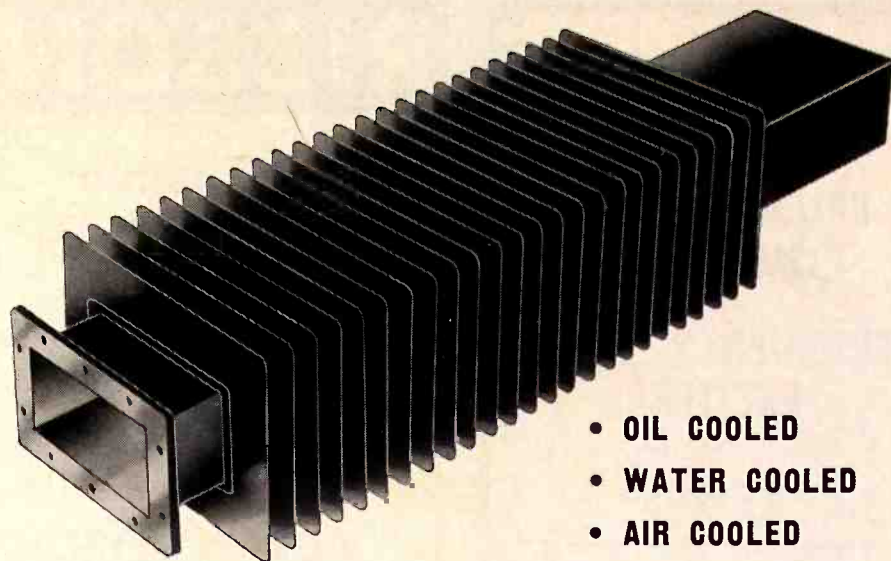
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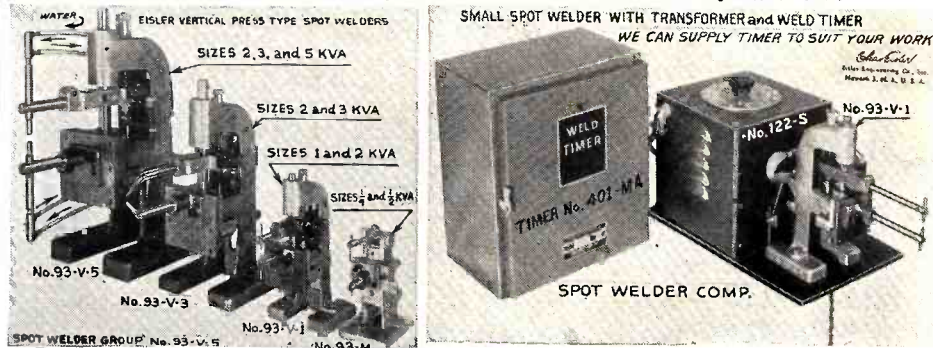
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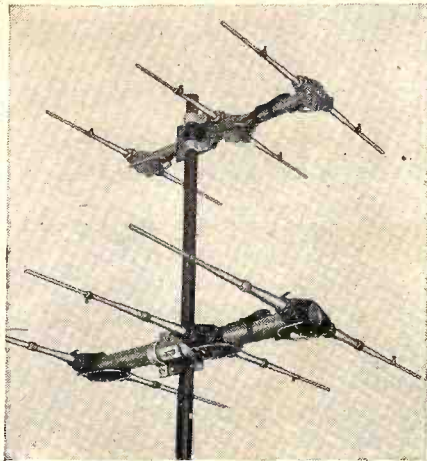
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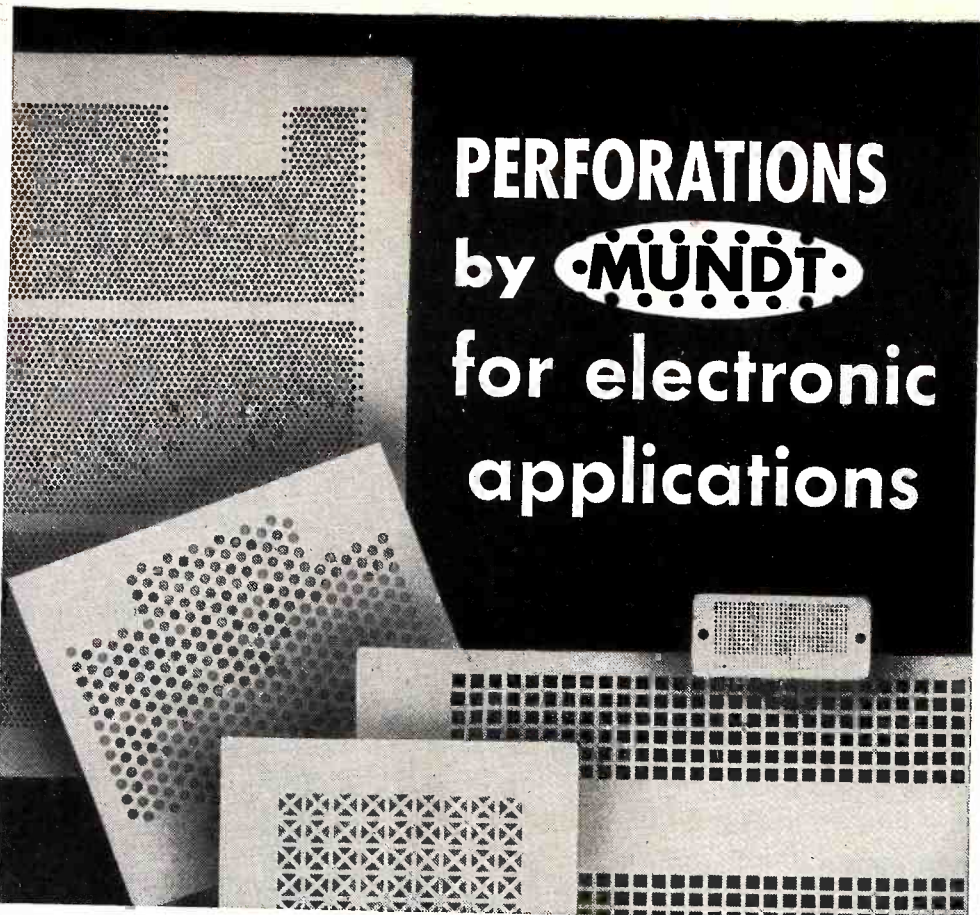
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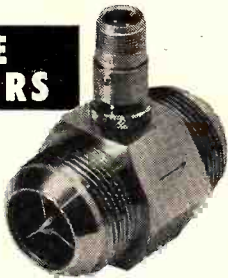
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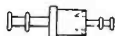
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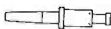
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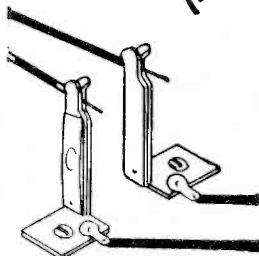
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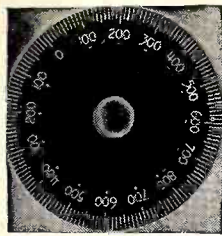
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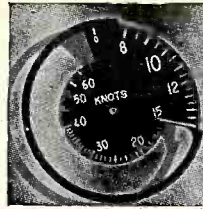


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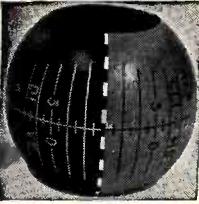
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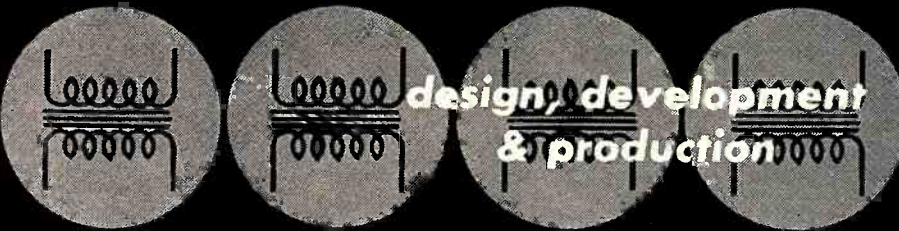
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0-28	0-55	.5	NR 28-55	Silicon	\$745.
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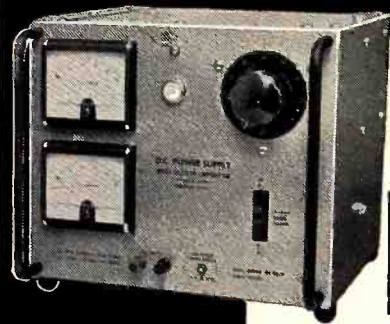
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0-90	0-8	.1	GR 90-8	Germ.	398

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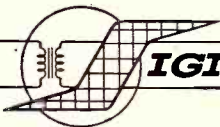
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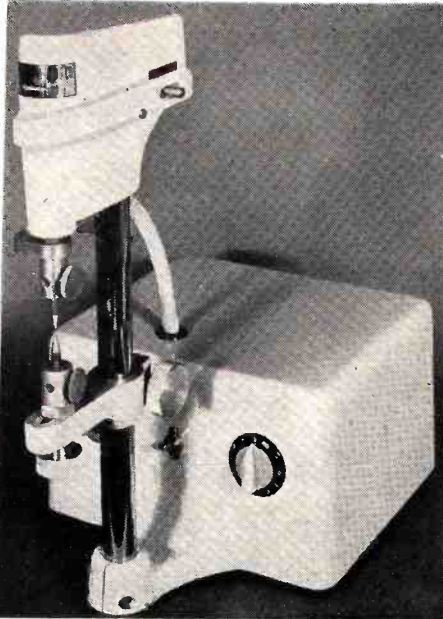
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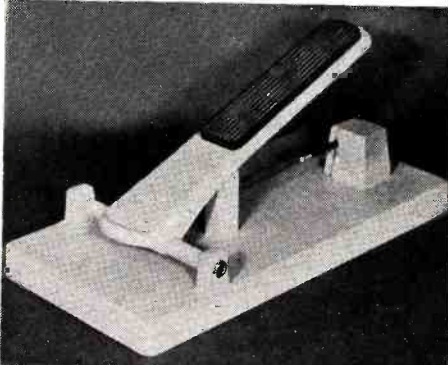


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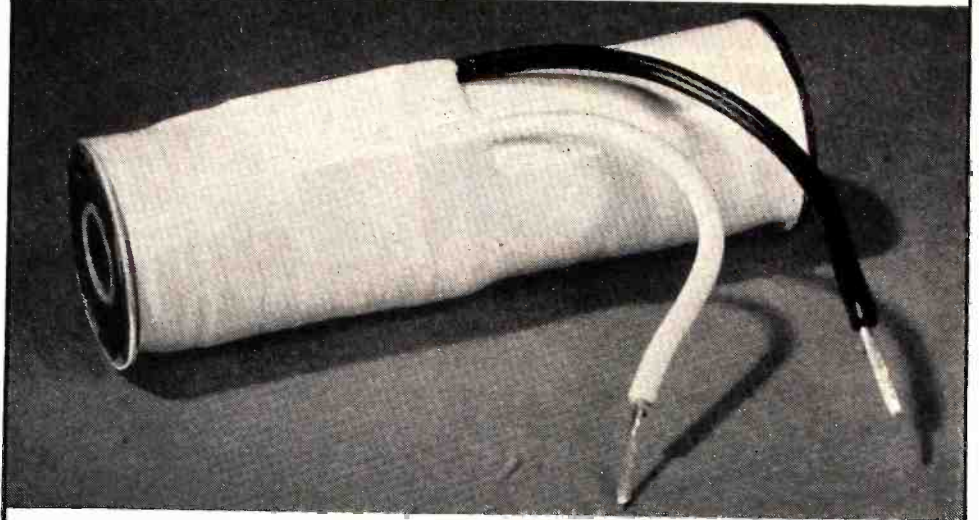


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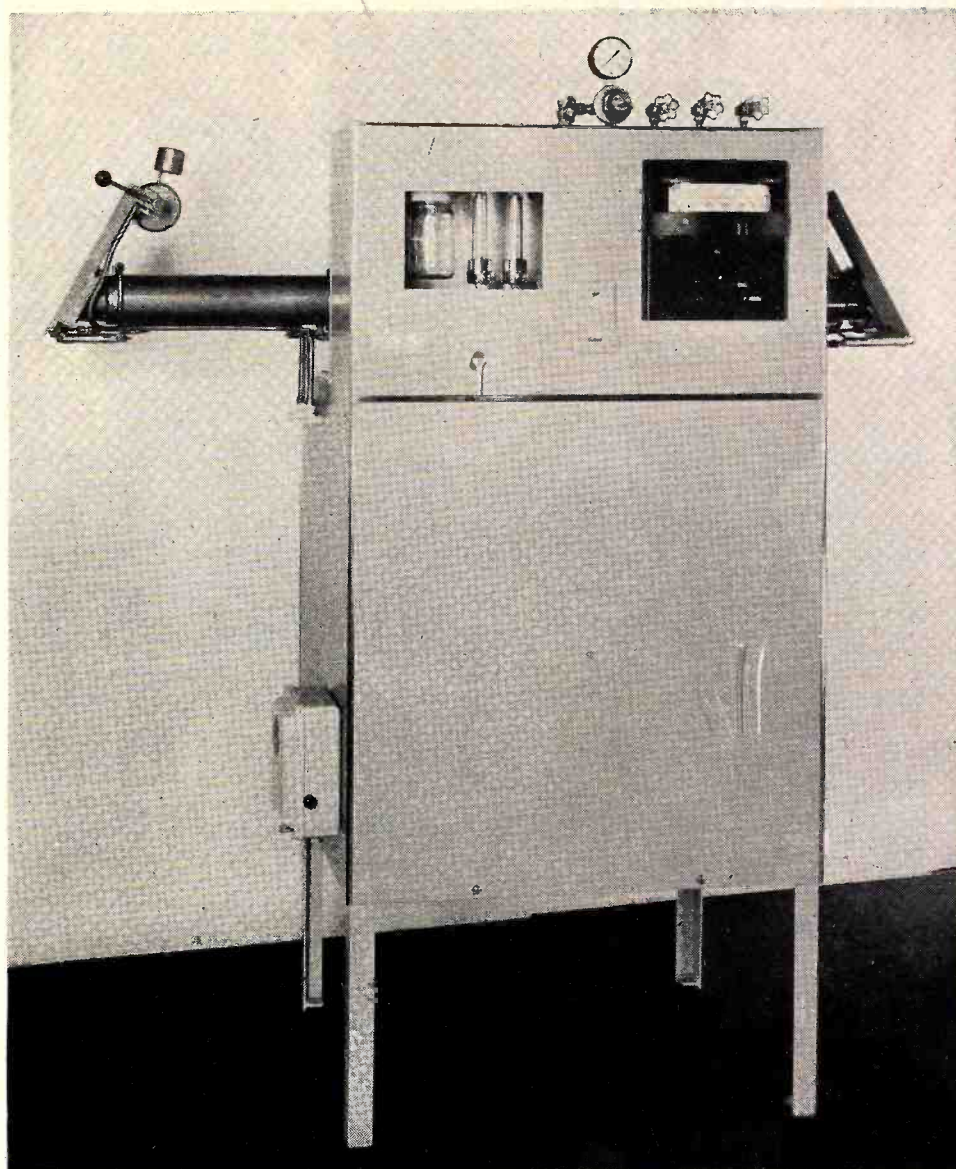
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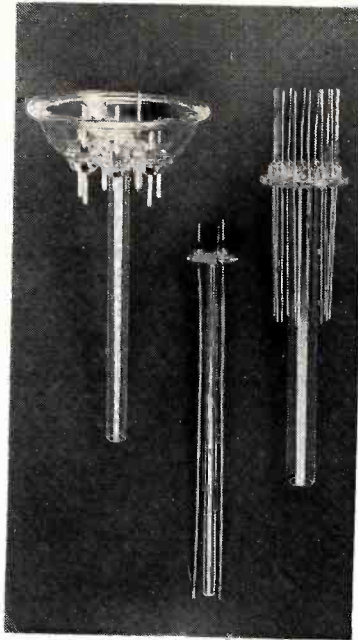
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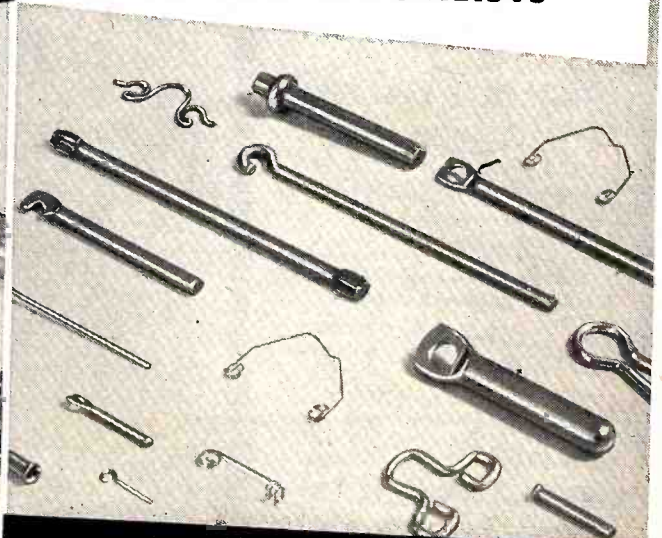
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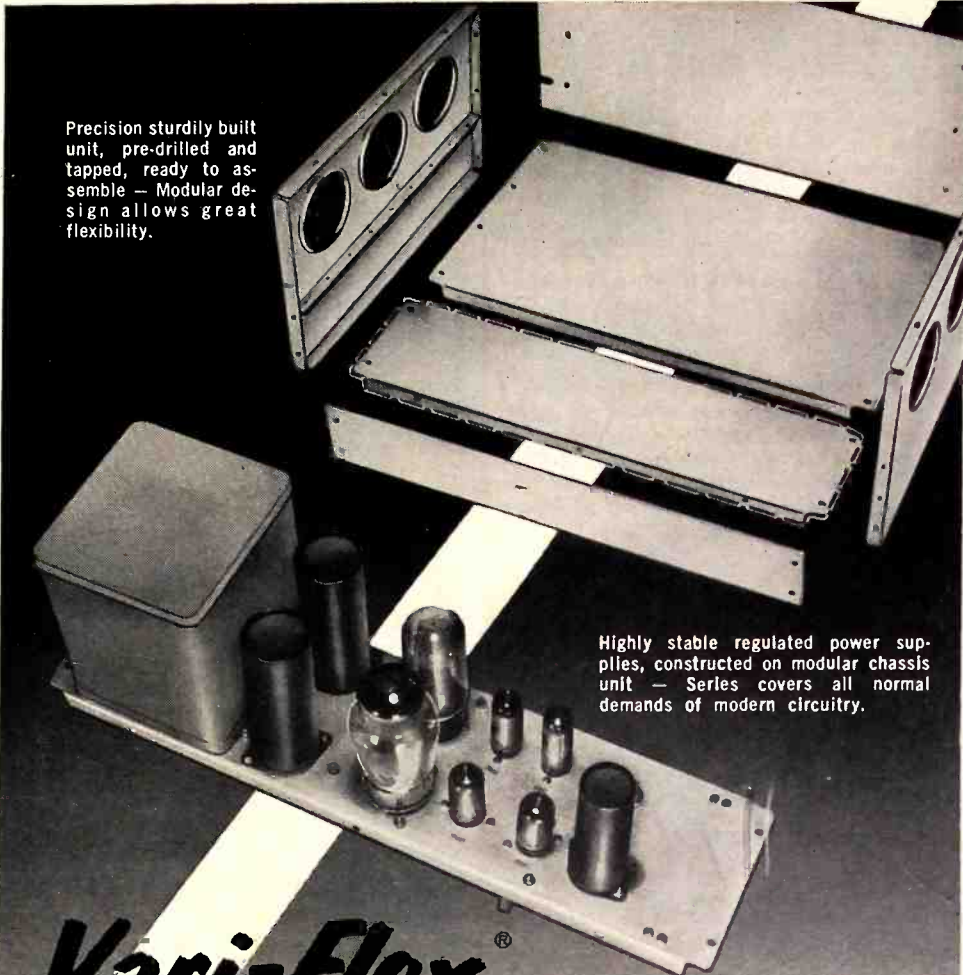
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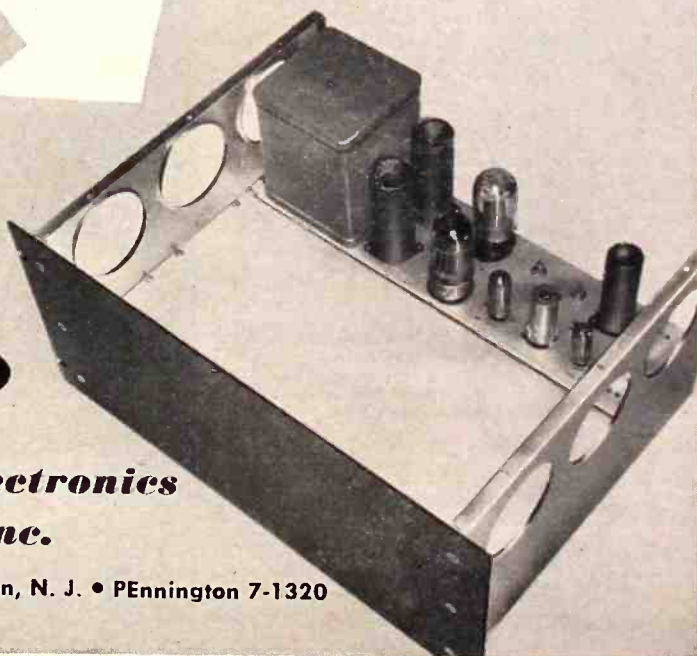
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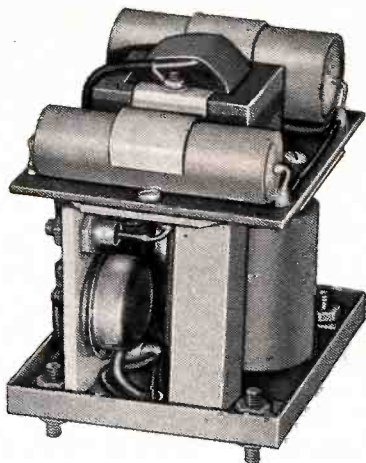
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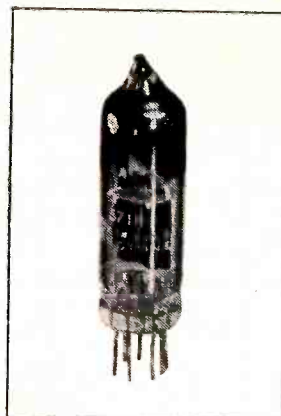
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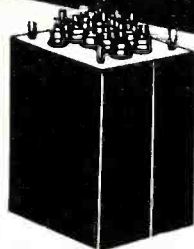
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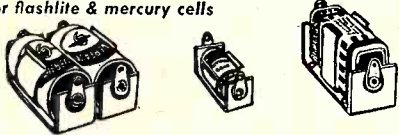
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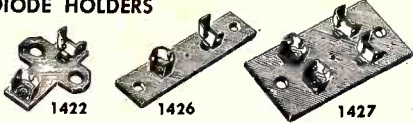


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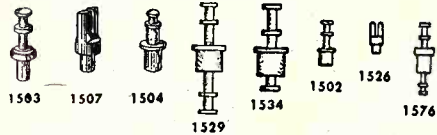
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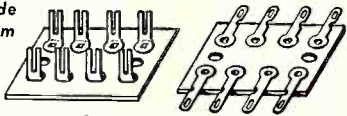
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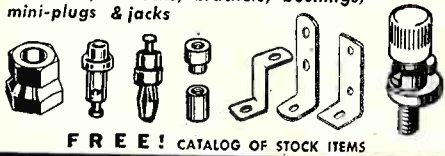
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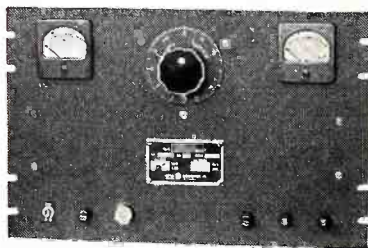
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Output: 0-28V DC, 20 amps.

Ripple: 1%

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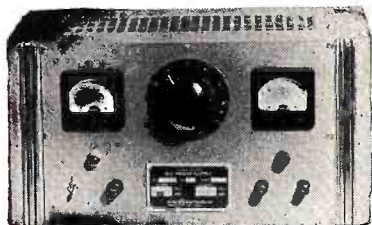
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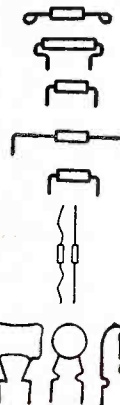
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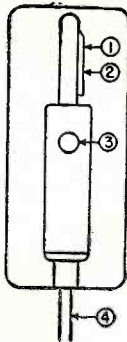
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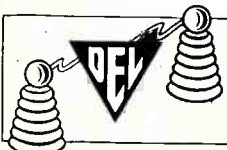
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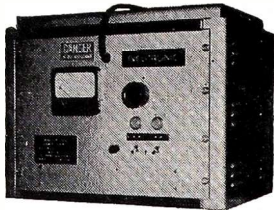


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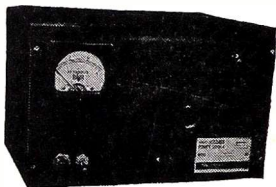


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21KR	1-10 KV	10 ma @ 5 KV	1/2%
21M	1-12 KV	6 ma @ 10 KV	...
21MR	1-12 KV	6 ma @ 10 KV	1/2%
22C	3-26 KV	2 ma @ 18 KV	...
22CR	5-26 KV	2 ma @ 18 KV	1/2%
22M	5-30 KV	3 ma @ 20 KV	...
22MR	5-30 KV	3 ma @ 20 KV	1/2%
23C	5-40 KV	1.3 ma @ 25 KV	...
23CR	5-40 KV	1.3 ma @ 25 KV	1/2%
23M	5-45 KV	1.5 ma @ 30 KV	...
23MR	5-45 KV	1.5 ma @ 30 KV	1/2%
24C	5-50 KV	1 ma @ 35 KV	...
24CR	5-50 KV	1 ma @ 35 KV	1/2%
24M	5-50 KV	2 ma @ 30 KV	...
24MR	5-50 KV	2 ma @ 30 KV	1/2%
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CURRENT OUTPUT:  
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REGULATION:  
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CURRENT OUTPUT:  
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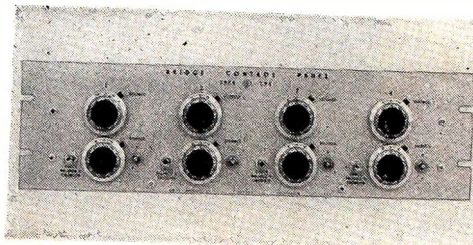
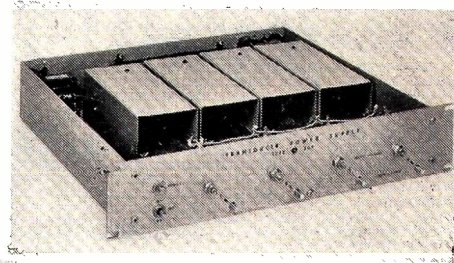
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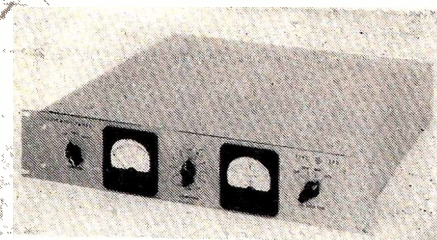
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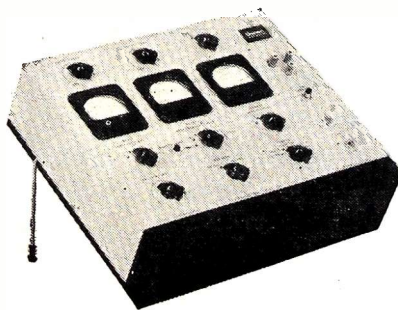
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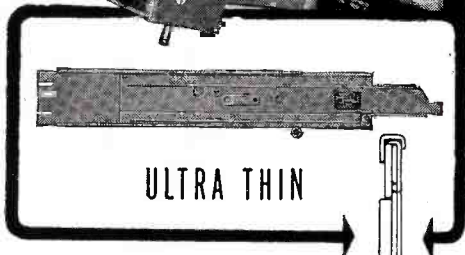
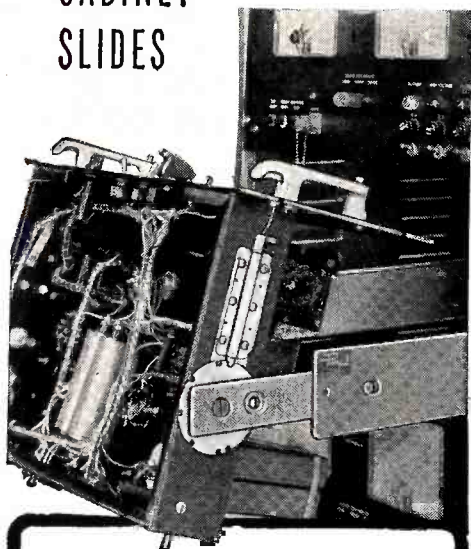
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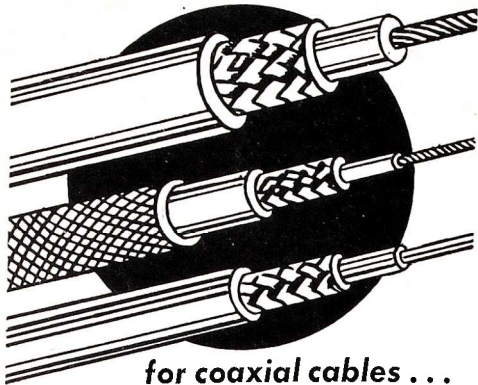
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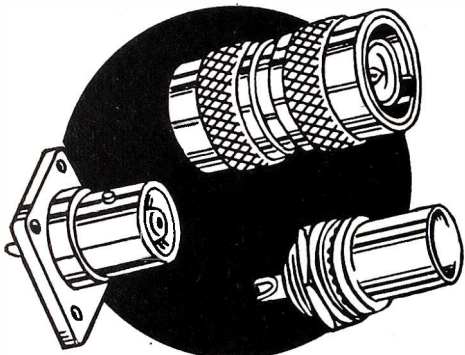
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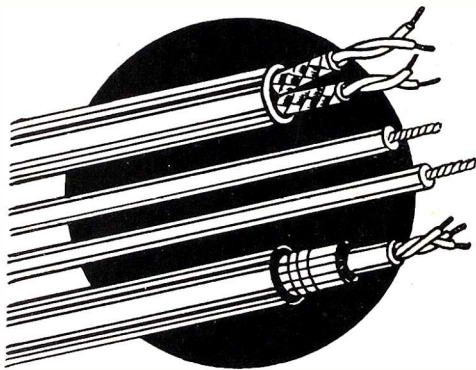
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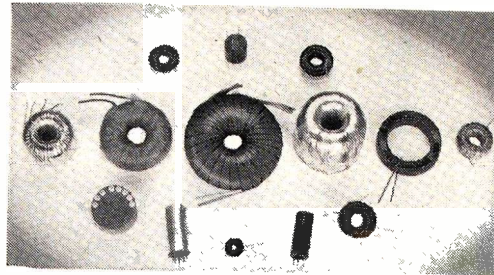
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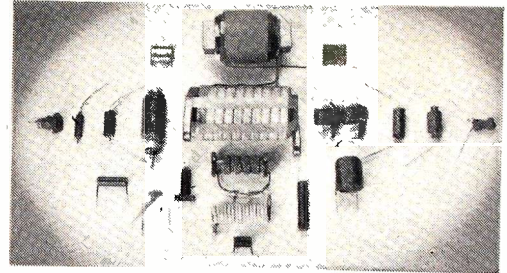
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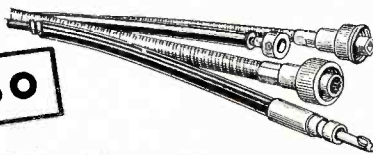
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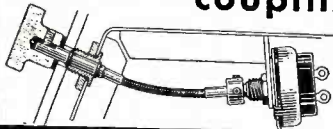


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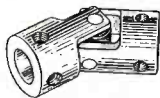
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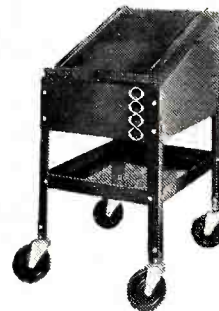
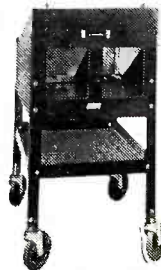
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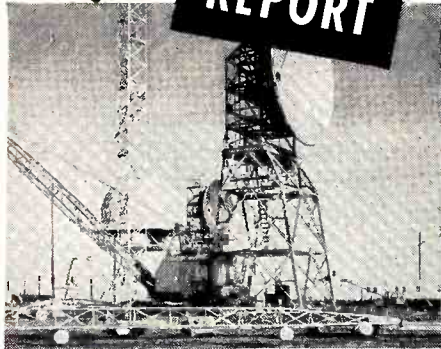
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## FIELD REPORT



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These kits include

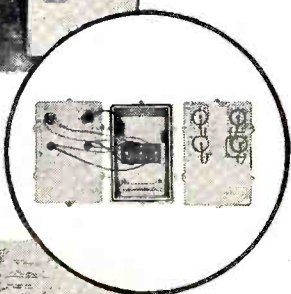
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- SPECIAL LIGHTING AND CONTROL CIRCUITS
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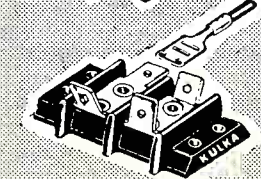
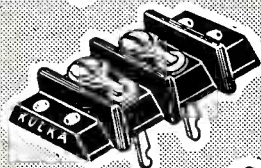
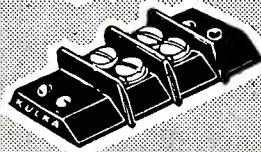
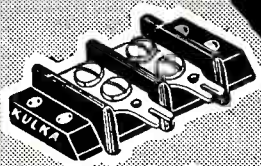
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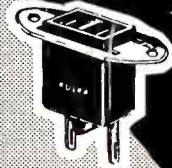
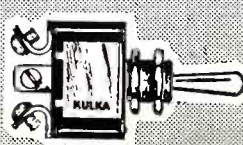
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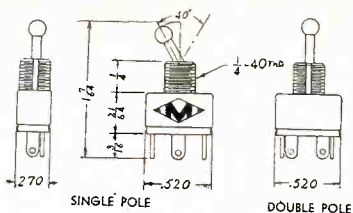
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| Model No. | Type                                    |
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| TSB       | Double Pole Double Throw                |
| TSC       | Single Pole Double Throw, On-Off-On     |
| TSE       | Single Pole Double Throw, On-Off-Mom.   |
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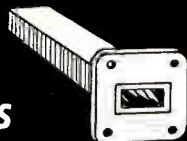


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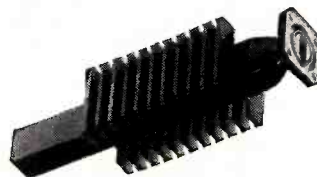


Model No.	Freq. Band kmc/s	Model No.	Freq. Band kmc/s
27E1	2.60-3.95	27J1	8.20-12.4
27F1	3.95-5.85	27K1	12.4-18.0
27G1	5.85-8.20	27L1	18.0-26.5
27H1	7.05-10.0	27M1	16.5-40.0

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19M1	26.5-40.0	50	4
19N1	33.0-50.0	40	3½
19P1	50.0-75.0	30	3
19Q1	60.0-90.0	25	2½



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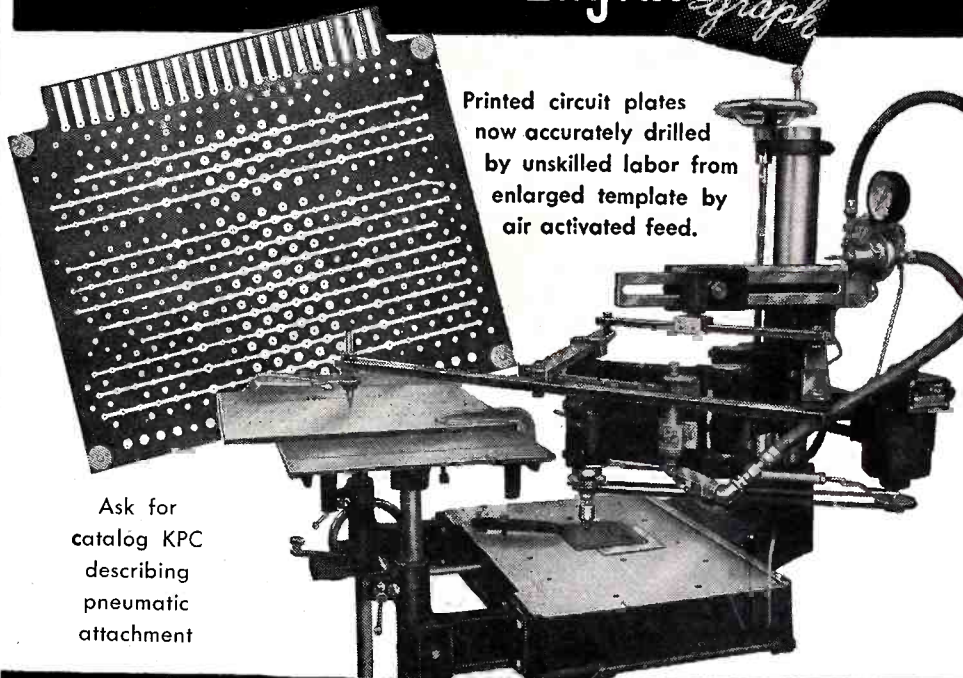
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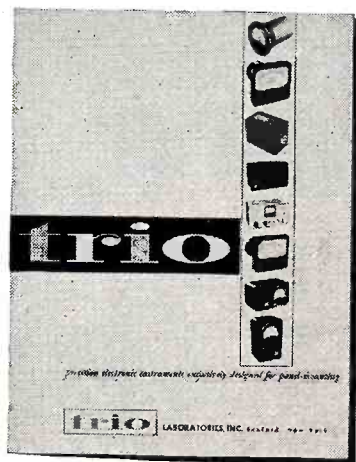


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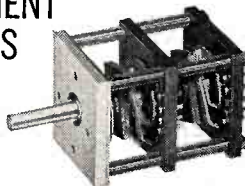
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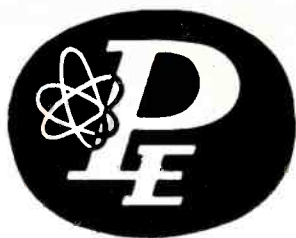
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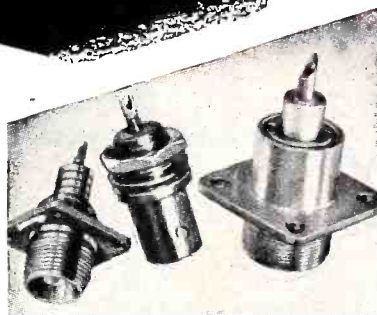
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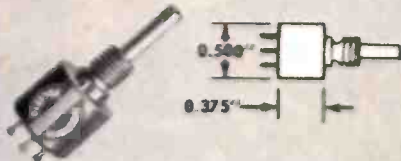
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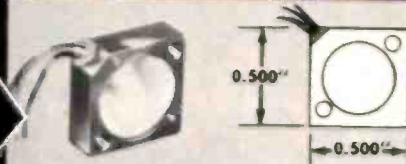
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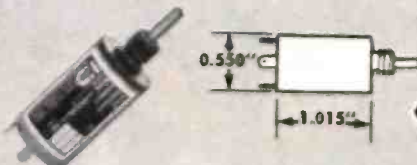
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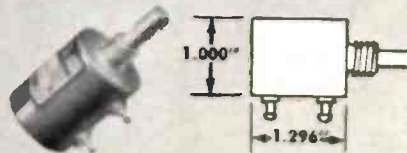
MODEL 300-00, one of the many Trimming Potentiometers



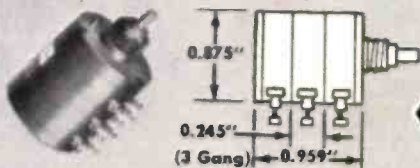
Typical Miniature Multiturn—the MODEL 341-60

**MINIATURE MULTITURNS**—The smallest precision, ballbearing, 10-turn pots offer maximum reliability with unique zero backlash construction and double wipers; 20 G's to 2000 cyc; to 250K ohms; 2.5 watts at 40°C, 0 watts at 140°C; panel or servo mount.

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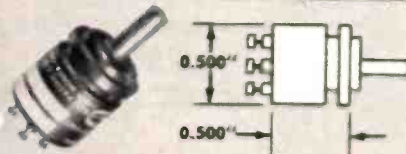
MODEL 400, typical of the General Purpose Multiturns



Representative of the Ganged Single Turns—the MODEL 319-60

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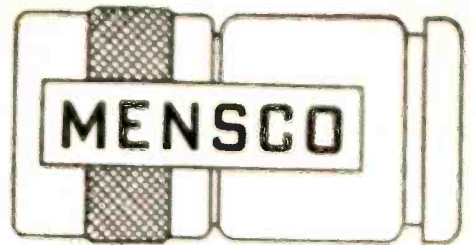
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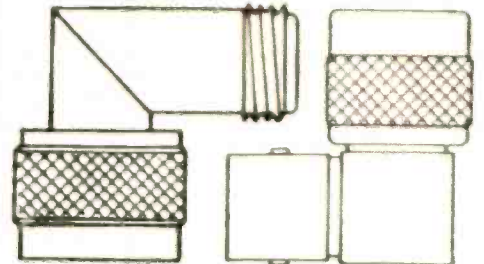
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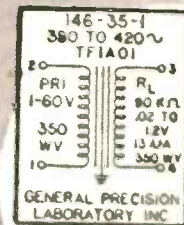
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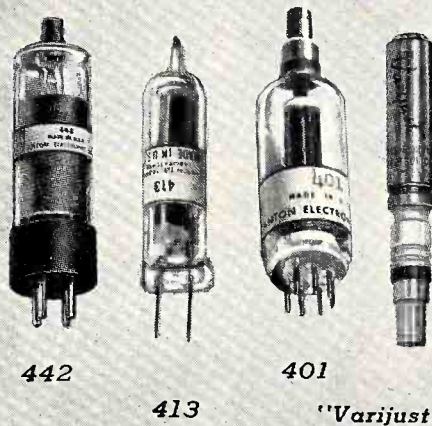
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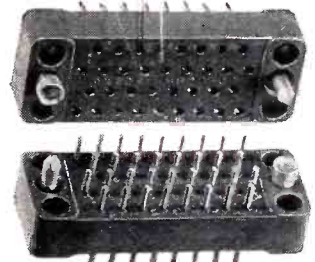


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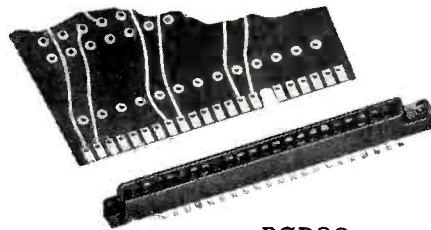


Special connector

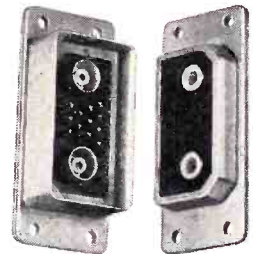
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MS20-34  
MP20-34



PCD22



S20P21-2  
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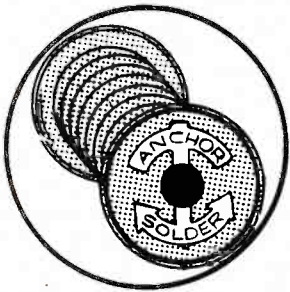
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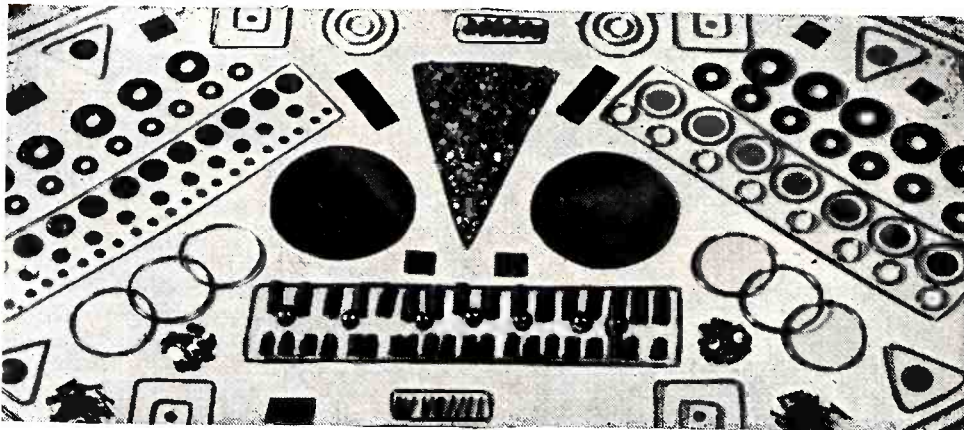
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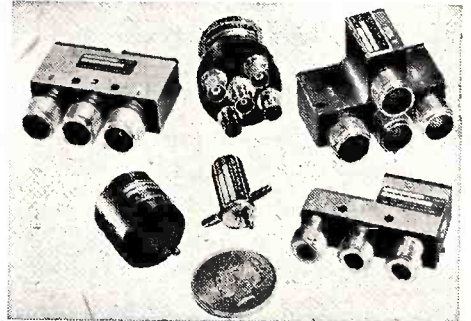
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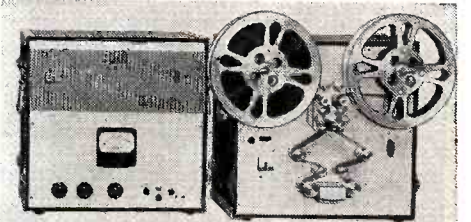
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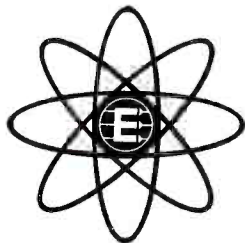


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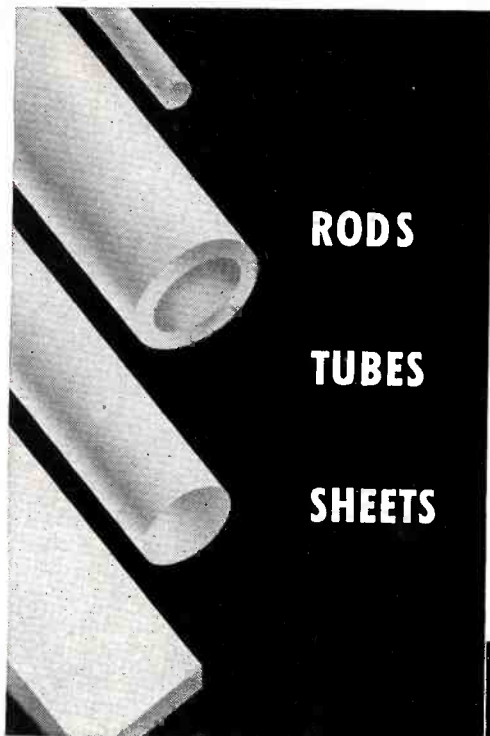
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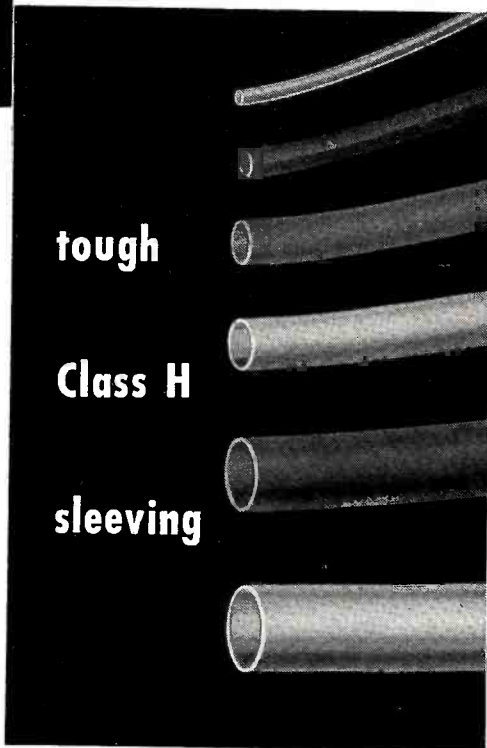
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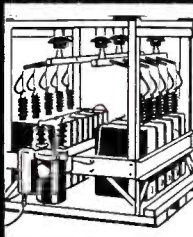
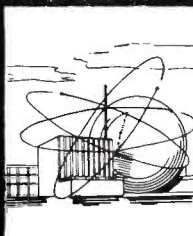
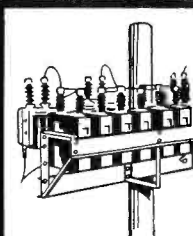
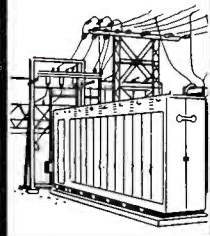
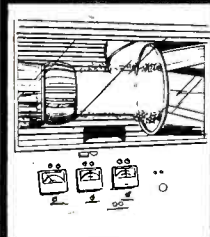
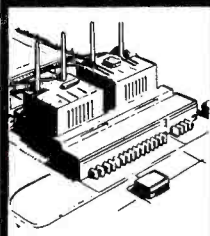
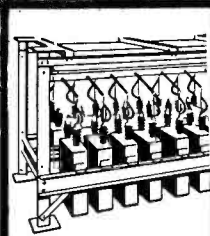
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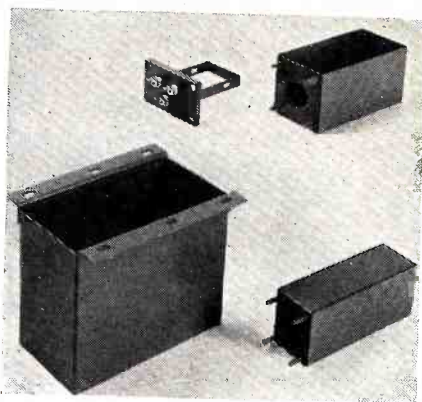
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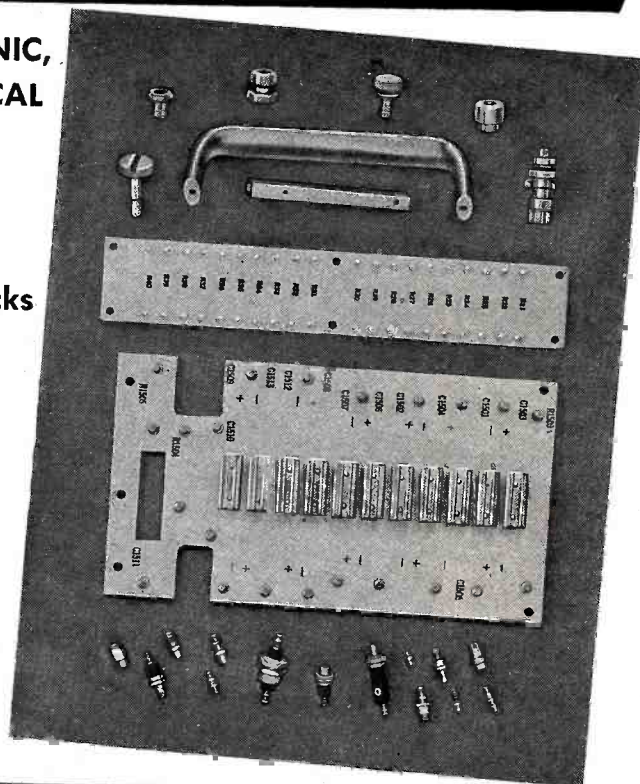
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Std. Cat. Nos. Example: Transformer Designation: 81 Case Type: C	Turns Ratios	Nominal Pulse Width for B.O. Operation $\mu$ s	Nominal Open Circuit Inductance mh #1 Winding
80	1:1:1	.07	.04
81	1:1:1	.1	.15
82	1:1:1	.25	.31
83	1:1:1	.5	1.6
84	1:1:1	1	6.0
85	1:1:1	2	25
86	1:1:1	5-25	125
87	1:2:4	Coupling Applications	.15
88	1:3:10		.15
89	1:3:12		.57
90	1:2:4		2.4
91	1:3:6		2.4
92	1:2:6		5.5

Leakage Inductance Ref. to Winding #1 $\mu$ h	DC Saturation Current Bases on 3000 Gauss at 25°C ma in Primary	Pulse Repetition Rate Std. B.O. with 5687 Tube			Frequency Response Winding #1 to #2 #2 Load 600 Ohms			Matching Impedances Allowing 10% Droop at Nominal Pulse Width Ohms	
		P.W. $\mu$ s	Duty Cycle % Max. No. P.W. Reduction	PRF Max. mc	Center Frequency Fo Approx. mc	1 db down mc	3 db down mc		
1.5	2.0	1600							
1.8	2.6	800	.1	20	2	1	.15-7	.074-...	124
3	3.8	540	.25	20	1	.3	.07-6.7	.033-...	150
5.5	11	228	.5	20	.3	.1	.012-2.4	.006-5.1	360
24	48	124	1	25	.2	.03	.003-570	.002-1.1	680
100	250	64	5	40	.1	.02	.0006-.13	.0003-.26	1500
500	1800	28	10	40	.05	.002	.0002-.04	.0001-.08	2600
2.8	1.8	800							
2.0	3.3	800							
3.8	7	400							
8.5	21	200							
9	24	200							
16	60	132							

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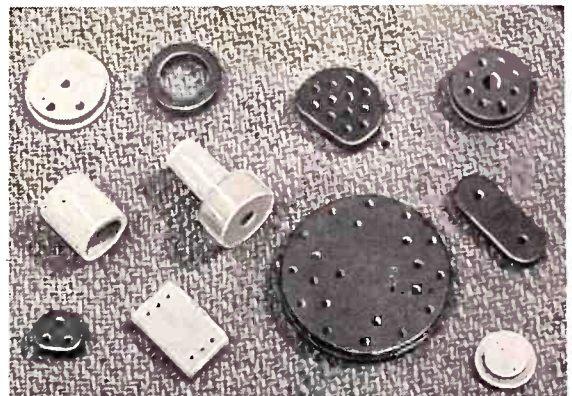
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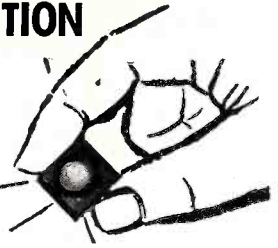
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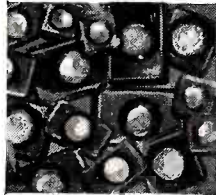
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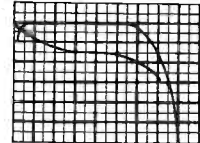
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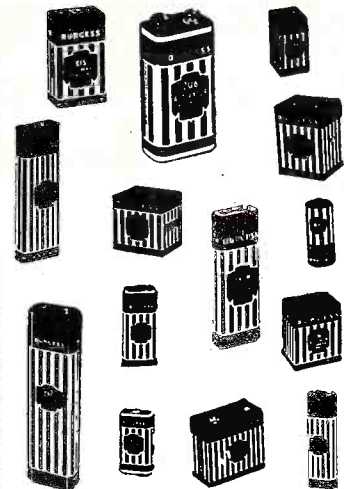
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(Continued on page 710)



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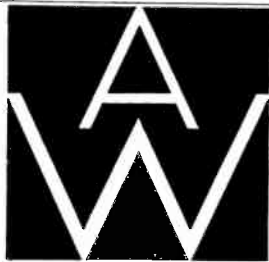


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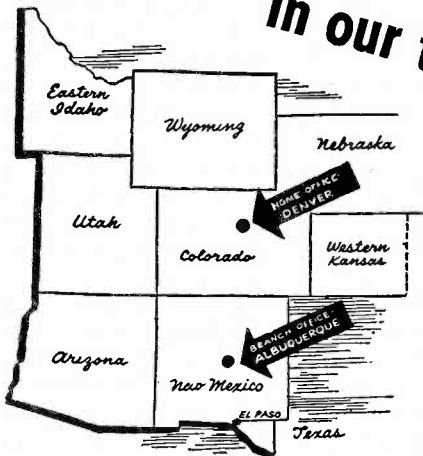
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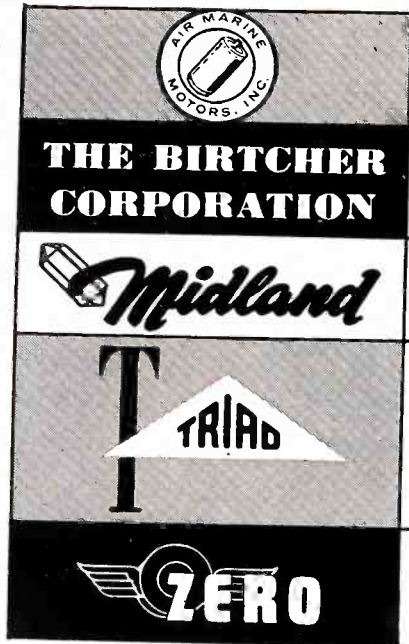
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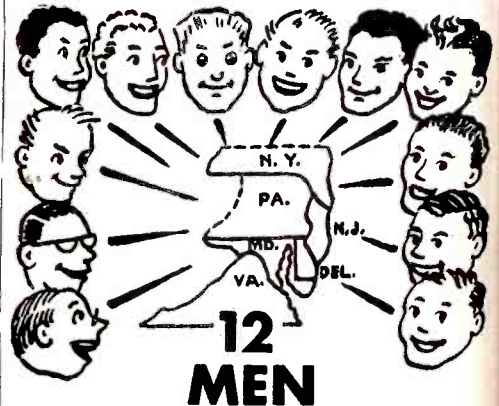
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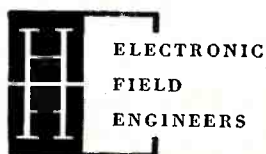
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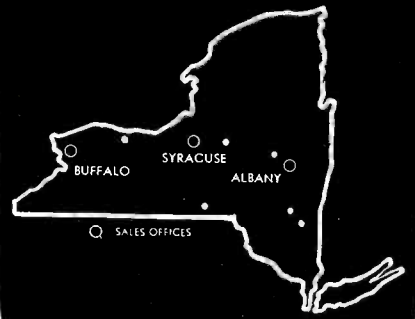
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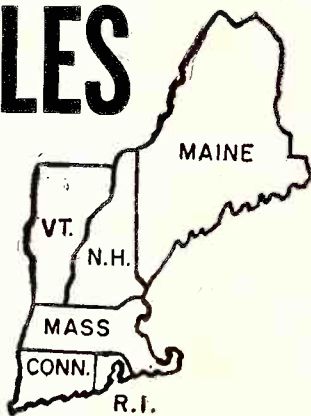
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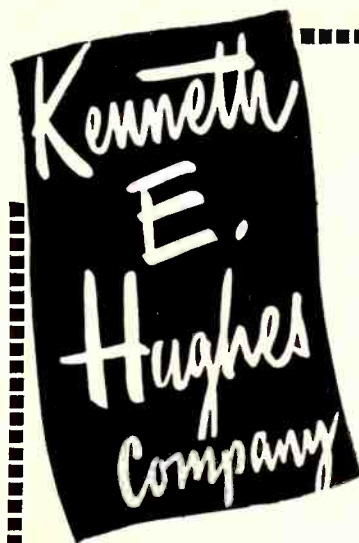
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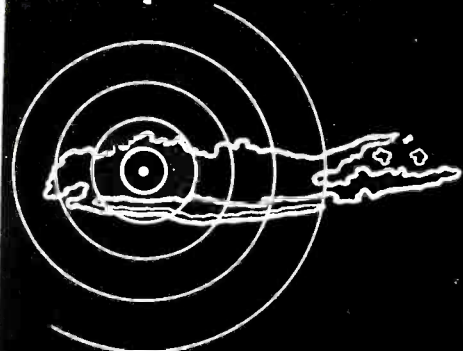
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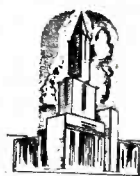
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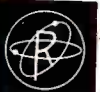
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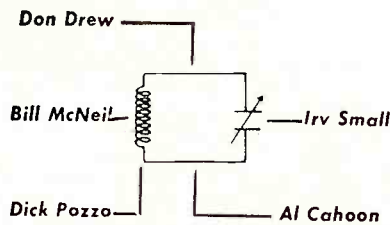


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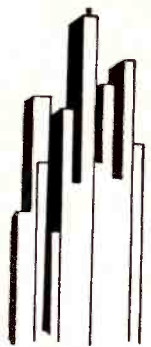
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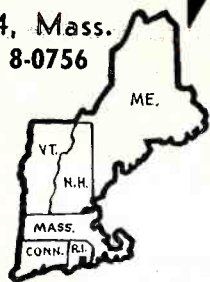
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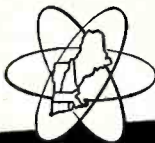
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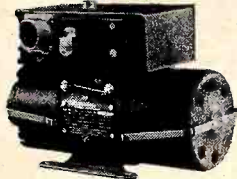
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Output: 115 volts; 190 VA; single phase; 400 cycle, .90 pf and 26 volts; 60 VA; 400 cycle, .40 pf. Input: 27.5 volts DC, 18 amps. cont. duty, voltage and freq. regulated. **\$49.50**
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- VA; 75 pf. Input: 28.5 VAC; 12 amps. **\$35.00**
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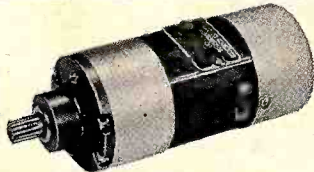
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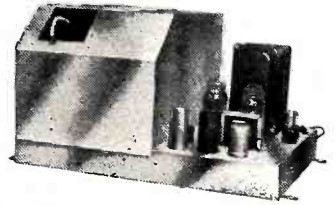
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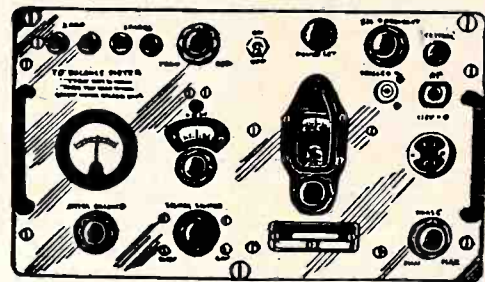
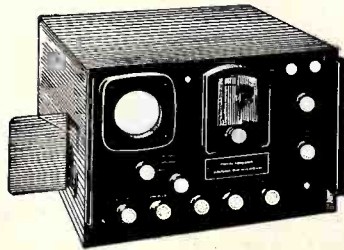
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1N21B	.95	5CP1	1.75	807W/5933	1.50
1N23	.50	5CP1A	8.50	808	1.00
1N23B	.90	5CP7	5.00	809	2.20
1N25	2.00	5CP7A	7.50	810	10.00
1N26	3.50	5CP11A	9.50	811A	3.50
1N32	9.00	5C22	17.00	813	8.50
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2C34/RK34	25	5J29	4.00	832	4.00
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2C50	6.00	6CJ	13.50	843	.35
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2J31	12.25	6K4	2.25	866A	1.20
2J32	11.00	6SU7GT	2.00	869B	18.00
2J33	29.50	7BP7	4.50	872A	1.00
2J34	12.50	7C22	60.00	874	.60
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2J41	125.00	12AU7WA	2.50	884	1.00
2J42	60.00	12AY7	1.50	889	1.30
2J48	10.00	12DP7A	20.00	919	1.70
2J49	27.50	12GP7	15.00	927	1.00
2J50	35.00	15E	1.20	954	.35
2J51	200.00	15R	.35	956	.35
2J56	35.00	RK-21	1.00	957	.35
2J61	12.00	26A7GT	3.00	958A	1.25
2J61A	30.00	35T	6.00	959	.35
2J62	5.00	35TG	2.25	991/NE16	.35
2J62A	50.00	HK-54	3.50	E1248	.25
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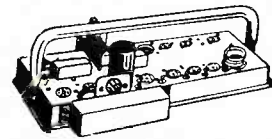
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TF-3	6.3 volts C. T. @ 1.5 Amps.		2.25
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*TF-5	6.3 volts C. T. @ 6 Amps.		3.50
*TF-7	6.3 volts C. T. @ 10 Amps.		4.90
*TF-8	6.5 volts @ 10 Amps.		3.90
*TF-9	6.3 volts @ 5 Amps. 6.3 volts @ 9 Amps.		4.95
*TF-10	6.3 V. C. T. @ 7.5 Amps. 6.3 volts @ 1.2 Amps.		6.50
*TF-11	6.3 V. C. T. @ 8 Amps. 6.3 V. C. T. @ 8 Amps.		6.50
*TF-12	5 V. C. T. @ 3 Amps. 5 V. C. T. @ 3 Amps. 6.3 volts @ 1.75 Amps.		4.55
*TF-13	6.3 V. C. T. @ 5 Amps. 6.3 V. C. T. @ 1 Amps. 2.5 V. C. T. @ 10 Amps.		4.25
TF-14	5 V. C. T. @ 4 Amps. 6.3 V. C. T. @ 10 Amps. 6.3 volts @ 6 Amps.		4.75
TF-15	6.3 V. C. T. @ 7 Amps. 6.3 V. C. T. @ 6 Amps. 2.2 volts @ 1.4 Amps.		6.50
TF-16	6.3 V. C. T. @ 10 Amps. 6.3 V. C. T. @ 1 Amps. 6.3 V. C. T. @ 1 Amps.		4.50
TF-17	6.3 V. C. T. @ 2 Amps. 6.3 volts @ 3 Amps. 6.3 V. C. T. @ 10 Amps. 6.3 V. C. T. @ 5 Amps.		4.95
TF-18	6.3 volts @ 1 Amps. 5 volts @ 4 Amps. 5 volts @ 2 Amps. 6.3 volts @ 0.6 Amps. 6.3 volts @ 8.8 Amps. 6.8 volts @ 6.2 Amps.		8.95
TF-19	6.3 V. C. T. @ 10 Amps. 6.3 V. C. T. @ 5.6 Amps. 5 volts @ 16 Amps. 6.8 volts @ 16 Amps. 5 volts @ 2 Amps. 5 volts @ 4 Amps.		11.50

SOLA TYPE CONSTANT VOLTAGE FILAMENT TRANSFORMERS			
PRI: 220 volts, 50/60 cycles (Some tapped for lower and/or higher voltages)			
Stock No.	Secondary		Net Each
*TF-201	2.5 V. C. T. @ 10 Amps.		4.95
*TF-202	5 volts @ 3 Amps.		5.50
*TF-203	5.05 V. C. T. @ 27 Amps.		12.50
*TF-204	5 V. C. T. @ 30 Amps.		8.50
*TF-206	6.3 volts @ 1 Amps.		2.50
*TF-207	6.3 volts @ 3.6 Amps.		4.00
*TF-208	6.0 V. C. T. @ 5.6 Amps.		4.95
*TF-209	7.5 V. C. T. @ 8 Amps.		4.95
*TF-210	18 volts @ 1.5 Amps.		3.50
*TF-211	2.5 V. C. T. @ 21 Amps. 5 V. C. T. @ 15 Amps.		29.95
*TF-212	2.5 volts @ 10 Amps. 6.3 volts @ 7.8 Amps.		12.50
*TF-213	6.3 volts @ 4.5 Amps. 5 V. C. T. @ 3 Amps.		6.50
TF-214	6.3 volts @ 5.5 Amps. 5 V. C. T. @ 3 Amps.		7.95
*TF-215	6.5 volts @ 8 Amps. 5 V. C. T. @ 5.5 Amps.		8.95
*TF-216	6.3 volts @ 0.3 Amps. 6.3 volts @ 3.6 Amps. 5 volts @ 2 Amps.		7.00
*TF-217	6.3 volts @ 4.5 Amps. 5 V. C. T. @ 3 Amps. 18 volts @ .175 Amps.		6.50
*TF-218	5 volts @ 8.4 Amps. 6.3 volts @ .3 Amps. 5 volts @ 8.4 Amps. 6.3 volts @ 2 Amps.		8.95
*TF-219	5 V. C. T. @ 4 Amps. 6.3 volts @ 2.5 Amps. 6.3 V. C. T. @ 1 Amps. 6.3 volts @ 1 Amps.		7.50

PLATE TRANSFORMERS			
PRI: 117 Volts, 60 cycles			
Stock No.	Secondary		Net Each
*TPL-101	1000 V. C. T. @ 450 Ma DC		12.50
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*TPL-201	374 V. C. T. @ 106 Ma DC		4.95
*TPL-202	800 V. C. T. @ 53 Ma DC		4.75
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TPL-211	5500 V. C. T. @ 2 amps		150.00
TPL-212	5840 V. C. T. @ 736 Ma DC		125.00
*TPL-213	384-0-384 V. @ 78 Ma DC 470-0-470 V. @ 28 Ma DC		7.50
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PRI: 117 volts, 50/60 cycles (Some tapped for slightly higher and/or lower voltages)			
Stock No.	Secondary		Net Each
*TPO-101	720 V. C. T. @ 350 Ma DC		7.95
*TPO-102	117 volts @ 400 Ma DC 6.3 volts @ 3.5 Amps.		7.50
*TPO-103	150-0-150 @ 1 Ma DC 6.3 volts @ 1.7 Amps.		4.95
TPO-104	200-0-200 @ 110 Ma DC 6.4 volts @ 3.1 Amps.		4.50
*TPO-105	460 V. C. T. @ 50 Ma DC 6.3 volts @ 2.5 Amps.		5.95
*TPO-106	535 V. C. T. @ 100 Ma DC 5 volts @ 2.5 Amps.		6.50
*TPO-107	1500 volts @ 5 Ma DC 2.5 volts @ 1.75 Amps.		6.50
TPO-108	300-0-300 @ 150 Ma DC 6.3 volts @ 5 Amps. 5 V. C. T. @ 3 Amps.		3.95
TPO-109	325 volts @ 40 Ma DC 5 V. C. T. @ 2 Amps. 5 V. C. T. @ 2 Amps.		3.95
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*TPO-111	720 V. C. T. @ 70 Ma DC 6.4 volts @ 3.5 Amps. 6.4 volts @ 1.5 Amps.		4.95
TPO-112	395-0-395 V. @ 310 Ma DC 40-65 volts @ 1 Ma DC 6.3 volts @ 10.8 Amps. 5 volts @ 2 Amps. 5 volts @ 2 Amps.		5.50
TPO-113	400-0-400 V. @ 310 Ma DC 6.3 volts @ 10.6 Amps. 5 volts @ 6 Amps. 5 volts @ 2 Amps.		4.95
TPO-114	430 V. C. T. @ 600 Ma DC 6.3 V. C. T. @ 12.5 Amps. 6.3 V. C. T. @ 4 Amps. 5 V. C. T. @ 8 Amps.		16.50
TPO-116	460/435 volts @ 450 Ma DC 6.3 V. C. T. @ 7.5 Amps. 6.3 V. C. T. @ 4 Amps. 5 V. C. T. @ 4 Amps.		14.95
TPO-117	316-0-316 V. @ 320 Ma DC 5 volts @ 6 Amps. 6.3 volts @ 4.3 Amps. 6.3 volts @ 7 Amps.		13.75
TPO-118	225-0-225 V. @ 80 Ma DC 630 volts @ 20 Ma DC 6.3 volts @ 3 Ma DC 6.3 volts @ 1.3 Amps. 6.3 volts @ 5.6 Amps. 5 volts @ 2 Amps. 5 volts @ 2 Amps.		36.00
TPO-119	300 V. C. T. @ 200 Ma DC 1850 volts @ 3 Ma DC 2800 volts @ .02 Ma DC 2.5 volts @ 2 Amps. 2.5 volts @ 2 Amps. 5 volts @ 3 Amps. 6.3 volts @ 7 Amps. 6.3 volts @ 2.5 Amps.		25.00

POWER TRANSFORMERS			
PRI: 117 volts, 50/60 cycles (Some tapped for slightly higher and/or lower voltages)			
Stock No.	Secondary		Net Each
TPO-1-201	PRI: 115 or 230 V., 50/60 cy. SEC: 780 V. C. T. @ 50 Ma DC 800 volts @ 4 Ma DC 6.3 V. C. T. @ 3.2 Amps. 6.3 volts @ 0.6 Amps. 5 volts @ 2 Amps. 5 volts @ 2 Amps.		14.95
PRI: 208/230 volts, 50/60 cycles			
*TPO-201	1068 V. C. T. @ 300 Ma DC		28.50
*TPO-202	1655-0-1655 V. @ 283 Ma DC		39.50
*TPO-203	300 V. C. T. @ 20 Ma DC 110 V. C. T. @ 4.5 Ma DC 6.3 volts @ 1.05 Amps.		18.00
*TPO-204	800 V. C. T. @ 40 Ma DC 6.3 V. C. T. @ 300 Ma DC 6.3 V. C. T. @ 5 Amps. 5 V. C. T. @ 2 Amps.		18.50
TPO-205	330-0-330 V. @ 30 Ma DC 175-0-175 V. @ 2 Ma DC 1000 volts @ 1.75 Amps. 2.5 volts @ 0.6 Amps. 6.3 volts @ 0.6 Amps.		12.50

FILTER CHOKES					
Stock No.	Inductance	Current	DC Resis.	Insul.	Net Each
FC-101	2.5 Hy.	500 Ma DC	28 ohms	3000 V.	\$3.95
FC-102	3.5	450	33	2500	3.95
FC-103	4	120	200	1500	3.50
FC-104	4	300	50	2500	3.95
FC-105	4	330	50	2500	3.95
FC-106	5	2 amps.	22	8000	85.00
FC-107	7	200 Ma DC	90	1750	4.50
FC-108	8	350	400	1600	1.00
FC-109	10	150	170	1500	3.95
FC-110	10	250	50	1500	4.95
FC-111	10	330	50	2000	4.95
FC-112	10	400	Low	2500	7.95
FC-113	10	500	50	3000	9.95
FC-114	10	600	Low	3500	11.95
FC-115	10	750	50	6000	39.95
FC-116	14	110	270	2000	2.50
FC-117	15	40	200	1000	2.95
FC-118	19	150	400	2000	3.50
FC-119	20	50	500	1500	4.50
FC-120	20	140	350	2500	5.50
FC-121	25	75	390	2000	4.95
FC-122	30	30	800	1500	2.95
FC-123	30	40	700	2000	3.50

SWINGING CHOKES			
SC-101	1/4/1.0 Hy. @ 3.5A./1.5A./2A. DC		
	1.5 Ohms DC Res., 7000 VRMS Insulation		25.50
SC-102	7.5/25 Henry, @ 400/70 Ma DC		
	40 Ohms DC Res., 4500 VRMS Insulation		22.50
SC-103	8/38 Henrys, @ 225/45 Ma DC		
	140 Ohms DC Res., 4000 VRMS Insulation		17.50

MODULATION TRANSFORMERS					
Number	Mfg'r.	Audio Watts	Pri. Imp.	Sec. Imp.	Net
MT-101	Thord.	1000	15,000 Ohms	7,500 Ohms	\$49.50
MT-102	Thermador	600	6,600	2300 or 4600	39.50
T-499	Kenyon	150	21,000	10-15,000	11.50
T-498	Kenyon	75	17,000	6600 & 250	8.50
T-597	Kenyon	25	6,000	17,000	5.50
T-21-M52	Thord.	10	10,000	3000, 3750 & 4500	3.50
45982	RCA	50 single	1625	50 W. RF	6.95
		2000	15,000 CT	5030 Ohms	69.95

**EXTRA SPECIAL!!**  
RCA POWER TRANSFORMERS, BRAND NEW!  
IN ORIGINAL JOBBER BOXES  
(All 117 v., 60 cy., Pri.)

RCA #75207	117 volts @ 230 Ma DC 6.3 volts @ 8.5 Amps. 6.3 volts @ 1.2 Amps.		53.95
RCA #76429	117 volts @ 280 Ma DC 6.3 volts @ 9.5 Amps. 6.3 volts @ 1.2 Amps.		
RCA #78893	174 volts @ 600 Ma DC 6.3 volts @ 0.6 Amps. 6.3 volts @ 20 Amps. 6.3 volts @ 1.2 Amps.		3.95

**WESTINGHOUSE SUPER H.V. POWER SUPPLY**  
A complete power supply delivering 80,000 volts DC @ 4 Ma. with separately regulated 25KV output. Operates from 115 volts AC, 60 cycles, single phase source. Brand new, complete (less tubes). FOB our warehouse \$850.00

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Type	Price	Type	Price	Type	Price	Type	Price	Type	Price
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OB2	.55	3FP7A	3.50	RK59	1.75	CK503AX	1.00	5517	1.25
OC3	.50	3GP1	2.00	RK60	1.25	CK505AX	1.25	5518	275.00
OD3	.45	3HP14	1.75	QK61	20.00	CK506AX	1.00	5528/C6L	5.00
1B26	1.25	3J21	50.00	RK72	.25	CK507AX	1.25	5637	5.00
1B32	.25	3JP7	3.45	CV88	2.00	CK522AX	1.25	5650	50.00
1B35	3.50	3KP1	7.50	101D W.E.	2.50	WL532A	.25	5651	1.25
1B38	25.00	3X2500A3	175.00	101F W.E.	2.50	705A W.E.	.65	5676	.75
1L24	18.00	4-250A	33.00	VU1115	.75	706AY	15.00	5693	4.50
1L33	22.00	4J25A	22.75	11dB	.50	707B	2.50	5703	1.00
1N21	.25	4B22/EL5B	3.75	RX-120	20.00	713A	.25	5719	1.50
1N22	.50	4J25	25.00	F-123A	6.75	715A	2.00	5726	.75
1N23	.50	4J26	25.00	F127A	15.00	717A	.35	5744	1.00
1N23B	1.00	4J27	25.00	F-128A	7.50	718CY	25.00	5803	3.75
1N38A	.50	4J29	50.00	GL-152	10.00	720BY	35.00	5814	1.00
1N43	.25	4J30	40.00	FG-154	10.00	721A	.75	5825	6.25
1N70	1.00	4J31	100.00	203A	2.50	722A	.75	5727X	5.00
1P23	1.75	4J33	75.00	204A	25.00	723AB	8.50	5838	5.00
1P41	2.50	4J51	75.00	AV209	5.00	724B	.50	5933	1.50
2C22	.35	4PR60A	35.00	212E	25.00	725A	5.00	6035	10.00
2C26	.25	4X150A	20.00	215A W.E.	2.00	730A	5.00	6038	5.00
2C26A	.50	5AP1	2.75	217C	1.75	801A	.25	6073	1.75
2C27	5.00	5B21	1.25	220B	90.00	803	2.00	6098CT	2.00
2C33	.50	5C22	17.50	221A	100.00	805	4.50	6099	1.00
2C34	.25	5D21	5.00	222A W.E.	100.00	806	7.50	6130	4.75
2C40	6.50	5D23	10.00	249B	3.00	807	1.25	8008	3.00
2C43	10.00	5D24	15.00	253A W.E.	2.00	810	10.00	8012	1.00
2C46	5.00	5JP2	6.00	254 W.E.	2.50	811	2.75	8013A	3.50
2C53	10.00	5MP1	2.75	259B	5.00	813	9.50	9002	.50
2E22	2.75	5RWGY	2.50	262B	5.00	829B	8.45	D178461 W.E.	Q
2E24	2.25	5SP7	45.00	267B	5.50	832A	7.75	Receiving Tubes	
2E25	2.50	5SP11	45.00	274A W.E.	2.50	836	1.25	1A3	.35
2E36	1.35	5Y3WGT	1.50	285A W.E.	5.00	841	.29	1LD5	.45
2J21	4.00	6AC7W	1.00	310A W.E.	3.75	843	.35	2X2	.15
2J22	4.00	6AJ5	1.45	323A	7.50	845	4.00	6AK5	.77
2J29	50.00	6AK5W	1.25	348A W.E.	4.75	851	6.50	6BC7	.50
2J31	10.00	6AZ5W	1.00	350B W.E.	2.00	861	10.00	6BJ6	.50
2J33	20.00	6BA6W	1.00	356B W.E.	3.00	872A	1.00	6C6	.45
2J34	15.00	6J4WA	1.75	359A W.E.	1.75	876	.75	6D6	.55
2J38	10.00	6SNZWGT	1.25	368A W.E.	2.00	884	1.00	6F8G	.20
2J49	25.00	7ACNP19		374A W.E.	1.75	891	.75	6G6G	.50
2K26	35.00	Dumont	100.00	375A W.E.	10.00	893A	375.00	6J5	.45
2K28	25.00	7BP7	3.75	387A W.E.	5.00	955	.25	6K7	.45
2K33	100.00	7C29	65.00	QK389	15.00	991	.30	6K8G	.65
2K33B	100.00	9GP7	10.00	394A	2.50	K-1001		6SD7GT	.25
2K37	100.00	12ATTWA	2.25	402A W.E.	12.50	Dumont	50.00	6S7	.45
2K56	50.00	12DP7	10.00	404A W.E.	15.00	K-1051		6SH7	.29
2X2	.15	12DP7A	20.00	416B W.E.	Q	Dumont	50.00	6W7G	.45
EL-3C	3.45	12SP11	45.00	417A W.E.	15.00	1616	.35	7AG	.35
3A5	.59	RX21A	9.00	429A W.E.	6.00	1619	.25	7F7	.59
3B27	3.75	2B27	1.00	421A W.E.	3.75	1625	.25	7H7	.20
3C37	20.00	FG32	3.50	422A W.E.	7.50	1626	.25	12A6	.48
3CP1	2.50	RK34	.50	446B	1.50	1629	.15	12SR7	.40
3CPI51	2.00	LADCT	2.00	464A	2.00	1631	1.00	34	.15
3DP1S2A	7.50	UH50	5.00	WL468	15.00	1632	.20	37	.10
3D21A	3.25	HK54	4.00	H500	35.00	1680	1.00	38	.10

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Flexible—accommodates any standard RMA 19" rack mounted unit. The same unit may be installed in cabinets or consoles permitting flexibility in expansion or rearrangement.

The universal console is designed for operator comfort, viewing ease and maximum accessibility to all controls and chassis.

Two, three or more universal consoles may be ganged together. Thereby utilizing a minimum of space. Dimensions—Max. height: 57" Width: 19 1/8" without end bells. 27 1/8" with end bells. Distance floor to shelf: 27 3/4". Max. depth: 37 1/2". Weight: 150 lbs. approx. with end bells and shelf.

**COMPLETE UNIT \$59.50 while they last—**

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To JAN or MIL R-11 Specs.

TYPE EB	RC-20-	1/2 WATT	<b>NEW LOW PRICES</b>
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TYPE HB	RC-42-	2 WATT	

- Delivery from stock in any standard RETMA value 5% & 10%
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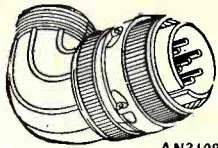
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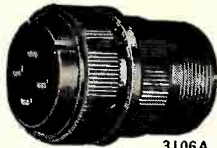
3106A



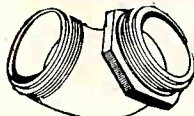
3106B



AN3108B



3106A



AN3063  
90° Conduit Coupling



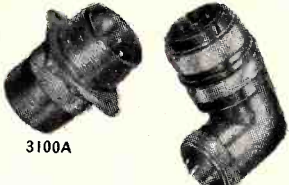
AN3058  
Conduit Coupling



AN-3106



AN3107B



3100A



AN3064  
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AN3062 90°  
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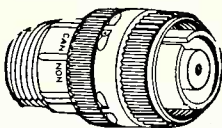


AN3066 Conduit  
Coupling Locknut

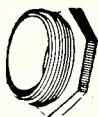


AN-3108

3108A



AN3106-18-(\*)S  
High Voltage Connectors



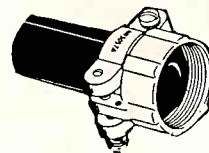
AN3056  
Conduit Coupling



AN3055  
Adapter



AN3060  
45° Conduit Coupling



AN3057A  
Cable Clamp



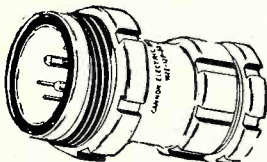
3106E



AN-3102



AN-3100



W-22



No. 11749-1



No. 11751-1



3108M



AN-3101



83-ISP



9760-P



3100M



83-ISP



83-ISP  
83-756



9760



AN3116  
Cannon No. 270-8

MINIATURE AND SUBMINIATURE

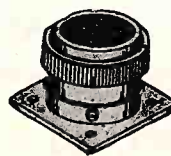
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"AO" Army Ordnance • "AF" Air Force  
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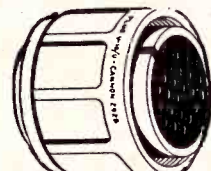
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AN3057  
Cable Clamp



SPECIAL U-16/U



83-1R  
83-796

83-1AP  
83-58



83-1J



83-1T

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**SCR 300** Portable "Walkie-Talkie" Radio Transmitter-Receiver operating on frequencies of 40.0 to 48.0 Mcs. Employs 18 miniature tubes with output of 1/2 watt. Sturdy, compact and dependable. All units completely checked for operation and guaranteed.

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AN/PRC—10 Latest Walkie-Talkie, New

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AN/PRC—14 Walkie-Talkie (225—400 m.c.s.), New.

## BRAND NEW T-350XM RADIOTELEPHONE - RADIOTELEGRAPH TRANSMITTERS

This transmitter is similar in characteristics to the RCA Model ET-4336. The T-350XM was manufactured by Technical Radio Corporation, San Francisco, California, for the U. S. Signal Corps. All are new, unused and export cased. Each transmitter carries our guarantee. Spare parts available. Quotations on request.

• 2,000-29,000 KCS • 350 watts—A1 Output • 250 Watts—A3 Output • Built in Master Oscillator • 5 Crystal Positions • Multi Range Impedance Antenna Tuning Network • Manual or High Speed Keying • Uses 2—813 P.A. and 2—805 Modulators Hi-Level Class B • Speech Amplifier, Remote, Mfg. by RCA • Technical Manuals (2) with Each Transmitter • Power Input: 210/250 Volts Single Phase 50/60 Cycles • Size 59" x 16" x 24" • Wt—690 Lbs. Net • Brand new—Complete—Unused

### COMPLETE STATION INSTALLATION

We can supply with the T-350XM transmitter brand new receivers and complete station operating accessories.

### GUARANTEE

—Our equipment carries with it an unqualified guarantee of satisfaction to the end user.  
—Our new laboratory is equipped with the finest testing facilities available.  
—Catalog and data sheets fully describing our offerings and hundreds of other items in our stock will be gladly mailed on request.

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SERIES TUBES

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## CAA CERTIFIED EQUIPMENT

ARC-1	ARN-5	MN-42	18S2
MN-36-C	ARN-7	SCR-274	18S4
LP-21-LM	APN-9	SCR-269	ART-13
MN-62	RC-103	RTA-1B	CRT-3

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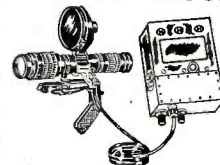
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### COMPLETE SNOOPERSCOPIES!!!



FORMER "TOP-SECRET" INFRARED VIEWERS FOR SEEING IN TOTAL DARKNESS, ARE NOW AVAILABLE FOR CIVILIAN USES!!

Army Model M-2 Snooper scope, Made By BELL & HOWELL CO. Uses RCA Type 1P25-A Image Tube.

Priced from \$50.00 to \$125.00. Write for Descriptive Bulletins listing industrial uses and Price Information. LIMITED QUANTITIES.

### NEW INFRARED IMAGE TUBES

1P25-A ... \$19.95  
6032 ... \$29.95

### INFRARED LIGHT SOURCE

Snooper scope Part #1364A.—Input 6 volts, 5 amps. Has special 5% dia. A-1529 glass filter & goldplated reflector. Projects a powerful beam of invisible infrared radiation (free of all visible light) that illuminates objects for infrared viewing (or photography) up to a distance of 400 feet. For any Infrared system. Complete with bulb.  
STK #L-5459.—NEW, ONLY ..... \$7.95 Ppd.

### IMAGE TUBE POWER SUPPLY

Snooper scope Part #1450A.—Power-Pack for 1P25-A Tube (will also supply CV-147 Tube). Input 6 V.D.C., output 4,250 V.D.C. and additional focusing voltages. Checked-out, complete, and operating with 1654 Tube. 4 1/2 x 3 x 8". Diagram included. Gov't cost \$68.00. Used. NEW CONDITION—\$7.95 Ppd.

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Terms: Prices Include Postage, Cash With Orders.  
Well Rated Concerns (D & B) Net 10 Days Cash.

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## PRESS WIRELESS 40 KW RADIO TRANSMITTER STATION!

New, Unused, High Power complete Transmitter Station for long range, point-to-point, CW and Radioteletype. Also, Power Amplifier Section can be used as 15 KW (output) Linear Amplifier to increase power of Single Side-Band Transmitters of 2 to 2½ KW output with similar frequency range. The PW-40B covers 5.3 to 21.0 MC, is preset for one frequency in this range (MO or crystal-controlled), but crystal oscillator oven will hold up to 6 different crystals. This station consists of: RF Exciter, RF Power Amplifier, High-Voltage Rectifier (240V, 3 phase AC), and Water Cooling Unit. Complete station when set up measures approximately 18 ft. long x 7 ft. high x 5 ft. deep. Available complete with spare parts. **WRITE FOR LITERATURE AND PRICES!**

## RADIO BEACON TRANSMITTER STATIONS

Consists of 2 units; one (Model LSR 420F) for exciter-driver, frequency range 275-510 KC, 4-channels crystal-controlled oscillator and MO, output 110 watts CW or 150 watts MCW; second unit (Model LSR 520C) is a Linear Class B RF Power Amplifier to increase power output of above unit to 600 watts CW or 800 watts MCW. Both units are enclosed frame type measuring approx. 64" H. x 24" W. x 18" D. Operation is from 110 V., 1 phase, 50/60 cycles AC. Equipment is NEW-UNUSED. **WRITE FOR LITERATURE & PRICES.**

## SCR-206F RADIO INTERCEPT D.F. EQPT.

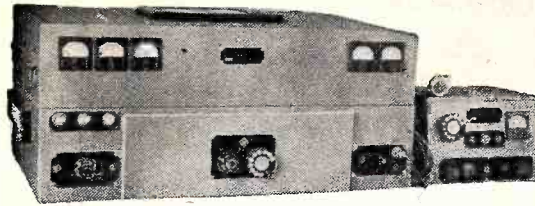
One of the finest and most versatile World War II Direction Finding and Intercept Radio Receiving Eqpts. Ideal for monitoring and locating enemy radio stations. Frequency Range 200 KC to 18.0 MC continuous in 7 bands. Designed for mobile-field use, to operate from 6 volt storage battery. Highly engineered, thoroughly shielded by heavy gauge aluminum castings which house various RF sections. Supplied complete with loop, 6 V. dynamotor, sense antenna mast sections, high-powered telescope assembly which mounts within loop (for local bearing), all installed within sturdy portable trunk for convenient carrying. UNUSED Condition. **WRITE FOR LITERATURE AND PRICES!**

## PORTABLE RADIO BROADCAST STATIONS, 50 WATT OUTPUT.

New, Unused equipment, designed for Psychological Warfare (Propaganda) and Armed Forces Radio-Troop entertainment this equipment will meet FCC specs. for carrier stability (crystal-controlled) and fidelity. Freq. Range is 1,100 to 1,500 KC, and design provides either crystal control or VFO. Modulation is 100% using a special hi-efficiency circuit. Operation is from 90 to 240 Volts, 50/50 cycles AC, and total drain at full modulation-725 watts. Audio Response is within 1 db from 100 to 5,000 cps and distortion less than 5% rms at 100% modulation. Design provides for use with quarter-wave antenna against ground, with loading coil of sufficient inductance included within transmitter to permit use of smaller antenna where conditions do not allow proper size. THE EQUIPMENT SUPPLIED FORMS A COMPLETE MOBILE OR PORTABLE BROADCAST STATION.

The following are the various units supplied: 1—Broadcast Transmitter, 1—Power Supply (operates from 110 V. 60 C. AC), 1—Pressure Cooling and Voltage Selector unit, 1—Control Console Mixer, 1—Phonograph, 2—Speed (78 & 33 ½ RPM) Turntable, 1—Dynamic Microphone, 1—Set of Operating Tubes, 9 Connecting Cables, Spare Parts Kit, Construction Manual, and 5 sturdy Trunk for housing & transporting this material. **WRITE FOR PRICES & LITERATURE.**

## RC-263 TRANSMITTING EQPT. 50/75 W. OUTPUT, 1.5-10.0 MC, 4-CHANNELS CRYSTAL OR VFO CONTROL, AUTOMATIC DIAL CONTROLS ALL OPERATIONS, FULL REMOTE CONTROL, 100-260 V., 25 to 60 C. AC OPERATION, ETC.



Radio Transmitting Equipment RC-263 consists of Radio Transmitter BC-1100-A, Remote Control Unit RM-40-A, and Microphone T-27-Q. Radio Transmitter BC-1100-A is a four-channel crystal—or master-oscillator controlled, 75-watt radio telegraph or 50-watt radio telephone transmitter (conservative ratings). It operates in the frequency range from 1,500 kc to 10,000 kc and is suitable for remote control over two pairs of telephone lines. The radiated radio telephone signals are amplitude modulated. Remote Control Unit RM-40-A consists of a microphone amplifier, line level indicating meter, microphone supply rectifier and switching circuits, and pulse dial to control relays in Radio Transmitter BC-1100-A and performs all necessary functions, such as channel selection. Power-on or off, cw or phone, etc.

The frequency range covered by each of the four individual channels is from 1,500 to 10,000 kc. Any one of the four channels can be tuned to any frequency within these limits.

Radio Transmitting Equipment RC-263 is designed to operate on 100 to 260 volts alternating current, 25 to 60 cycles, single phase. Transmitter dimensions are: 18" H. x 40½" W. x 30¼" D. The Remote Control Unit measures: 10" H. x 14" W. x 13½" D. ALL EQPT. IS NEW-UNUSED and in original export packing. Available Complete with tubes, microphone, Instruction Book, and case of full spares which includes meters, relays, tubes, resistors, capacitors, additional microphone, etc. **WRITE FOR PRICE & DESCRIPTIVE LITERATURE.**

## LARGE QUANTITIES

## NEW & RECONDITIONED:

BC-669 (SCR-543) RADIOTELEPHONES, NEW-UNUSED, 45 WATTS OUTPUT ON PHONE, 6 channels (CRYSTAL-CONTROLLED) FOR TRANSMITTER & RECEIVER.

SCR-300 (BC-1000) Walkie-Talkies; SCR-536 (BC-611) Handy-Talkies. SPARE PARTS for both eqpts.

**BIGGEST & BEST STOCK IN:** TCS Transmitters & Receivers with 12, 24, 110 DC or 110 AC Power Supplies.

Over 2,000 new-unused BC 611D chassis, less tubes, crystals, or plug-in coils, but with telescopic antenna.

200 GN-58 Hand Generators (for SCR-694 and AN/GRC-9 equipments), complete with cranks, seat pedestal, and legs. Like new condition.

Approx. 1,500 PE-104A Vibrator Power Supplies (each with spare vibrator) for receiver section of SCR-284 eqpt's. New-unused, in original export packing.

Large inventory of SCR-522 eqpt's., BC-797, SCR-610, SCR-510, SCR-508, SCR-608, SCR-511, BC-447, etc.

ALL MATERIAL SUBJECT TO PRIOR SALE!  
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## —TELEMARINE— COMMUNICATIONS CO.

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Phone: ES 2-4300

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We have large stocks of Transmitters, Receivers, Radar, Accessories, etc. Write and tell us of your requirements. Descriptive literature and prices upon request.

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We have one of the most complete tube stocks in the country. All tubes are fully guaranteed, standard brands only, & at lowest prices possible consistent with our famous critical standard for high quality. We also stock & manufacture selenium rectifiers & associated transformers and chokes to your own specifications. Fast delivery. Write for prices & details.

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**SCR 300** Portable "Walkie-Talkie" Radio Transmitter-Receiver operating on frequencies of 40.0 to 48.0 Mcs. Employs 18 miniature tubes with output of 1/2 watt. Sturdy, compact and dependable. All units completely checked for operation and guaranteed.

## SPARE PARTS for (SCR 300)

5 Gang Variables, I.F. Transformers, XTALS; 6815 K.C. 4300 K.C., SOCKETS, R.F. & OSC Coils, Input - Output Transformers, Jacks, Fittings, CS-128 Cases, Plugs, Cables, Antennas (AN-130, 131). Handsets, Switches, Resistors, Condensers, and Manuals. **LARGE QUANTITIES ALL NEW**

We have sold and delivered more of these complete units than any other dealer, anywhere.

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CW-3 Wilcox—fixed frequency.  
VHR-401A—(109-144 Mcs) variable tuning.  
SCR-193, SCR-506, SCR-508, SCR-608, SCR-619.  
Spare parts available in quantity for all of the items listed in this advertisement.

ARD-2 Search Receiver, 80-3000 M.C.S. New in original cases. Wt. 113 lbs. \$295.00

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## RECEIVERS

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1—50 KW General Electric H.F. Transmitter  
2—40 KW Press Wireless H.F. Transmitters,  
New.

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AN/GRC-9 Field Set. Complete. (2—18  
m.c.s.), New.

AN/PRC-10 Latest Walkie-Talkie, New

AN/GRC-13 Field Set. Complete (2—12  
m.c.s.), New.

AN/PRC-14 Walkie-Talkie (225—400 m.c.s.),  
New.

## BRAND NEW T-350XM RADIOTELEPHONE - RADIOTELEGRAPH TRANSMITTERS

This transmitter is similar in characteristics to the RCA Model ET-4336. The T-350XM was manufactured by Technical Radio Corporation, San Francisco, California, for the U. S. Signal Corps. All are new, unused and export casad. Each transmitter carries our guarantee. Spare parts available. Quotations on request.

- 2,000-29,000 KCS • 350 watts—A1 Output • 250 Watts—A3 Output • Built in Master Oscillator • 5 Crystal Positions • Multi Range Impedance Antenna Tuning Network • Manual or High Speed Keying • Uses 2—813 P.A. and 2—805 Modulators Hi-Level Class B • Speech Amplifier, Remote, Mfg. by RCA • Technical Manuals (2) with Each Transmitter • Power Input: 210/250 Volts Single Phase 50/60 Cycles • Size 5 1/2" x 16" x 24" • Wt—690 Lbs. Net • Brand new—Complete—Unused

**COMPLETE STATION INSTALLATION**  
We can supply with the T-350XM transmitter brand new receivers and complete station operating accessories.

## GUARANTEE

—Our equipment carries with it an unqualified guarantee of satisfaction to the end user.  
—Our new laboratory is equipped with the finest testing facilities available.  
—Catalog and data sheets fully describing our offerings and hundreds of other items in our stock will be gladly mailed on request.

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MN-36-C	ARN-7	SCR-274	18S4
LP-21-LM	APN-9	SCR-269	ART-13
MN-62	RC-103	RTA-1B	CRT-3

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Priced from \$50.00 to \$125.00. Write for Descriptive Bulletins listing industrial uses and Price Information. LIMITED QUANTITIES.

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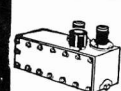
1P25-A ... \$19.95  
6032 ..... \$29.95

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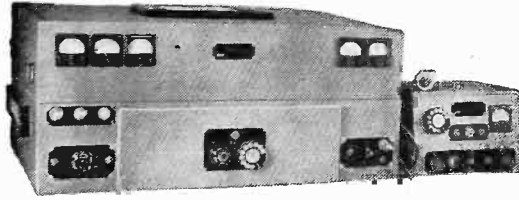
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## RC-263 TRANSMITTING EQPT. 50/75 W. OUTPUT, 1.5-10.0 MC, 4-CHANNELS CRYSTAL OR VFO CONTROL, AUTOMATIC DIAL CONTROLS ALL OPERATIONS, FULL REMOTE CONTROL, 100-260 V., 25 to 60 C. AC OPERATION, ETC.



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## LARGE QUANTITIES

BC-669 (SCR-543) RADIOTELEPHONES, NEW—UNUSED, 45 WATTS OUTPUT ON PHONE, 6 channels (CRYSTAL-CONTROLLED) FOR TRANSMITTER & RECEIVER.

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Approx. 1,500 PE-104A Vibrator Power Supplies (each with spare vibrator) for receiver section of SCR-284 eqpt's. New-unused, in original export packing.

Large inventory of SCR-522 eqpt's., BC-797, SCR-610, SCR-510, SCR-508, SCR-608, SCR-511, BC-447, etc.

**ALL MATERIAL SUBJECT TO PRIOR SALE!**  
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## —TELEMARINE— COMMUNICATIONS CO.

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## NEW & RECONDITIONED:

**EXPORTERS, GOVERNMENT AGENCIES, INDUSTRIALS!**  
We have large stocks of Transmitters, Receivers, Walkie-Talkies, VHF Equipment, Radar, Accessories, etc. Write and tell us of your requirements. Descriptive literature and prices upon request.

Large Stock of TELEPHONE RELAYS To Fill All Your Requirements

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At SENSIBLE prices!

Write for industrial prices.

AND ON OUR PREMISES:

**PRODUCTION QUANTITIES AVAILABLE**

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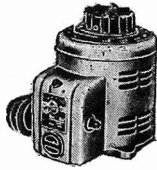


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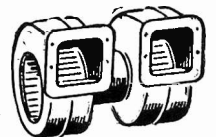


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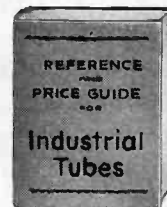
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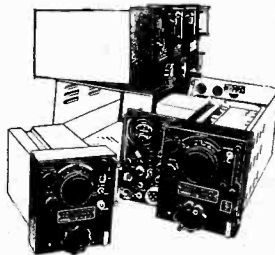
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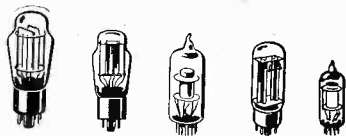
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**4. New "Fast-Soldered" Pins**—Exclusive new Sylvania pin-soldering technique virtually fills the pin with solder. As a result, Sylvania picture tubes have super-bonded lead wire, offering superior electrical contact and stronger mechanical support.



SYLVANIA  
SILVER SCREEN 85



For extra dependability and fine performance, Sylvania offers a complete line of receiving tubes and special-purpose tubes. For complete information write Department F21P, SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y.

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# 4 Exclusive reasons why Sylvania's "Silver Screen 85" is the leading choice in Picture Tubes

**1. Super-Aluminized Reflector**—As the world's leading producer of aluminized picture tubes, Sylvania has developed exclusive processes to perfect the aluminized screen. Sylvania aluminized tubes offer up to 7 times the contrast of ordinary picture tubes.

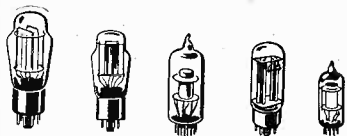
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# CRYSTAL DIODES, DUO-DIODES & VARISTORS



## SYLVANIA CRYSTAL DIODES

\*ABSOLUTE MAXIMUM RATINGS

CHARACTERISTICS AT 25° C:

Type	Application or Description	Continuous Reverse Working Voltage (volts)	Average Anode Current (ma)	Forward Current at +1 Volt (ma min.)	Reverse Current (ua max.)
1N34A	60 volt	60	50	5	30 at -10v, 500 at -50
1N35	Matched Pair	50	22.5	7	10 at -10v
1N38A	100 volt	100	50	4	6 at -3v, 500 at -100v
1N38B	100 volt	100	50	4 (25 max.)	6 at -3v, 500 at -100v
1N39A	200 volt	200	50	4	100 at -100v, 600 at -200v
1N40	Plug-in Varistor	25	22.5	12.7 at 1.5v	40 at -10v
1N54A	High Back Resistance	50	50	5	7 at -10v, 100 at -50v
1N55A	150 volt	150	50	4	500 at -150v
1N56A	High Conduction	40	60	15	300 at -30v
1N58A	100 volt	100	50	4	600 at -100v
1N60	Video Detector	25	50	—	—
1N63	High Back Resistance	100	50	4	50 at -50v
1N65	70 volt	70	50	2.5	200 at -50v
1N67A	Miniature—High Back	80	30	4	5 at -5v, 50 at -50v
1N69	60 volt	60	40	5	5 at -10v, 850 at -50v
1N69A	60 volt	60	40	5 (25 max.)	30 at -10v, 500 at -50v
1N70	100 volt	100	30	3	25 at -10v, 300 at -50v
1N70A	100 volt	100	30	3 (25 max.)	25 at -10v, 300 at -50v
1N71	Low Impedance Varistor	40	60	15	300 at -30v
1N77A	Photodiode	—	—	—	15 at -10v, 100 at -50v (Dark)
1N81	Low Voltage	40	30	3	10 at -10v
1N81A	Low Voltage	40	30	3 (25 max.)	10 at -10v
1N82	UHF Mixer	—	—	—	—
1N82A	UHF Mixer	—	—	—	—
1N90	Miniature—General Purpose	60	30	5	750 at -50v
1N98	Miniature—High Back	80	30	20	8 at -5v, 100 at -50v
1N100	Miniature—High Back	80	30	20	5 at -5v, 50 at -50v
1N112	60 volt Computer	60	25	5	—
1N115	60 volt Computer	60	25	2.5	—
1N118	Miniature—High Conduction	60	90	20	100 at -50v
1N119	60 volt—Computer	60	25	5	—
1N120	60 volt—Computer	60	25	5	—
1N126	Miniature—60 volt	60	30	5	50 at -10v, 850 at -50v
1N127	Miniature—100 volt	100	30	3	25 at -10v, 300 at -50v
1N128	Miniature—High Back	40	30	3	10 at -10v
1N191	Miniature—Computer	90	30	5	—
1N193	High Temperature	40	30	1.0 at +2v	20 at -10v, 40 at -40v
1N194	High Temperature	40	30	1.5 at +2v	10 at -40v
1N194A	High Temperature	40	30	1.5	10 at -40v
1N195	High Temperature	40	30	2.0 at +2v	10 at -40v
1N196	High Temperature	50	30	1.0 at +2v	10 at -40v
1N198	Miniature—75°C	80	30	4	10 at -10v, 50 at -50v
1N417	Computer	60	60	—	—
1N418	Computer	60	16	7	—
1N419	Computer	80	60	125	—
1N447	VLI (Very Low Impedance)	30	60	25	20 at -10v, 60 at -30v
1N448	VLI	100	60	25	30 at -30v, 100 at -100v
1N449	VLI	30	60	50	10 at -10v, 30 at -30v
1N450	VLI	100	60	50	30 at -30v, 100 at -100v
1N451	VLI	150	60	50	150 at -150v
1N452	VLI	30	80	100	30 at -30v
1N453	VLI	100	80	100	30 at -30v, 100 at -100v
1N454	VLI	50	100	200	50 at -50v
1N455	VLI	30	100	300	30 at -30v
1N631	Miniature—Computer	60	60	—	—
1N632	Miniature—Computer	60	16	7	—
1N633	Miniature—Computer	80	60	125	—
1N634	Miniature—VLI	60	60	50	35 at -30v, 115 at -100v
1N635	Miniature—VLI	60	60	50	175 at -150v
1N1093	Computer	15	50	—	25 at -5v and 75 at -15v at 55° C

\*Ratings are limiting values assigned by the manufacturer to operating or storage conditions (electrical, mechanical, or environmental) under the control of the user. If values are exceeded, permanent impairment of the device and/or performance may result.

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# MICROWAVE CRYSTALS, TRANSISTORS, Photodiodes and Glow Transfer Tubes

## MICROWAVE CRYSTAL DIODES

Sylvania manufactures microwave crystals for radar, counter-measure and test applications.  
All frequencies from 1000 to 35,000 mc are covered within the series.

TYPE	PURPOSE	FREQUENCY
1N21B	Mixer	3000 mc
1N21C	Mixer	3000 mc
1N21D	Mixer	3000 mc
1N21E	Mixer	3000 mc
1N23B	Mixer	9375 mc
1N23C	Mixer	9375 mc
1N23D	Mixer	9375 mc
1N23E	Mixer	9375 mc
1N25	Mixer	1000 mc
1N25A	Mixer	1000 mc
1N26	Mixer	24000 mc
1N53	Mixer	25000 mc
D938	Mixer	35000 mc
1N78	Mixer	16000 mc

TYPE	PURPOSE	FREQUENCY
1N78A	Mixer	16000 mc
1N79	Instrument Rectifier	3000
1N286	Mixer	10,000-23,000 mc
1N1132	Tripolar Mixer	1,000-12,000 mc
1N31	Video Detector	9375
1N32	Video Detector	3000
1N76	Video Detector	10000
1N358	Tripolar Video Det.	1000-12000
1N369	Tripolar Video Det.	3000-12000
1N369A	Tripolar Video Det.	1000-12000
1N446	Video Detector	26,500-40,000

NOTE: Reverse polarity and matched pairs are available for all mixer crystal types except 1N286 and 1N1132.

## AUDIO TRANSISTORS

Audio Types	Class	Total Dissipation P <sub>T</sub> MW	Collector Base Voltage V <sub>cb</sub> Volts	Collector Emitter Voltage V <sub>ce</sub> Volts	Typical Alpha Cut-off Frequency F <sub>α</sub>	Collector Current I <sub>c</sub> ma	Application
2N34	PNP	50*	-40	-25	.6	-50	high gain
2N35	NPN	50*	40	25	.8	50	high gain
2N213	NPN	50*	—	25	.8	100	very high gain
2N228	NPN	50*	—	25	.8	50	high gain
2N214	NPN	125*	—	25	.8	50	high gain
2N229	NPN	50*	10	12	1.9	40	high gain
2N306	NPN	50*	20	12	.75	40	high gain

\*Derate 2.5 mw per °C rise above 25°C ambient; for 50 mw units derate 1 mw per °C

## RF/IF TRANSISTORS

RF/IF Types	Class	Total Dissipation P <sub>T</sub> MW	Collector Emitter Voltage V <sub>ce</sub> Volts	Typical Alpha Cut-off Frequency F <sub>α</sub>	Collector Current I <sub>c</sub> MA	Gain	Application
2N94	NPN	50*	20	3.5	50	32 <sup>(2)</sup>	IF
2N94A	NPN	50*	20	7	50	49 <sup>(1)</sup>	RF
2N193	NPN	50*	15	3.5	50	5.5 <sup>(2)</sup>	Oscillator
2N194	NPN	50*	15	3.5	50	7.5 <sup>(2)</sup>	Converter
2N211	NPN	50*	10	3.5	50	5.5 <sup>(2)</sup>	Oscillator
2N212	NPN	50*	10	6	50	10 <sup>(2)</sup>	Converter
2N216	NPN	50*	15	3.5	50	7.5 <sup>(2)</sup>	IF
2N233	NPN	50*	10	3	50	4.5 <sup>(2)</sup>	General Purpose

\*Derate 2.5 MW per °C rise above 25°C ambient; for 50 MW units derate 1 mw per °C.

NOTES—1. Current gain at 270 CPS 2. Current gain at 455 Kc

## POWER TRANSISTORS

Power Type	Class	Total Dissipation P <sub>T</sub> Watts	Collector Base Voltage V <sub>cb</sub> Volts	Collector Emitter Voltage V <sub>ce</sub> Volts	Typical Beta Cut-off Frequency FB	Collector Current I <sub>c</sub> Amps	Gain	Application
2N68	PNP	2**	-30	-15	5	-1.5	40 <sup>(1)</sup>	Audio Amplifiers, Voltage regulated power supplies, DC Converter, Magnetic Core Driver, Servo Amplifier, Vertical Sweep Output, Pulse Power Output, High Current Switch, RF Modulator
2N95	NPN	2**	30	15	5	1.5	40 <sup>(1)</sup>	
2N101	PNP	1**	-30	-15	5	-1.5	40 <sup>(1)</sup>	
2N102	NPN	1**	30	15	5	1.5	40 <sup>(1)</sup>	
2N141	PNP	1.5**	-60	-30	5	.8	40 <sup>(1)</sup>	
2N142	NPN	1.5**	60	30	5	.8	40 <sup>(1)</sup>	
2N143	PNP	1**	-60	-30	5	.8	40 <sup>(1)</sup>	
2N144	NPN	1**	60	30	5	.8	40 <sup>(1)</sup>	
2N242	PNP	***	-45	-45	7.5	2	33db	
2N307	PNP		35	-35	5	1.0	30 <sup>(2)</sup>	

\*\*Free air rating shown; with dissipator rating is 4 watts

\*\*\*Thermal rise from mounting hole on Collector to junction 3°C/watt max.

(1) Base to Collector current gain at 50 ma I<sub>c</sub>  
(2) Base to Collector current gain at 200 ma I<sub>c</sub>

## COMPUTER TRANSISTORS

Computer Type	Class	Total Dissipation P <sub>T</sub> MW	Collector Base Voltage V <sub>cb</sub> Volts	Collector Emitter Voltage V <sub>ce</sub> Volts	Typical Alpha Cut-off Frequency F <sub>α</sub>	Collector Current I <sub>c</sub> MA	Max. Junction Temp. °C	Application
2N377	NPN	150*	25	20	.6	200	85	high gain fast switching
2N385	NPN	150*	25	25	.6	200	85	
2N388	NPN	150*	25	20	.8	200	85	

\*Derate 2.5 mw per °C above 25°C ambient

Note: On Computer types, base tied to can



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# MICROWAVE COMPONENTS



**TR and ATR TUBES**  
Gas switching tubes designed for radar application.

Type	Description	Frequency
1B58	Broadband TR	2659-2969
1B58A	Broadband TR	2659-2969
5865	Broadband TR	5395-5905
6624	Broadband TR	5370-5430
1B63A	Broadband TR	8490-9578
5863	Broadband TR	8490-9578
6164	Broadband TR	8490-9578
6232	Broadband TR	8490-9578
1B24A	Tunable TR	8490-9600
6795	Bantam TR	8490-9578
6334	Dual TR	8490-9578
5790	Tunable TR	33814-35906
6545	Tunable TR	33814-35906
1B44	ATR	2750
1B56	ATR	2850
6081	ATR	5640
6591	ATR	5400
1B35A	ATR	9300
1B37A	ATR	8750
6163	ATR	9050
6214	Quick-firing ATR	9375
5791	ATR	34860
6546	ATR	34860

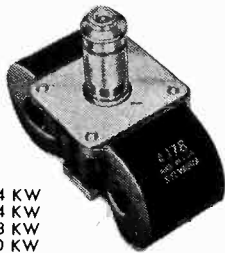


## TRAVELING WAVE TUBES

Type	Description	Frequency (KMC)	Power Output	Max. Noise figure (db)	Min. Gain (db)
6493	Wide Band Low Power TWT Amplifier	2-4	15 mw	25	35
6494	Dispersive Amplifier	2-4			15-27
6495	Broadband Low Noise Amplifier	2-4	7 mw	11	30
6496	Backward Wave Oscillator	2-4	50 mw (2KMC) 300 mw (4KMC)		
6559	TWT C. W. or Pulsed Amplifier	2-4	2.0 w	30	25
6698	Hi power pulsed Amplifier	2-4	1 kw peak		27
6699	Backward Wave Oscillator	1-2	70 mw at 1 KMC—1000 mw at 2 KMC		
6752	Medium Power Amplifier	1-2	2 watts		33
6753	Low Level Amplifier	1-2	15 mw	30	37
BW623	Backward Wave Oscillator	4-8	35 mw at 4 KMC—150 mw at 8 KMC		
TW612	Low Level Amplifier	4-8	5 mw	30	37
TW613	Low Level Amplifier	8-12.5	3 mw		37

## MAGNETRONS

Sylvania magnetrons are designed for military and commercial radar applications.



2142	9375 Fixed	14 KW
2142H	9375 Fixed	14 KW
6027	9375 Fixed	18 KW
6874	8800-9400 Tunable	180 KW
5789	34800 Fixed	32 KW
6799	34800 Fixed	100 KW

## COUNTER TUBES

Sylvania decade counter tubes provide visual and electrical read-out for a broad field of counting applications.

Type	Rated Speed	Outputs
6476	4 KC	10
6802	4 KC	4
6879	5 KC	3
6909	100 KC	4
6910	100 KC	10



## TRIGGER TUBES

**OA5**—Cold cathode trigger tube capable of dissipating one watt of energy. Designed in T5 1/2 bulb size.

**6403**—Cold cathode trigger tube capable of dissipating one watt of energy. Designed in T-3 bulb size.

## FERRITE ISOLATORS

Sylvania ferrite isolators are designed for use in radar microwave link or test equipment. The ferrite isolator will protect the power source from reflected energy, thereby contributing to more stable operation and longer life performance.

FD977	5300-5500	120 KW peak
FD962	7100-8000	10 watts CW
FD963	4600-5000	10 watts CW
FD1013	8500-9600	125 KW peak
FD1037	8500-9600	125 KW peak

## PIRANI TUBES

**R1111**—Pressure measuring tube.

**R1111M**—Matched pairs of Pirani tubes.



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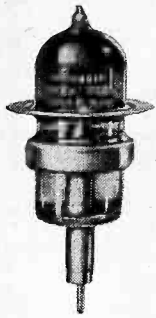


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# MICROWAVE COMPONENTS



## ROCKET TUBES



Sylvania Rocket Tubes are planar-electrode disc-seal triodes for use as oscillators and amplifiers at frequencies up to 3300 mc. Design permits broadband operation. Tuning is simpler and covers a greater continuous range than that of many other types of UHF tubes.

**2C36**—is a pulse-modulated oscillator for frequencies up to 1200 mc.

**2C37**—is designed for use as a c.w. oscillator up to 3300 mc. Plate disc is flat, grid disc folded.

**5764**—is a pulse-modulated oscillator for use up to 3300 mc.

**5765**—is for use as a c.w. oscillator without external feedback in the range from 900 to 3000 mc.

**5767**—is a c.w. oscillator for use up to 3300 mc. Both discs are folded.

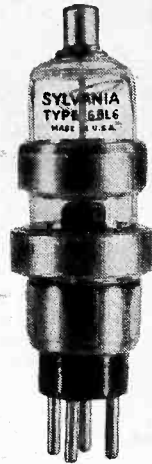
**5768**—is intended for use as a c.w. amplifier-multiplier up to 3000 mc.

**6018**—is intended for use as a c.w. amplifier-multiplier up to 3000 mc.

**6BA4**—High gain, low noise, UHF television amplifier.

**6481 (RT434)**—c.w. amplifier for use up to 3000 mc.

**6503**—c.w. amplifier for use up to 3000 mc.



## KLYSTRONS

Type No.	Mode	Frequency mc.
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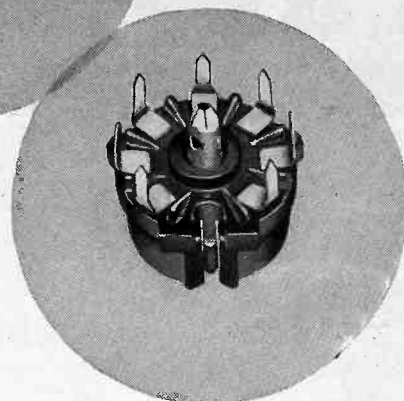
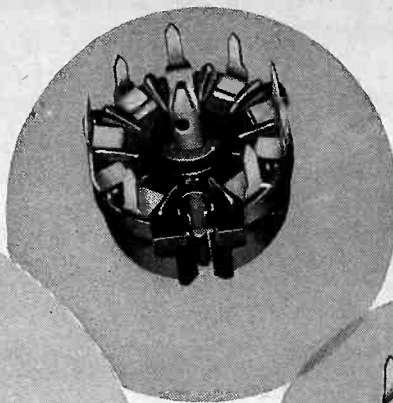
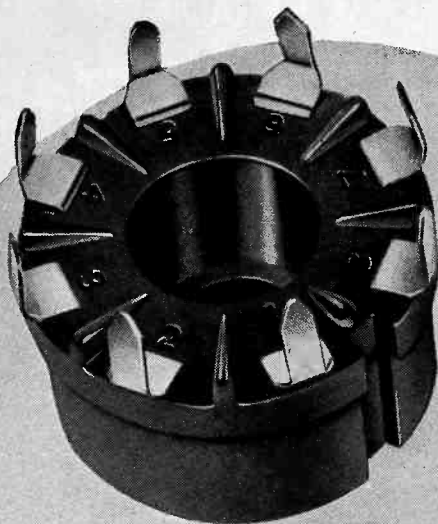
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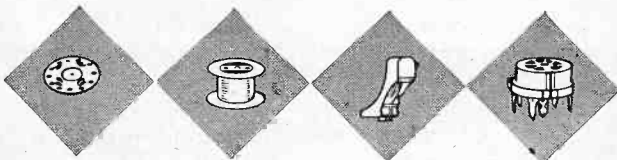
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*The Editors*

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# DESIGN CHARTS FOR

**S**UMMARY — Rapid correlation of coupling-circuit performance can be achieved with parameters of a wide variety of double-tuned coupling transformers. Charts are particularly useful where power transfer is important, as in transistor i-f amplifiers. Several interesting problems are worked out to illustrate design procedure

By MELBOURNE J. HELLSTROM

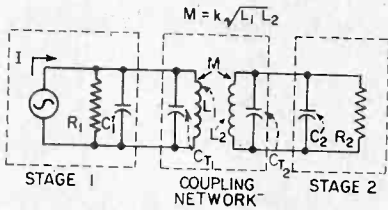


FIG. 1—Typical double-tuned transformer coupling network

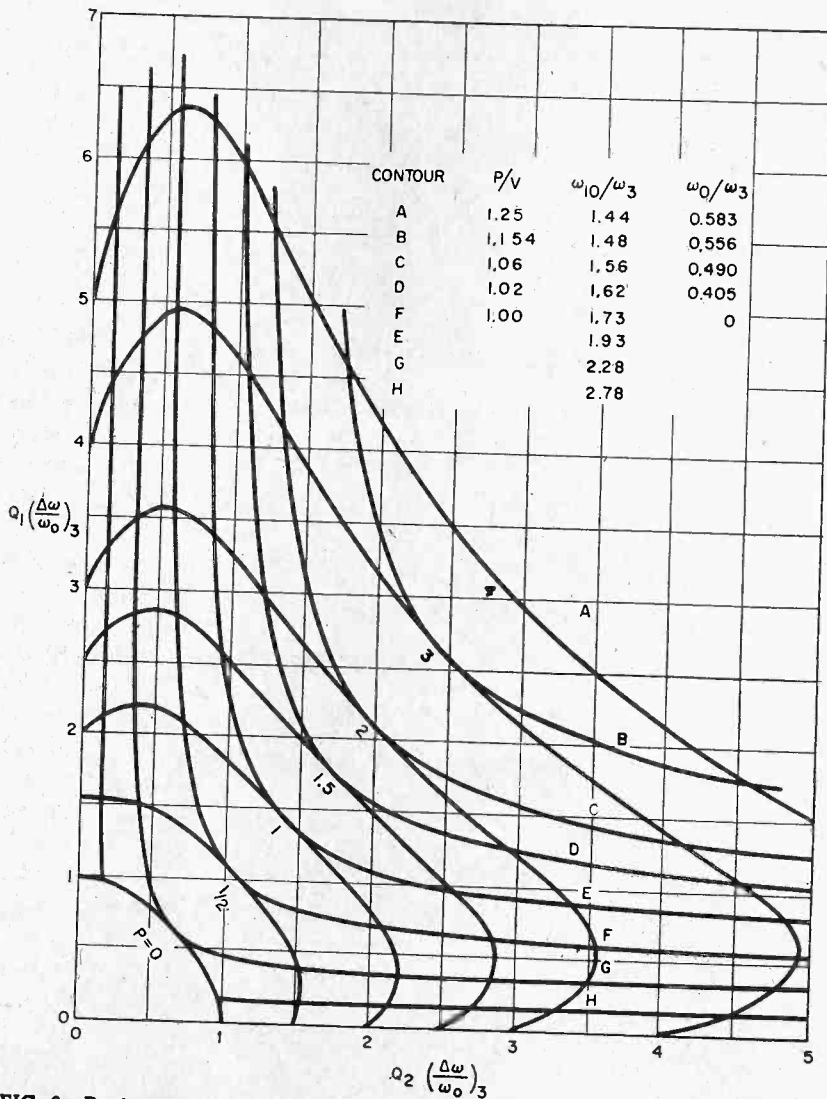


FIG. 2—Design curves for double-tuned transformers;  $(\Delta\omega/\omega_0)_3$  is relative bandwidth at half-power points of pass band

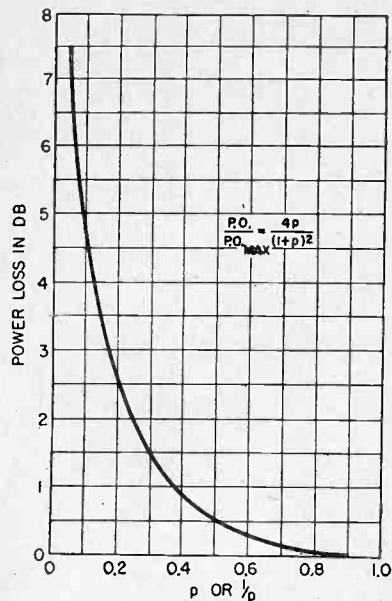
**I**N DESIGN of transistor video i-f amplifiers, the problem of coupling between stages may be approached from the point of view of power transfer from the output terminals of one stage to the input terminals of another. Usually this network is in the form of a single or double-tuned transformer. The design charts described in this article are applicable to a wide variety of coupling circuits.<sup>1</sup>

A typical coupling network is illustrated in Fig. 1. The transformer couples power from stage 1 to stage 2. The output impedance of stage 1 is represented by the parallel combination of  $R_1$  and  $C_1'$  and the input impedance of stage 2 by  $R_2$  and  $C_2'$ . The tuning capacitances of the primary and secondary are  $C_{T1}$  and  $C_{T2}$ . For convenience  $C_1 = C_1' + C_{T1}$ , the total primary capacitance, and  $C_2 = C_2' + C_{T2}$ , the total secondary capacitance.

The power transfer of this and many other coupling networks<sup>2</sup> is given as a function of frequency and circuit constants by:

$$\frac{P}{P_0} = \frac{(1+p)^2}{\left\{ [1+p - (\Delta\omega/\omega_0)Q_1(\Delta\omega/\omega_0)Q_2]^2 + [(\Delta\omega/\omega_0)Q_1 + (\Delta\omega/\omega_0)Q_2]^2 \right\}} \quad (1)$$

# TUNED TRANSFORMERS



where  $P/P_o$  = relative power transfer, the power transfer at frequency  $\omega$  divided by the power transfer at the center of passband  $\omega_o$ ;  $(\Delta\omega/\omega_o)$  = relative bandwidth, with  $\Delta\omega$  the difference between the upper and lower frequencies at which the relative power transfers equal  $P/P_o$ ;  $Q_1$  = primary circuit  $Q$ ;  $Q_2$  = secondary circuit  $Q$ ;  $p = K^2 Q_1 Q_2$ , the source-to-load impedance match parameter;  $K^2$  = an effective coupling coefficient.

Exact relations for primary and secondary circuit  $Q$ 's, the effective coupling coefficient and the conditions for tuning depend on the type of coupling circuit. These relations are given in a chart for four types of double-tuned transformers. It can be seen that a given transformer winding is tuned with the other short-circuited when it is parallel tuned or with the other open-circuited when it is series tuned.

To obtain a design chart from Eq. 1 relating the relative bandwidth where the power transfer is 3 db below the midband value, denoted  $(\Delta\omega/\omega_o)_3$ , let  $P/P_o = \frac{1}{2}$ . The chart is shown in Fig. 2 with curves for different values of  $p$  from 0 to 4. The trans-

former design corresponding to every pair of values of  $(\Delta\omega/\omega_o)_3$ ,  $Q_1$  and  $(\Delta\omega/\omega_o)_3 Q_2$  prescribed by a given  $p$  contour will have the same midband power transfer. The curve for  $p = 1$ , the critical coupling contour, is the same as that in the literature.<sup>3</sup>

For any given transformer, the center-frequency power transfer is related to its maximum value  $P_o$  by

$$P_o/P_{o\max} = 4p/(1+p)^2 \quad (2)$$

### Significance of $p$

The value  $p$  may be thought of as the ratio of source resistance to the load resistance reflected into the primary. When  $p = 1$ , the source and load are matched, the power transfer is at its maximum value. The power transfer for other values of  $p$  is shown by the plot of Eq. 2 in Fig. 3.

Another interpretation may be given  $p$ . Critical coupling is that coupling which affords maximum power transfer and corresponds to the matched condition  $p = 1$ . Then  $p = 1 = K^2 Q_1 Q_2$  or  $K_c^2 = 1/(Q_1 Q_2)$  where  $K_c$  = critical coupling coefficient. Hence,  $p = (K/K_c)^2$ , the square

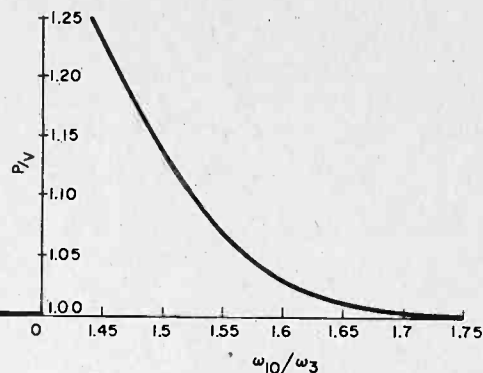


FIG. 4—Relation between shape factors for different bandwidth ratios

FIG. 3—Power loss for matched case,  $p = 1$ , versus  $p$

of the ratio of the coupling coefficient to the critical value of this coefficient. The quantity  $n = K/K_c$  has been used in the literature<sup>4</sup> for plotting universal curves for coupling circuits. Therefore  $p = n^2$ .

### Shape Contours

In addition to the curves for different values of  $p$  in Fig. 2, there is another family of curves of constant pass band shape, which are concave outward from the origin. Every pair of values of  $(\Delta\omega/\omega_o)_3 Q_1$  and  $(\Delta\omega/\omega_o)_3 Q_2$  on a given shape contour will have the same pass band shape.

The pass band shape is described by: the skirt steepness, defined as the ratio of the relative bandwidth where the relative power transfer is -10 db to that where the relative transfer is -3 db ( $W_{10}/W_3$ ); the peak-to-valley transfer response ratio ( $P/V$ ); the relative bandwidth at the response peaks expressed in a ratio with the 3-db relative bandwidth ( $W_o/W_3$ ). The last two factors have meaning only when the response is double peaked.

The one-to-one correspondence between the factors is graphi-

# Design Charts for Tuned Transformers (Continued)

cally illustrated by the curves in Fig. 4.

For single-peaked responses, there are no real values of  $P/V$  and  $W_o/W_s$ . The shape contour for  $P/V = 1$  separates the over-coupled and undercoupled regions of the  $Q_1(\Delta\omega/\omega_o)_s - Q_2(\Delta\omega/\omega_o)_s$  plane. This curve is defined by  $p = \frac{1}{2} (Q_1/Q_2 + Q_2/Q_1)$ , which may be reduced to the definition of transitional coupling,  $K^2 = \frac{1}{2} (1/Q_1^2 + 1/Q_2^2)$ . Transitional coupling is the point at which the transfer response changes between single and doubled peaked.

Figure 2 permits the design of a transformer which will have

CIRCUIT	TUNING	$k^2$	$Q_1$	$Q_2$
	$\omega_o^2 = \frac{1}{L_1 C_1 (1-k^2)}$ $= \frac{1}{L_2 C_2 (1-k^2)}$	$k^2$	$\omega_o R_1 C_1$ $= \frac{R_1}{\omega_o L_1 (1-k^2)}$	$\omega_o R_2 C_2$ $= \frac{R_2}{\omega_o L_2 (1-k^2)}$
	$\omega_o^2 = \frac{1}{L_1 C_1}$ $= \frac{1}{L_2 C_2}$	$k^2$	$\frac{1}{\omega_o R_1 C_1}$ $= \frac{\omega_o L_1}{R_1}$	$\frac{1}{\omega_o R_2 C_2}$ $= \frac{\omega_o L_2}{R_2}$
	$\omega_o^2 = \frac{1}{L_1 C_1}$ $= \frac{1}{L_2 C_2 (1-k^2)}$	$\frac{k^2}{1-k^2}$	$\omega_o R_1 C_1$ $= \frac{R_1}{\omega_o L_1}$	$\frac{1}{\omega_o R_2 C_2}$ $= \frac{\omega_o L_2 (1-k^2)}{R_2}$
	$\omega_o^2 = \frac{1}{L_1 C_1 (1-k^2)}$ $= \frac{1}{L_2 C_2}$	$\frac{k^2}{1-k^2}$	$\frac{1}{\omega_o R_1 C_1}$ $= \frac{\omega_o L_1 (1-k^2)}{R_1}$	$\omega_o R_2 C_2$ $= \frac{R_2^2}{\omega_o L_2}$

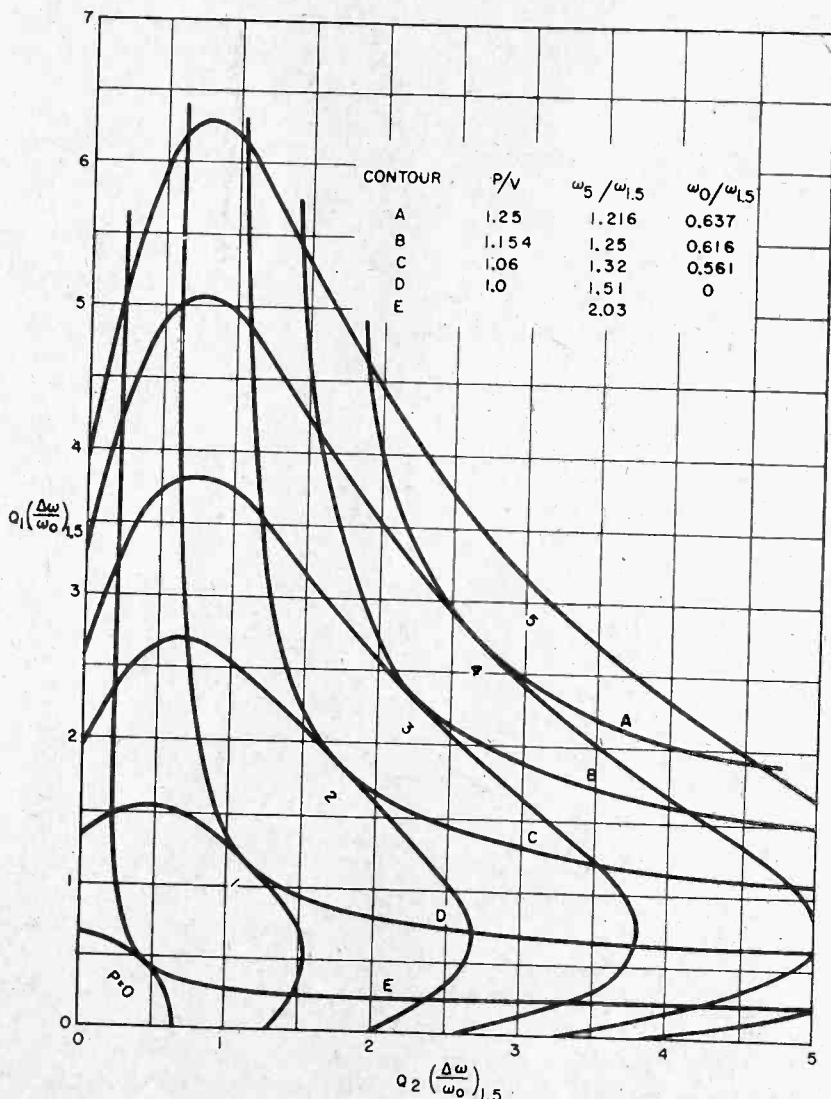


FIG. 5—Design curves for double-tuned transformers;  $(\Delta\omega/\omega_o)_{1.5}$  is relative bandwidth where power gain is 1.5 db below center frequency value

the desired 3-db bandwidth, a known pass-band shape and percent of maximum power transfer. If a number of stages are cascaded, the transfer responses in db are additive.

To permit the design of transformers to be used in pairs or triples, design curves for a single transformer are given in Fig. 5 and 6 in terms of 3/2-db bandwidth,  $(\Delta\omega/\omega_o)_{1.5}$ , and 1-db bandwidth,  $(\Delta\omega/\omega_{1.0})$ .

When two or three, respectively, of these transformers are cascaded, these bandwidths become the overall 3-db bandwidth. The shape factors on these curves are expressed for a single transformer and they must be interpreted for cascading. For example,  $(W_5/W_{3/2})$  for one transformer is  $(W_{10}/W_s)$  for a pair;  $P/V = 1.1$  for one transformer means that for a triple  $P/V$  is  $(1.1)^3$ .

### Chart Contour Interpretation

Several properties of coupled tuned circuits are apparent from the design charts.

The transitional coupling contour ( $P/V = 1$ ) and the critical coupling curve ( $p = 1$ ) divide the  $Q_1(\Delta\omega/\omega_o) - Q_2(\Delta\omega/\omega_o)$  plane into three regions. Referring

to Fig. 2, 5 or 6: between  $p = 1$  and the axes, the circuits are undercoupled and single peaked; between  $p = 1$  and  $P/V = 1$ , they are overcoupled but single peaked; outside  $P/V = 1$ , they are overcoupled, double peaked.

Different degrees of impedance match or center frequency power transfer may be obtained with the same pass band shape. For critical or overcoupled transformers, ( $p \geq 1$ ) maximum power transfer and best impedance match for a given pass band shape occurs when the  $Q$ 's are equal. For an undercoupled ( $p < 1$ ) transformer, this occurs at two values of  $Q_1/Q_2$ .

Moving along a contour of constant power transfer (constant  $p$ ), various shape factors may be obtained with the same impedance match. It is always possible to obtain a response which is not double peaked if the  $Q$ 's are made sufficiently unequal. For  $p \geq 1$ , it is always possible to achieve transitional coupling, at equal  $Q$ 's for  $p = 1$  and at two values of  $Q_1/Q_2$  for each  $p > 1$ .

### Changing Coupling

If  $Q_1$  and  $Q_2$  are fixed and coupling coefficient  $k$  is varied, the performance of the transformer can be seen on the design curves by considering radial lines  $Q_1/Q_2$  equal to a constant as illustrated in Fig. 7.

For example, if the coupling is increased, the design point moves along the given radial line in the direction of increasing  $p$ , since  $p = K^2 Q_1 Q_2$ . As a result, the center-frequency power transfer may increase or decrease, depending on whether the original value of  $p$  was less or greater than unity. The 3, 1.5, or 1-db bandwidth will increase since  $Q_1(\Delta\omega/\omega_0)$  increases. The shape of the pass band will tend toward double peaking and steeper skirts and the spacing between the peaks, if they exist, will increase.

For any given value of  $p$  there is a maximum value of  $Q_1(\Delta\omega/\omega_0)$ . For the critical coupling

contour this value, from Fig 2, is 2.2. Thus, if an impedance match is desired ( $p = 1$ ), the maximum 3-db bandwidth which may be obtained is  $(\Delta\omega/\omega_0)_s = 2.2/Q_1$ . With  $Q_1$  too large, this bandwidth may be inadequate.

From another viewpoint, when  $(\Delta\omega/\omega_0)_s$  and  $Q_1$  are both specified,  $Q_1(\Delta\omega/\omega_0)_s$  is greater than 2.2 if  $Q_1$  is too large. It is, therefore, impossible to match this source for the required band.

It is possible to load the source with a damping resistor, but a greater power transfer can be obtained by designing for the best impedance match at the given value of source  $Q$ . In Fig. 8, point A will give the maximum power transfer if no damping resistance is added. It is the point where line  $Q_1(\Delta\omega/\omega_0)$  is tangent to the  $p$  contour which has the value of  $p$  closest to one.

If the source is dampened so the effective source  $Q_1'(\Delta\omega/\omega_0) = 2.2$  then point B will give the maximum power transfer. However, there is now a loss in damping resistance  $R_p$  which has been added across the primary.

The ratio of the maximum values of power output without and with the damping resistance is  $P_o/P_o' = 1.82Q_1(p_A + 1/p_A + 2)(\Delta\omega/\omega_0)_s$ . A plot of this expression, Fig. 9, shows the db loss resulting from changing design points from A to B, versus the source  $Q_1(\Delta\omega/\omega_0)_s$ . The positive slope of this curve shows that any partial damping will not be as efficient as point A (no damping).

### Examples

(1) The output impedance, including strays, of a common-base

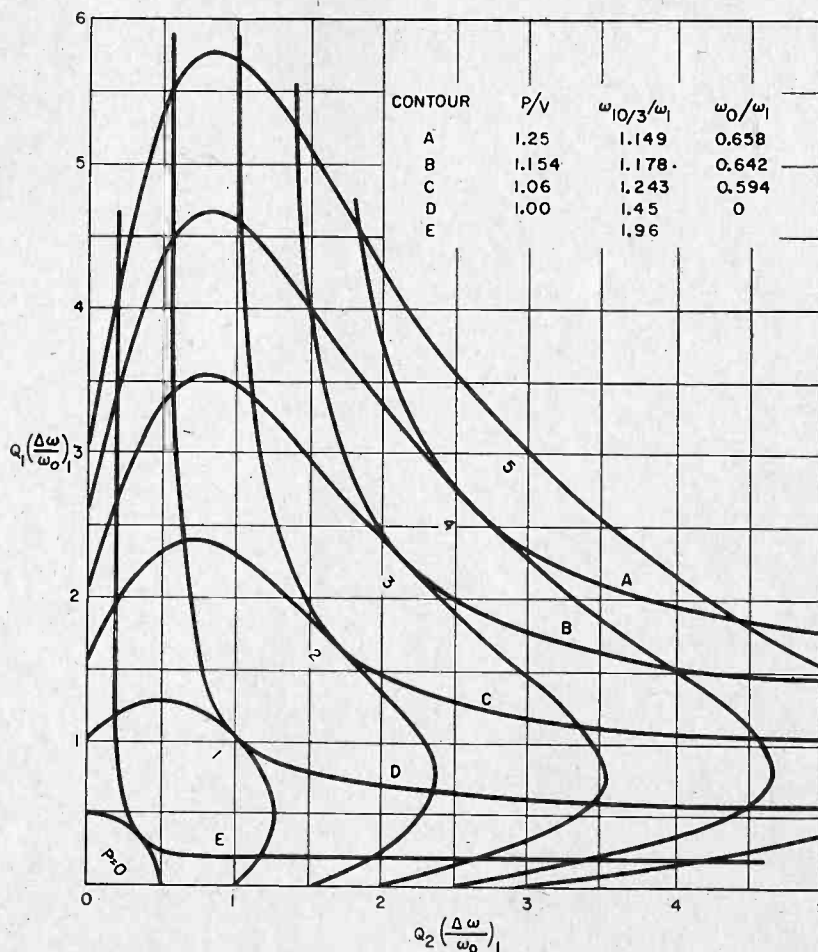


FIG. 6—Design curves for double-tuned transformers;  $(\Delta\omega/\omega_0)_s$  is relative bandwidth at half-power points

# Design Charts for Tuned Transformers (Continued)

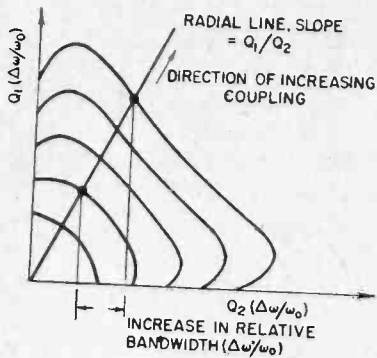


FIG. 7—Increased coupling effects

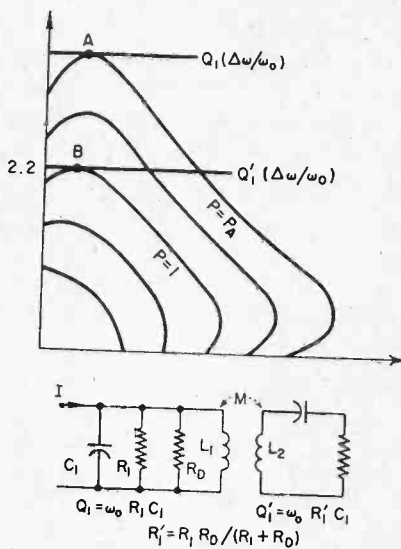


FIG. 8—Effect of addition of damping resistance

neutralized transistor amplifier stage appears as a 7,500-ohm resistance in parallel with a  $10\mu\mu\text{f}$  capacitor. The load resistance is 500 ohms. Design a parallel-series double-tuned transformer for maximum power transfer at a frequency of 21.25mc, with a relative bandwidth of 0.2.  $Q_1 = \omega_0 R_1 C_1 = (133 \times 10^3) (10^{-11}) (7,500) = 10$ .

Since  $Q_1 \times (\text{relative bandwidth}) = 10.0 \times 0.2 = 2$ , it can be seen from Fig. 2, that the matched condition,  $p = 1$ , is possible. From Fig 2,  $Q_2 = 0.8/0.2 = 4$ . The primary inductance is then  $L_1 = 1/\omega_0^2 C_1 = 1/(133 \times 10^3)^2 (10^{-11}) = 5.64 \times 10^{-9}$  hy. The coefficient of coupling is found;  $p = 1 = k^2 Q_1 Q_2 = [k^2 / (1 - k^2)] Q_1 Q_2$ ,  $k = 0.156$ . The secondary inductance is  $L_2 = Q_2 R_2 / \omega_0 (1 - k^2) = 4(500) / (133 \times 10^3) (0.9756) = 15.4 \mu\text{hy}$ . The capacitance to tune the secondary

is  $C_2 = 1/\omega_0^2 L_2 = 1/(133 \times 10^3)^2 (15.4 \times 10^{-6}) = 3.65 \mu\mu\text{f}$ .

From Fig. 2, the ratio of the 10-db to 3-db bandwidths may be interpolated as 1.86. The response is single peaked.

(2) If, in the preceding problem, the output resistance were 17,000 ohms, what would be the transformer design for maximum power transfer?

The primary Q would be increased by the factor  $17,000/7,500$ :  $Q_1 = 10 (17/7.5) = 22.7$  and  $Q_2(\Delta\omega/\omega_0)_s = 0.2 \times 22.7 = 4.54$ .

Referring to Fig. 2, it can be seen that the matched case cannot be achieved with  $Q_2(\Delta\omega/\omega_0)_s = 4.54$ . To obtain minimum mismatch loss the contour with its peak tangent to  $Q_2(\Delta\omega/\omega_0)_s = 4.54$ ,  $p = 2.68$ , will be used. From Fig. 3,  $p = 2.68$  corresponds to a loss of about 1 db with respect to the matched case. This is the minimum loss that can be achieved with a double-tuned transformer in this stage. The value of  $Q_2$  at this peak may be interpolated as 2.83.

The primary inductance is the same as in the first example. The coupling coefficient is:  $k^2 / (1 - k^2) = p / Q_1 Q_2$ ,  $k = 0.20$ . The secondary inductance is  $L_2 = Q_2 R_2 / \omega_0 (1 - k^2) = (2.83) (500) / (133 \times 10^3) (0.96) = 11.0 \mu\text{hy}$ . The capacitance to tune the secondary is  $C_2 = 1/\omega_0^2 L_2 = 5.09 \mu\mu\text{f}$ .

(3) What would be the effect in the first example of a 10-percent increase in the coefficient of coupling?

The increased coupling coefficient is  $1.1 (0.156) = 0.172$ . The primary Q is not changed and

the secondary Q is only negligibly changed by the 1/2-percent variation in  $(1 - k^2)$ .

Parameter  $p$  is  $(0.172)^2 (10) (4) [1 - (0.172)^2] = 1.22$ . From Fig. 3, the power loss with respect to the matched case is 0.04 db. Moving along a radial line  $= Q_1/Q_2 = 10/4 = 2.5$  to the interpolated  $p = 1.22$  curve on Fig. 2,  $W_{10}/W_3$  changes from 1.86 at  $p = 1$  to 1.79 at  $p = 1.22$ .

From this shift along the radial line, the value of  $Q_2(\Delta\omega/\omega_0)_s$  changes from 2 to about 2.16. Since  $Q_1$  does not change, the 3-db relative bandwidth has increased from 0.2 to  $(0.2) (2.16/2.0) = 0.216$ . Thus, the 10-percent increase in  $k$  results in a power loss of 0.04 db, an increase of 8 percent in the 3-db bandwidth and a decrease in  $W_{10}/W_3$  of nearly 4 percent.

(4) Three identical transistor amplifiers each having an output Q of 17.75 are to be cascaded using three double-tuned transformers. What is the minimum insertion loss for the three transformers, neglecting coil losses? The overall 3-db relative bandwidth is to be 0.2. What will be the shape factors of the overall pass band?

$Q_1(\Delta\omega/\omega_0) = Q_1(0.2) = 3.55$

Referring to Fig. 6 at  $Q_1(\Delta\omega/\omega_0)_1 = 3.55$ , the minimum value of  $p$  is 3. Hence, from Fig. 3, the loss is 1.25 db per stage or an overall loss due to mismatch of 3.75 db. From Fig. 6,  $P/V = 1.02$  for one stage, or  $1.02^3 = 1.06$  for three stages. Also  $W_{10/3}/W_1 = 1.37$  for one stage, hence  $W_{10}/W_3 = 1.37$  for three stages. The separation of the peaks is about  $W_0/W_1 = 0.51$  for one stage or  $W_0/W_3 = 0.51$  for three.

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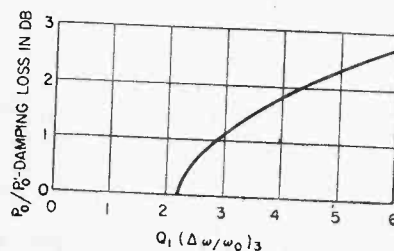


FIG. 9—Damping loss as a function of undamped source Q

# ECCENTRIC-LINE IMPEDANCE NOMOGRAPH

**S**UMMARY — Chart permits finding characteristic impedance of eccentric coaxial lines in terms of conductor dimensions and amount of eccentricity. Scales may be multiplied by factors of ten to increase useful range of chart

By J. A. HASSE

**D**ISPLACING the conductors of a coaxial transmission line relative to each other while keeping their axes parallel results in a configuration called an eccentric line because of its appearance in cross-section. The accompanying chart gives the characteristic impedance  $Z_c$  in terms of eccentricity.

The chart is based on the relation

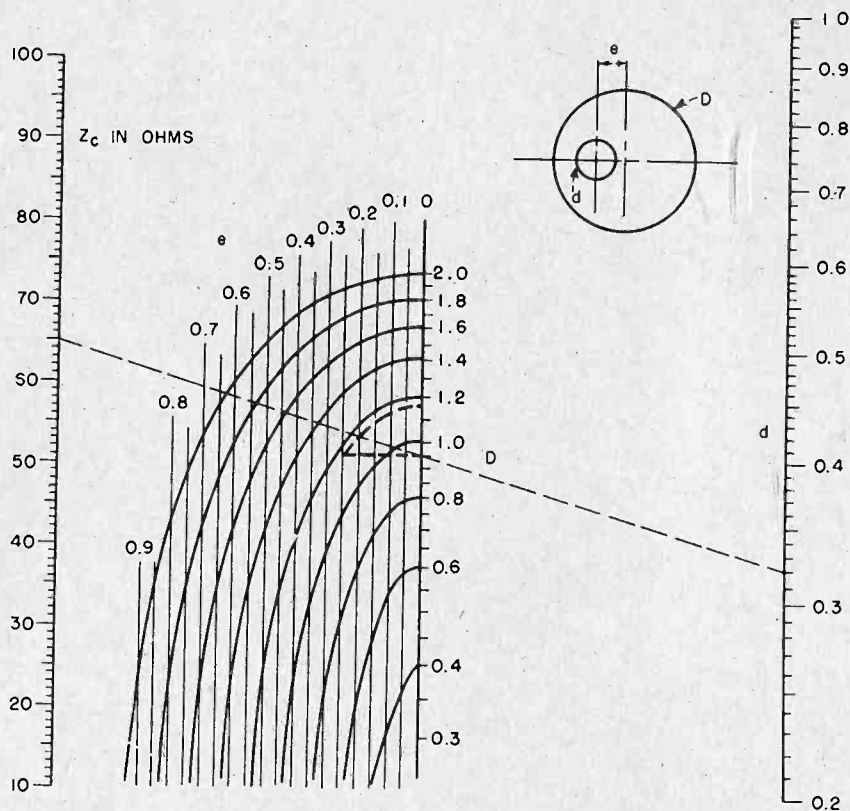
$$Z_c = 60 \ln \frac{D}{d} \left[ 1 - \left( \frac{2e}{D} \right)^2 \right]$$

where  $d$  is the diameter of the inner conductor,  $D$  is the inner diameter of the outer conductor and  $e$  is the axial offset or eccentricity of the conductors. Any consistent set of dimensions may be used.

For zero eccentricity ( $e = 0$ ), the familiar impedance formula is obtained, 60 times the Napierian logarithm of the major-to-minor diameter ratio. This case also appears on the nomograph and may be used where the line is truly coaxial.

All scales except  $Z_c$  may be multiplied by the same factor to extend the usefulness of the chart. The common multiplying factor is most conveniently a power of ten so the significant figures are retained.

The chart deals only with transmission lines having air



dielectric. To determine  $Z_c$  for solid dielectric lines divide the chart value of the square root of  $\epsilon_r$ , the relative permittivity or dielectric constant.

### Example

An example will clarify use of the nomograph. Given:  $D = 1.16$ ,  $d = 0.32$  and  $e = 0.25$ ; find  $Z_c$ .

Locate  $D = 1.16$  along the calibrated line and follow this value in curvilinear fashion to intersect with the eccentricity value  $e = 0.25$ , which is plotted horizontally. From this intersection return horizontally to the line of

zero eccentricity. Now connect  $d = 0.32$  and the last point determined with a straightedge, to give  $Z_c = 65$  ohms.

If for the same example  $e$  were zero,  $Z_c$  could be read with a straightedge as 77 ohms.

To illustrate use of a scale multiplication factor, the diameters selected in the example, 1.16 and 0.32, are ten times those for RG-58/U cable expressed in inches. The cable has a dielectric constant of approximately 2.2 and  $Z_c = 77/\sqrt{2.2} = 52$  ohms. For an eccentricity of 0.025 inch, referring again to the first example,  $Z_c = 65/\sqrt{2.2} = 44$  ohms.



# MEASURING R-F PARAMETERS

**SUMMARY**— Equipment and techniques for measuring small-signal  $h$  parameters of triode and tetrode junction transistors in the range from 1 to 24 mc are described. Amount of error introduced in measurement by output terminations is considered

**B**ECAUSE OF the inherent nature of the transistor, the most readily measured network coefficients are the series-parallel or  $h$  parameters.<sup>1,2</sup> Once the four  $h$  parameters are known at a given frequency and for a given set of d-c operating conditions, such quantities as power gain, voltage gain, input impedance and output impedance of the transistor in a transmission circuit may be calculated for the same frequency and d-c operating conditions.<sup>2</sup>

This article describes methods and equipment which can be used to determine the four grounded-base  $h$  parameters of junction transistors from 1 to 24 mc.

Under small-signal conditions the electrical behavior of a transistor can be described by considering it as a linear two-terminal-pair active network, with the four differential terminal voltages and currents related to four network parameters.

## Short-Circuit Input Impedance

The electrical symbol for the transistor and the direction of instantaneous current flow and voltage rise, together with the two network equations, are shown in

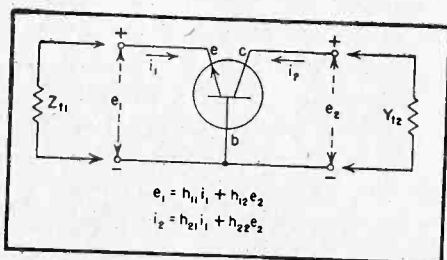
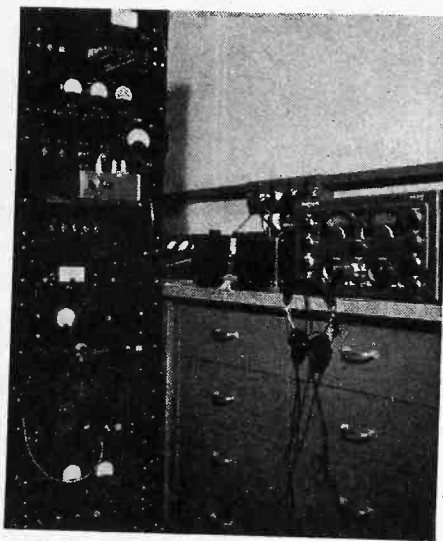


FIG. 1—Two-terminal-pair representation of transistor



Rack-mounted  $h$ -parameter measuring equipment. At the right may be seen one of r-f bridges and communications receiver. Both are mounted on a conducting ground-plane

Fig. 1. For convenience, transistors are shown as  $npn$  units, triode or tetrode;  $pnp$  transistors can be measured if the polarity of the bias supplies is reversed.

At radio frequencies the four  $h$  parameters are of the form  $h_{ij} = a \pm jb = C \angle \theta$ . In Fig. 1

$$a \pm jb = h_{11} i_1 + h_{12} e_2 \quad (1)$$

$$i_2 = h_{21} i_1 + h_{22} e_2 \quad (2)$$

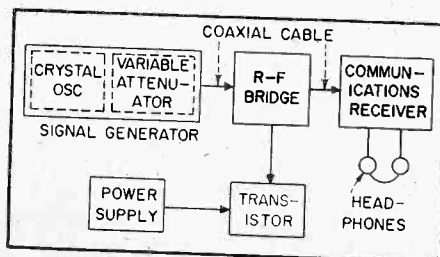


FIG. 2—Setup for measuring  $h_{11}$  parameter of transistors

where  $h_{11}$  is the short-circuit input impedance parameter and  $h_{12}$  is the open-circuit voltage-feedback parameter;  $h_{21}$  is the short-circuit current-transfer parameter and is equivalent to  $\alpha$ , except for a 180-deg phase difference. The quantity  $h_{22}$  is the open-circuit output admittance.

A fifth parameter is the short-circuit output admittance,  $y_{22}$ . This quantity may be found in terms of the  $h$  parameters by setting  $e_1 = 0$  in Eq. 1 and combining the result with Eq. 2 so

$$\frac{i_2}{e_2} = y_{22} = h_{22} - \frac{h_{12} h_{21}}{h_{11}} \quad (3)$$

As can be seen in Eq. 1, driving-point impedance  $Z_{in}$  at the input terminals will be equal to  $h_{11}$  if  $e_2$  is zero. This condition will prevail only if terminating admittance  $Y_{12}$  at the output terminals is infinite. Since this condition can be approached but never attained, it is of interest to find the error introduced in the determination of  $h_{11}$  by a finite terminating admittance  $Y_{12}$ . The following equation is therefore derived from Eq. 1 and 2. With

$$Z_{in} = h_{11} \left[ 1 - \frac{h_{12} h_{21}}{Y_{12} (1 + h_{22}/Y_{12}) h_{11}} \right] = h_{11} \left[ \frac{1 + y_{22}/Y_{12}}{1 + h_{22}/Y_{12}} \right] \quad (4)$$

Hence if  $Y_{12} \gg h_{22}$  and  $Y_{12} \gg y_{22}$ , then  $h_{11} \cong Z_{in}$ .

In the test circuit used for measuring  $h_{11}$ ,  $Y_{12}$  is the terminating admittance obtained from a bypass capacitor strapped between the collector and base connections

# F JUNCTION TRANSISTORS

By W. N. COFFEY

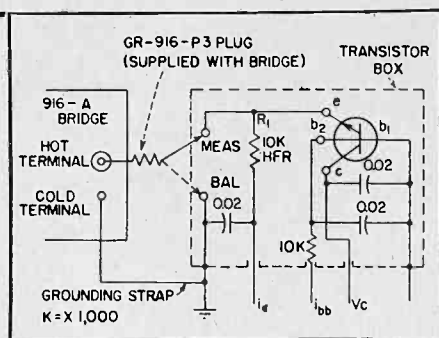


FIG. 3—Transistor-box circuit for  $h_{11}$  measurement

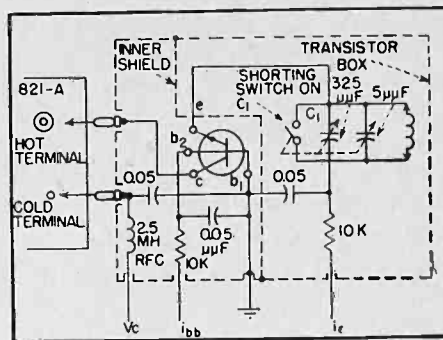


FIG. 4—Transistor-box circuit for  $h_{22}/Y_{22}$  measurement

of the transistor. The magnitude of  $Y_{12}$  is maintained  $\geq 0.1$  mho over the frequency range and thus is many times greater than either  $h_{22}$  or  $y_{22}$ .

The short-circuit input impedance is of the form  $h_{11} = r_{11} \pm jx_{11}$  in ohms and is measured with a General Radio model 916-A radio-frequency bridge as shown in Fig. 2. Additional equipment includes a crystal-controlled signal generator with 8 test frequencies from 1 to 24 mc and a communications receiver which serves as a detector. All of the equipment is placed on a sheet aluminum ground-plane. Connections to the bridge are made with double-shielded coaxial cable.

The transistor is connected to the bridge and its power supply as shown in Fig. 3. This circuit is contained in a 2 by 2 by 4 inch metal box fastened to the bridge close to the unknown terminals. Direct current for the emitter is fed in shunt with these terminals through  $R_1$ . The box is provided with a sub-miniature tube socket into which the transistor plugs.

## Correction Factors

The admittance of the parallel combination of  $R_1$ , the shunt capacitance to ground of the emitter circuit wiring in the box and the shunt capacitance to ground of the GR-916-P3 connecting lead may have to be accounted for in determining the true  $h_{11}$  parameter. This will be required generally if  $|h_{11}| > 200$  ohms and if the frequency is greater than 10 mc. Corrections for the inductance effects in the

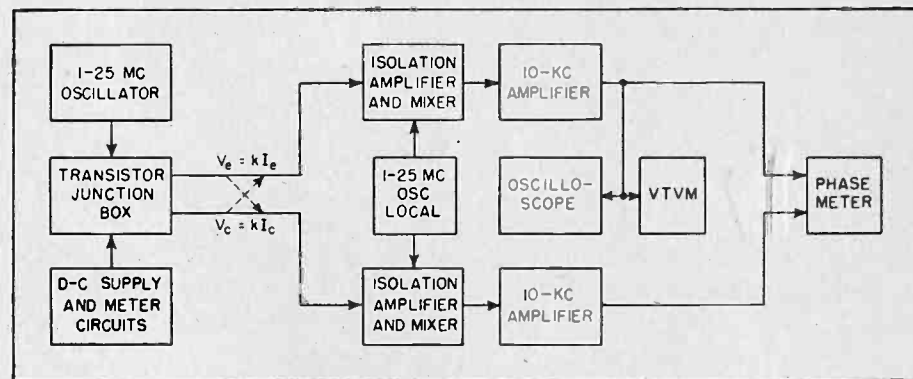


FIG. 5—Equipment necessary to measure  $\alpha$  at high frequencies

bridge may be necessary if the frequency is greater than 14 mc.

The open-circuit output admittance,  $h_{22} = g_{22} + j\omega C_{22}$  ( $\mu$ mho), can be measured as a driving-point admittance at the output terminals in Fig. 1 provided  $i_1 = 0$ , input terminals open-circuited. This parameter is measured with a GR model 821-A impedance-measuring circuit, in an arrangement similar to that shown in Fig. 2.

The transistor is connected to its d-c bias supply and to the impedance bridge by the circuit shown in Fig. 4. This circuit is contained in a small metal box and is provided with two banana jacks which plug into the bridge UNKNOWN terminals. The d-c collector current is fed through the inductance which forms part of a tuned circuit within the bridge. This inductance is connected directly across the unknown terminals.

Likewise, the d-c emitter current is fed through the inductance of a parallel-resonant circuit used to provide a high impedance in the external emitter-base circuit. The error introduced by using a finite,

but large, rather than infinite terminating impedance,  $Z_{11}$ , is given in the following equation. With  $e_1 = -i_1 Z_{11}$ , then

$$Y_{out-\infty} = h_{22} \left[ 1 - \frac{h_{12} h_{21}}{Z_{11} \left( 1 + \frac{h_{11}}{Z_{11}} \right) h_{22}} \right] = h_{22} \left[ \frac{1 + z_{11}/Z_{11}}{1 + h_{11}/Z_{11}} \right] \quad (5)$$

where  $z_{11}$  is the open-circuit input impedance,  $(h_{11} - h_{12}h_{21}/h_{22})$ .

For  $Y_{out-\infty}$  to be a measure of  $h_{22}$  with small error, it is necessary that  $Z_{11} \gg h_{11}$  and  $Z_{11} \gg z_{11}$ . In the test circuit used in this measurement, the minimum  $Z_{11}$  afforded by the parallel-resonant circuit over the frequency range is 25,000 ohms, which is adequate.

## Procedure

After the bridge is initially balanced with the junction box plugged in, the tuned circuit is adjusted to resonance by placing it across the UNKNOWN terminals of the bridge and measuring its admittance. This is easily done by strapping through the transistor connection, emitter

# Measuring R-F Parameters of Junction Transistors (Continued)

to collector. The strap is then removed and the transistor is inserted in the circuit for measurement. Correction for frequency effects within the bridge may be necessary above 14 mc.

As an alternative to measuring the  $h_{12}$  parameter directly, the short-circuit output admittance,  $y_{22} = g'_{22} + j\omega C'_{22}$ , ( $\mu\text{mho}$ ), is measured. In this case the termination required at the emitter-base terminals is a very low impedance, ideally a short-circuit.

Parameter  $y_{22}$  is measured after the  $h_{22}$  measurement, before the bridge and the terminating tuned circuit are readjusted to a different frequency. To measure  $y_{22}$  it is only necessary to turn tuning capacitor  $C_1$  in Fig. 4 to full mesh, so the bent tip of one of the rotor plates makes contact with the adjacent stator plate. This short-circuits the tuned circuit and drops the terminating impedance to a few ohms or less.

## Open-Circuit Voltage-Feedback Parameter

The open-circuit voltage-feedback parameter,  $h_{12} = |h_{12}| \angle \Psi$ , is equal to the ratio  $e_1/e_2$  if  $i_1 = 0$ , as shown in Eq. 1. To make  $i_1 = 0$ , an

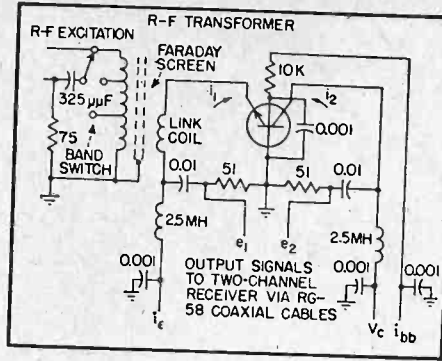


FIG. 6—Transistor junction box used for  $h_{21}$  measurement

infinite terminating impedance  $Z_{11}$  is required. A voltage generator  $e_2$  could be placed across the output terminals in Fig. 1 and the feedback voltage  $e_1$  in the microvolt range, measured with a high-impedance voltmeter across the terminals. This voltmeter impedance, plus an additional parallel impedance to allow d-c emitter current to flow would result in a finite  $Z_{11}$ . The error introduced by having a finite rather than infinite terminating impedance is determined from the relationship

$$\frac{e_1}{e_2} = \frac{h_{12}}{(1 + h_{11}/Z_{11})} \quad (6)$$

Probe-type vacuum-tube volt-

meters which can measure in the microvolt region are available, but are accurate for frequencies up to only several mc. For measuring  $h_{12}$  with such a device one could provide a parallel-resonant circuit at the emitter-base terminals and tune out the capacitive reactance of the vtvm probe and associated wiring. At the same time, d-c emitter current could flow through the inductance. Moderately high values of operating Q in this circuit will make  $Z_{11} \gg h_{11}$  so that a measure of  $e_1/e_2$  will be a good measure of  $|h_{12}|$ .

Because of the frequency limitations involved with commercially available microvoltmeters as well as the difficulty in measuring the phase angle of  $h_{12}$ , it was felt desirable to measure  $h_{12}$  indirectly using the following relationship which involves the directly measured parameters already discussed

$$\frac{h_{12}}{h_{11}} = \frac{(y_{out-oc} - y_{out-sc})}{h_{21} \left[ \frac{1}{1 + \left(\frac{Z_{11-sc}}{h_{11}}\right)} - \frac{1}{1 + \frac{Z_{11-oc}}{h_{11}}} \right]} \quad (7)$$

If  $Z_{11-sc} \ll h_{11}$  and  $Z_{11-oc} \gg h_{11}$ , then  $h_{12} \approx (h_{11}/h_{21})(y_{out-oc} - y_{out-sc})$  (8)

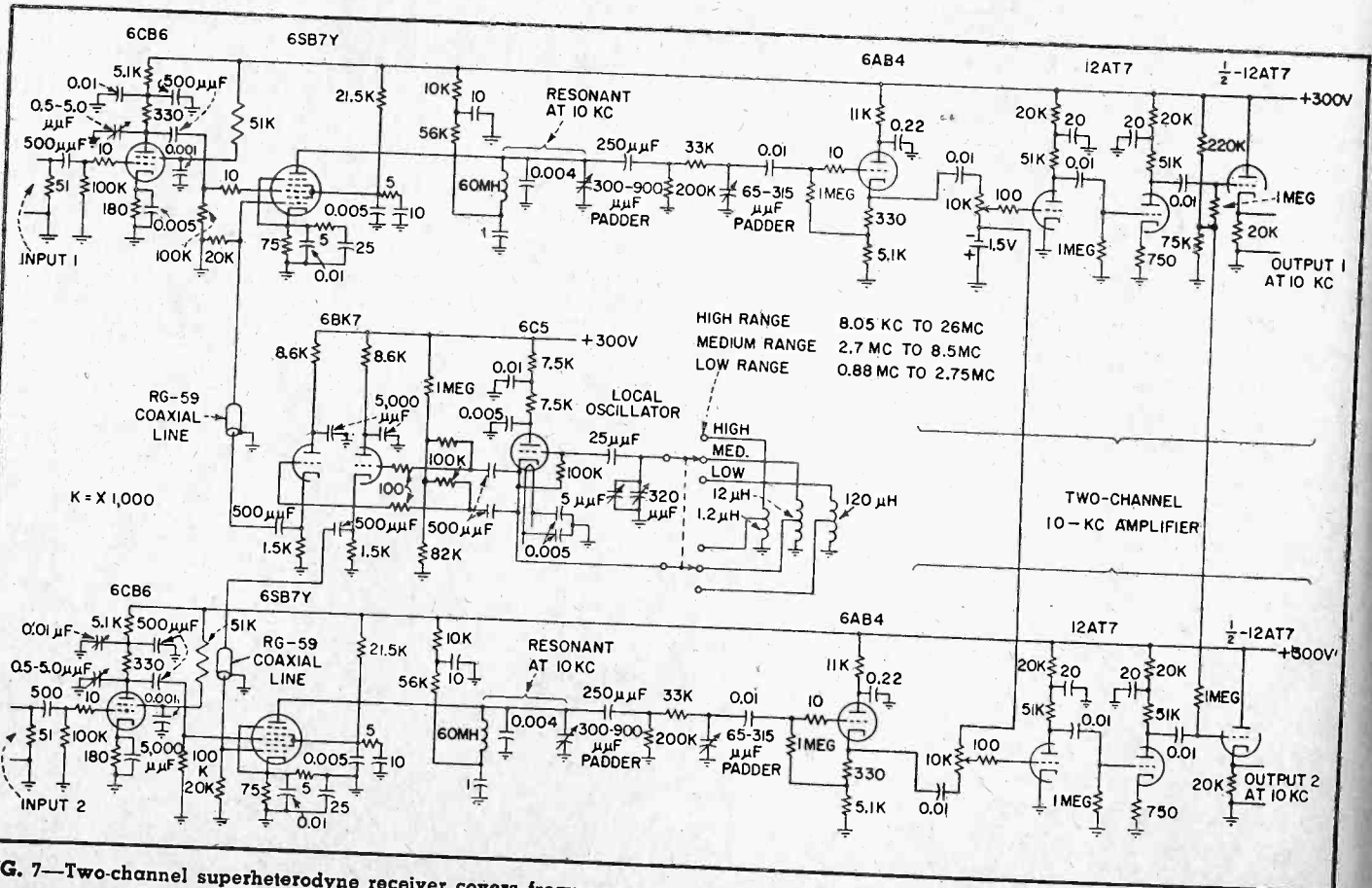


FIG. 7—Two-channel superheterodyne receiver covers frequency ranges of 8.05 to 26, 2.7 to 8.5 and 0.88 to 2.75 mc

If  $Z_{11-\infty} = 0$  and  $Z_{11-0} = \infty$ , then  
 $h_{12} = (h_{11}/h_{21})(h_{22} - y_{22})$  (9)

### Short-Circuit Transfer Parameter

The short-circuit transfer parameter is  $h_{21}$  or  $a$ , where  $-a = h_{21} = |h_{21}| \angle \theta$ .

As shown in Eq. 2,  $i_2/i_1 = h_{21}$  if  $e_2 = 0$ . This will be obtained if a short-circuit exists at the output terminals in Fig. 1. In the method of measurement to be described the two currents are measured as voltage drops across two low resistances of equal magnitude. Because each of these two voltages is developed across a low impedance, the circuit is not seriously disturbed when the reactance associated with the input capacitance of the vacuum-tube stage is connected across this impedance.

The value of  $h_{21}$  measured in this manner will have an error dependent upon the magnitude of the admittance used in the collector circuit  $Y_{12}$  according to the equation

$$\frac{i_2}{i_1} = \frac{h_{21}}{1 + h_{21}/Y_{12}} \quad (10)$$

In the circuit used to measure  $h_{21}$ ,  $Y_{12}$  is 0.04 mho, hence  $h_{21}/Y_{12} \ll 1$ .

One method of measuring the magnitude and phase difference angle of two r-f voltages in the microvolt range is to heterodyne these two voltages down to a much lower frequency, say to 10 kc.<sup>3</sup> The equipment used is shown in Fig. 5.

The r-f signal used to excite the transistor, as well as the d-c bias currents and voltages, is applied to the transistor in the circuit of Fig. 6. This circuit is contained in a brass box and includes an r-f transformer equipped with a Faraday screen. The primary is a tapped coil to cover the frequency range and is series-resonated at the operating frequency with the 325- $\mu\mu\text{f}$  capacitor. The secondary is a two-turn link winding which is in series with the transistor emitter-base circuit.

The r-f voltage induced in the link winding causes an r-f current,  $i_1$ , to flow and the transistor in turn generates current  $i_2$ . A voltage  $e_1$  proportional to  $i_1$  is fed to a pentagrid-mixer tube and voltage  $e_2$  proportional to  $i_2$  is fed to a second pentagrid-mixer tube. If both mixers are excited with a

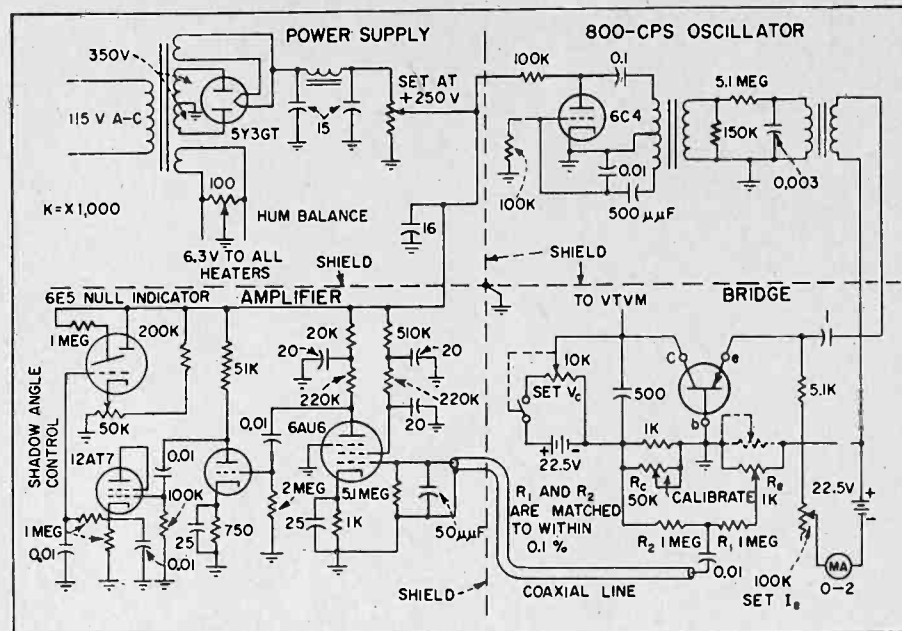


FIG. 8—Complete circuit of h-f  $\alpha$  measurement meter

common local-oscillator signal, 10 kc higher than the frequency of  $e_1$  and  $e_2$ , the two difference-frequency signals will have the same amplitude ratio and phase-angle difference as  $e_1$  and  $e_2$ , provided the amplitude and phase responses of the two channels are equal.

The bandwidth of the two 10-kc i-f channels is limited by a tuned circuit following the mixers to increase the signal-to-noise ratio of the system. An audio-frequency phasemeter indicates the angle of  $h_{21}$  directly.

To eliminate the necessity of having equal gain in both channels, voltages  $e_1$  and  $e_2$  are each switched into a common channel and the decibel ratio of  $e_2/e_1$  is read on the Ballantine model 300 vacuum-tube voltmeter.

### Two-Channel Receiver

The schematic diagram of the  $h_{21}$  two-channel receiver is shown in Fig. 7. The high-pass R-C filter shown following the tuned circuit at the output of each mixer stage attenuates the voltage induced in the inductance of this tuned circuit by stray 60-cps magnetic fields. The 65 to 315  $\mu\mu\text{f}$  variable capacitor is used to equalize the phase shift between the two 10-kc i-f amplifier channels.

To determine the grounded-base alpha-cutoff frequency, the low-frequency  $h_{21}$ , designated as  $h_{210}$ , must be known. The frequency at which  $|h_{21}|$  is 0.707 of, or 3db down from,

its low-frequency value ( $h_{210}$ ) is the alpha-cutoff frequency. The low-frequency value of  $a$  can be measured in a variety of ways.<sup>4,5</sup>

An instrument for obtaining a rapid answer is shown in Fig. 8. This is a bridge circuit, operating at about 800 cps. The bridge is balanced by adjusting multiterm-potentiometer control  $R$ , until a null is observed on the 6E5 electron-ray tube. The value of  $h_{210}$  is then read directly off the multiterm-potentiometer dial with an accuracy of  $\pm 0.2$  percent.

To insure that it is the small-signal h-parameters that are being measured, the amplitude of the r-f excitation from the generator is varied over wide limits by the attenuator. If the value of the parameter does not change with signal level, the transistor is operating as a linear or small-signal device.

The writer is grateful to R. H. Johnston for his help in the construction of the equipment and is also indebted to R. L. Pritchard for his criticism and encouragement during the writing of this report.

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# DESIGNING DIELECTRIC

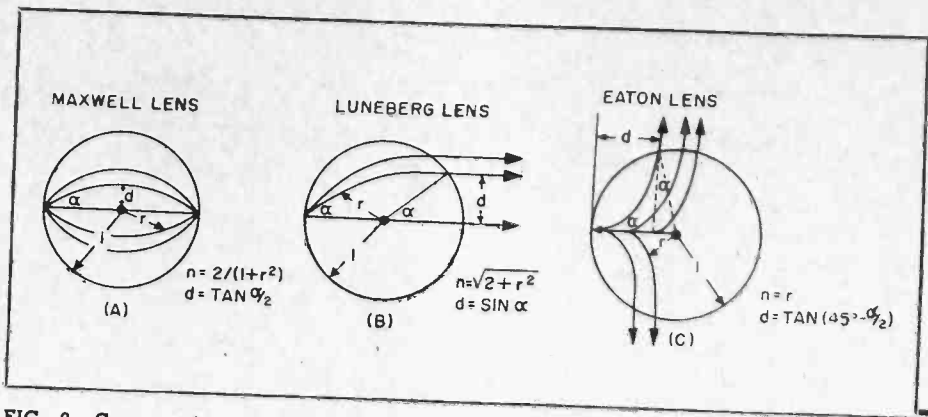
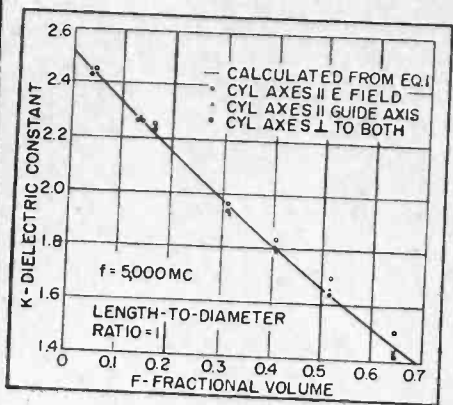


FIG. 2—Cross-sections of spherical lenses and ray paths. Design equations are for index of refraction  $n$  and distance from axis  $r$

**I**NDIVIDUAL LENSES, in conventional optical designs, have a constant refractive index and lens action is obtained by shaping the surfaces. In microwave optics design, the possibility of a variation in index from point to point within the lens is available, offering the designer another degree of freedom. For example, if it is desirable to minimize the thickness of a lens, focusing can be achieved partly by the lens surface and partly by a variation in the index of the material forming the lens.

### Lens Materials

Materials available for lens design in microwave optics include low-loss dielectric materials such as polystyrene and Teflon. Aluminum-flake or carbon particles in a low-density foam dielectric achieve considerable weight reduction with a slight increase in lens loss. For all of these materials, the index of refraction is the square root of the dielectric constant, so in describing lens designs either of the terms refractive index or dielectric constant can be used.

The most straightforward technique for constructing a microwave lens which possesses a variation in refractive index involves the use of many different materials, each of which has a different refractive index. For example, a spherical lens can be made up of a small spherical core, together with

spherical shells of increasing radii. The material in each shell can have a different value of dielectric constant or refractive index. By using a sufficient number of shells, the desired lens can be obtained to a reasonable approximation.

The major difficulty in this technique is obtaining the variety of dielectric materials and maintaining the desired dielectric constant from one production run of the material to the next. Most dielectric materials have a variation in dielectric constant of at least 3 percent between various samples. The finite error in dielectric constant places a practical limit on the degree of approximation to the desired refractive index.

### Artificial Dielectric

Another technique involves artificial dielectrics obtained by using the fact that microwave wavelengths are of the order of a few inches, so that obstacles can be formed which simulate the molecules of a real dielectric. As long as these obstacles have small diameters and spacing have small diameters compared to wavelength, the analysis of the artificial dielectric can be closely related to that of the real dielectric.

The most practical obstacle for general applications has been found to be of spherical shape. For such an obstacle, the refractive index is independent of the direction of the

wave passing through the lens.

It is possible to analyze the effective dielectric constant on the basis of the sphere diameter and the center-to-center spacing. These parameters can be replaced by a concept of fractional volume, that is, volume occupied by the spheres alone, compared to that occupied by the spheres and adjacent medium. The spheres considered were metallic or dielectric materials in a low-dielectric medium or voids in a base dielectric.<sup>1</sup> From the results of this study and a consideration of the mechanical problems involved in forming a lens, void-dielectric material was found best.

The dielectric constant  $K$  of an artificial medium comprised of a cubical lattice of spherical voids is<sup>1</sup>

$$K/K_1 = (1 + 2FC)/(1 - FC) \quad (1)$$

Fractional volume  $F$  is the volume of the voids in unit volume; thus,  $F$  involves the void diameter and

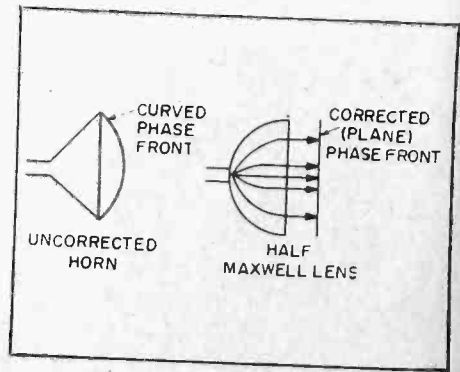


FIG. 3—Indication of phase-error correction through use of half-Maxwell lens

# MICROWAVE LENSES

**S**UMMARY—Data for Maxwell, Luneberg, Eaton, Kelleher and modified types of variable index-of-refraction lenses aid antenna designers. New dielectric materials provide considerable weight reduction with slight increase in lens loss. Typical design example for Luneberg lens is covered

By K. S. KELLEHER

the void density in number per unit volume. Constant  $C$  is characteristic of the base medium,

$$C = (1 - K_1)/(1 + 2K_1) \quad (2)$$

where  $K_1$  is the dielectric constant of the base medium. It has been found experimentally that Eq. 1 is valid even when the diameter and spacing of voids exceed  $\lambda/4$ .

## Cylindrical Voids

For maximum flexibility in design and ease in machining, cylindrical voids can be used to replace spherical voids.

An experimental program determined the relationship between the cylinders and spheres. Typical measured data is shown in Fig. 1. The solid curve is calculated from Eq. 1, with  $K_1 = 2.515$  (for polystyrene).

The points are experimental and apply to samples having eight cylinders per unit cube (measuring

0.936 inch on a side) and a cylinder length equal to cylinder diameter. Similar data was obtained for length-to-diameter ratios of  $2\frac{1}{2}$ . Maximum fractional volume for the two latter ratios was 16 percent. The largest cylinder diameter for which data is shown is approximately 0.172.

With the exception of a single point at large fractional volume, the maximum deviation of the measured dielectric constant from the value which would be predicted on the basis of spherical voids having the same fractional volume is one percent. This value is of the order of the experimental error. Larger cylindrical voids having a diameter of 0.344 were also tested.

A limited amount of data was taken because of the long length of sample which is required, but even with this very large element, the measured data was within 18 percent of that expected from the

spherical void theory. From these measurements, it is concluded that Eq. 1 is applicable within a few percent to all cases investigated, irrespective of the orientation of the cylinders.

## Metal-Plate Media

A third technique for obtaining a variation in refractive index uses metal-plate media. The refractive index is obtained by considering the increase in phase velocity, which occurs when a wave polarized parallel to a set of parallel plates passes through the plates. This technique has been used successfully in the design of metal-plate lenses where the refractive index is known to depend on the spacing between plates.

If two metallic surfaces are arranged so there is a variation in spacing between the surfaces and if an electric field is introduced approximately parallel to the plates, then the phase velocity, and therefore the refractive index, will vary from point to point in the region between the metallic surfaces. The index approaches one when the spacing between plates is large compared to a wavelength and zero as the spacing is reduced. This technique for obtaining a variation in refractive index is limited to a two-dimensional lens or a three-dimensional structure.

If the spacing between plates is measured, always normal to the

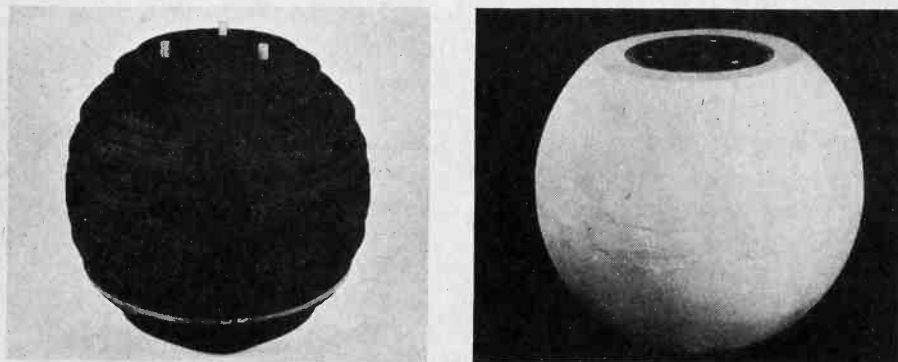


FIG. 4—Spherical Luneberg lens before (left) and after (right) foam binder application

# Dielectric Microwave Lens Design (Continued)

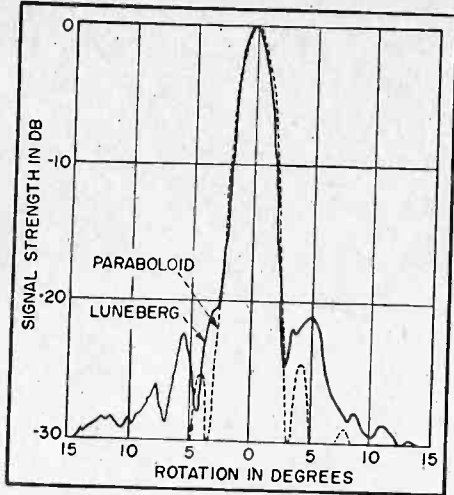


FIG. 5—Radiation patterns of Luneberg and standard parabolic lenses

particular tangent plane containing the electric-field vector, the index of refraction is related to spacing  $a$  and the signal wavelength by

$$n = \sqrt{1 - (\lambda/2a)^2}$$

If the spacing between plates is filled with a dielectric of constant  $K$ , the index is given by

$$n = \sqrt{K - (\lambda/2a)^2}$$

## Spherical Lenses

Once techniques are available for obtaining a variable index material, consideration can be given to the design of microwave lenses having properties superior to those of conventional lenses.

One of the most useful families of variable-index lenses is that in which the lens surface is a sphere with the transmitting or receiving element mounted on the spherical surface. In such an arrangement, it is possible by use of different lens designs to obtain a formation

of the transmitted spherical wave into many different wavefronts, such as spherical surfaces,<sup>2</sup> toroidal surfaces<sup>3</sup> and conical surfaces.<sup>4</sup>

Lenses which have been of most interest up to the present time are elements which yield spherical, plane and cylindrical surfaces; these are the Maxwell, Luneberg and Eaton. Cross-sections of these lenses, together with the ray paths and design equations, are given in Fig. 2.

## Maxwell Lens

The Maxwell lens has been found useful in microwave applications as a correcting element in a sharply flared feed horn. In such a horn, the phase front across the aperture has the quadratic form shown in Fig. 3. Radiation patterns from this horn have, in general, high side-lobe characteristics.

To reduce these lobes, lenses of the dielectric or metal-plate type have been successfully used; however, one-half of the Maxwell lens offers improved possibilities in side-lobe reduction. This can be understood by considering the ray paths through such a lens.

In a sphere of unit radius (Fig. 2A), the ray leaving the feed at angle  $\alpha$  intersects the aperture at a distance  $d$  from the axis given by  $\tan(\alpha/2)$ . This means that the rays, upon passing through this lens, tend to concentrate at the center of the aperture so there is a tapering in the illumination across the aperture.

Since tapered illumination produces low side lobes, it can be expected that better radiation pat-

terns can be obtained from a correcting lens of the Maxwell form than could be obtained with the conventional constant-index lenses.

## Luneberg Lens

The most important lens in terms of application is the Luneberg. This spherical lens accurately focuses an incoming plane wave into a point on its surface. Because of its spherical symmetry, it can focus plane waves arriving from any direction, a characteristic not shared by any other known optical device. Figure 4 shows a Luneberg lens constructed from a void dielectric.

It is useful to compare the Luneberg lens to a paraboloidal reflector with circular aperture. If the diameter of the paraboloidal aperture is equal to the diameter of the Luneberg sphere, then a direct comparison can be made.

Figure 5 shows a typical pattern from the paraboloid, together with a pattern from a Luneberg sphere. Neither pattern represents the best that can be obtained from either antenna. However, they do indicate that the Luneberg lens has a narrower beamwidth than the reflector, but that the reflector shows some improvement in side-lobe level. These pattern characteristics arise from the fact that the paths followed by the rays in a Luneberg lens tend to concentrate energy towards the aperture edges.

The ray making angle  $\alpha$  at the feed (Fig. 2B) intersects the aperture at a distance  $d$  from the axis of  $\sin \alpha$ . This reduction in illumination taper is known to cause an

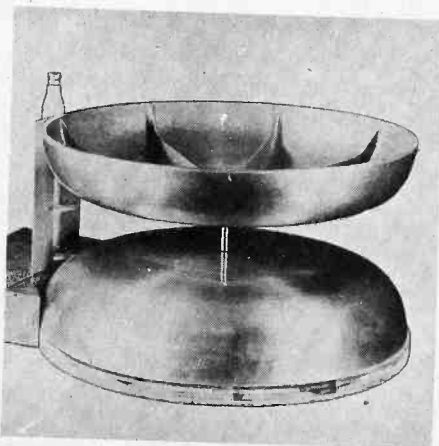


FIG. 6—Two-dimensional Eaton lens. Feed is mounted at left

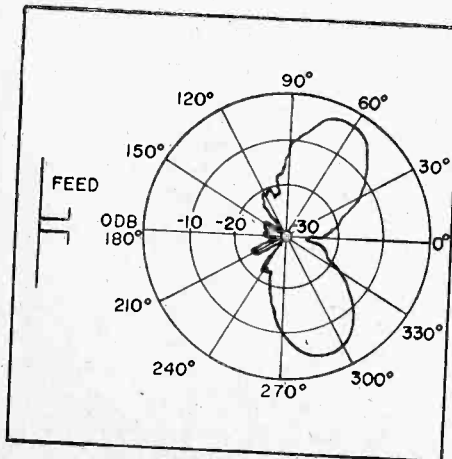


FIG. 7—Radiation pattern of Eaton lens shown in Fig. 6

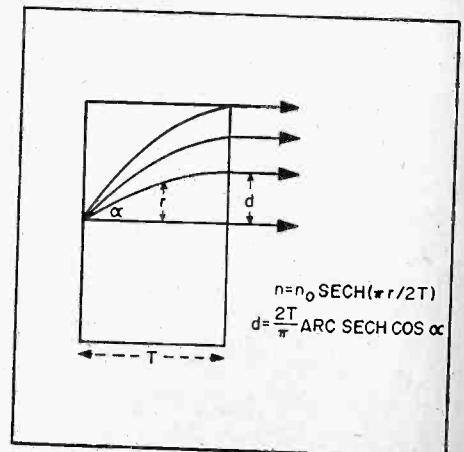


FIG. 8—Cross-section of constant-thickness lens

increase in side-lobe level and decrease in beamwidth.

Consequently, the Luneberg lens cannot be used for extremely low side lobe applications. However, for applications requiring side lobes of the order of 22 db, this lens can be used and, in such an instance, its symmetrical structure gives it a wide-angle performance not attainable by the normal paraboloidal reflector.

The wide-angle performance of the Luneberg lens indicates two general applications. The first of these is for wide-angle scanning. The lens structure can be fixed and a lightweight feed horn rotated so that it always touches the surface of the lens. The beam from the horn-lens combination is swept through an angle equal to the angle of the horn rotation.

Another application utilizes a single lens with multiple feeds. Each feed has a corresponding beam in a direction given by the line joining the feed to the center of the sphere. A number of these feeds can be used to provide coverage over a wide sector of space.

### Eaton Lens

The Eaton lens produces a twin-beam radiation pattern from a single source mounted on the spherical surface as in Fig. 2C.

Consideration of the required index variation, that the refractive index be equal to the normalized radius, indicates the difficulty in constructing an Eaton lens. Since the normalized radius varies from zero to one, the refractive index must have the same variation.

Such values of refractive index cannot be achieved with normal or with artificial dielectrics. The only possibility is the use of a metal-plate medium. Such a medium has only restricted application to the Eaton lens, since it is based on the almost parallel plates previously mentioned. Use of parallel plates restricts the lens to two dimensions, so the complete sphere cannot be realized.

A two-dimensional Eaton lens has been constructed and evaluated. Fig. 6 is a photograph of the lens and Fig. 7 shows a typical radiation pattern. This lens operates over a limited frequency band.

Since the formula for index of refraction contains the operating wavelength, the index of refraction varies when this wavelength is changed.

### Disk-Shaped Lenses

Another useful lens shape is the short cylinder or disk shown in cross-section in Fig. 8. These lenses have a preferred direction or optical axis, whereas spherical lenses perform equally well for waves from all directions. The optical axis of these disk lenses coincides with the cylinder axis, causing the unusual situation of lenses with plane surfaces.

Although the disk-shaped lenses do not have the wide-angle performance typical of the spherical lenses, they have found application in the microwave-optics field. One lens has been used as a feed-correcting element with good results.<sup>6</sup> This corrector is a lens first described by Luneberg. Its index of refraction varies only with the radial coordinate, according to the expression  $n = n_0 \operatorname{sech} [\pi r / (2T)]$ , where  $n_0$  is the axial refractive index and  $T$  is the thickness. Note that the index required is a function of the disk thickness; a change in thickness would alter the lens performance.

The ray making an angle  $\alpha$  at the feed intersects the aperture at a distance  $d$  given by  $(2T/\pi) \operatorname{arc} \operatorname{sech} (\cos \alpha)$ . As indicated in the cross-section, the rays spread at the aperture edges to produce an illumination taper. This taper has been shown to be an approximation to a Gaussian distribution which produces very low side lobes.<sup>6</sup> The exact distribution depends on the lens thickness and the maximum value of  $\alpha$ .

It is of interest to compare this lens with the Maxwell lens, which can also be used as a feed corrector. The incident signal in the waveguide can be easily matched into a Maxwell lens with an index of unity at the lens surface. The constant-thickness lens, on the other hand, has an index requirement which indicates a value of the order of two along the lens axis, with decreasing index away from the axis.

The waveguide transmission line

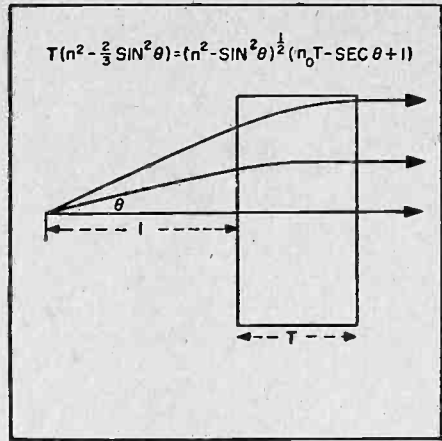


FIG. 9—Cross-section of Kelleher lens

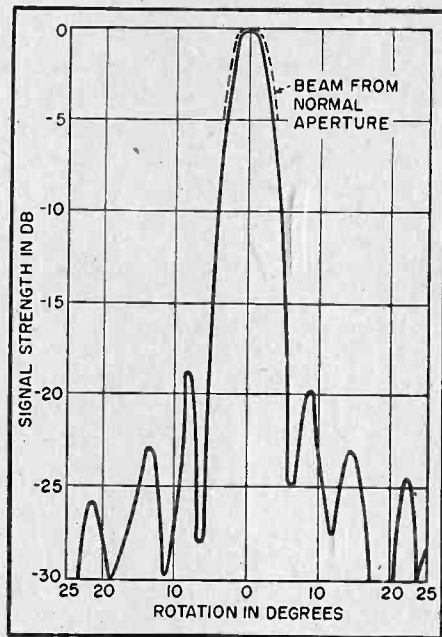


FIG. 10—Radiation pattern of Kelleher lens of Fig. 9

then has the problem of matching a section of air-filled line to a dielectric-filled line. Both lenses have the normal matching problem at the aperture.

The constant thickness lens permits a greater control over the illumination taper and, hence, better control over the side lobes from the corrected feed. Moreover, the depth of the corrected feed can be minimized in the constant thickness design, whereas the best ratio of feed depth to aperture is a value of  $\frac{1}{2}$  for the Maxwell lens. Both lenses are superior to the conventional correcting lenses in that such lenses always have a ratio equal to or greater than unity.

### Kelleher Lens

This lens has the same geometrical form as that of the previous



# Dielectric Microwave Lens Design (Continued)

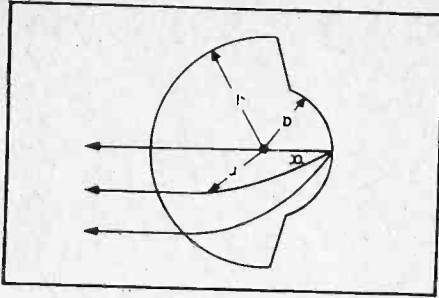


FIG. 11—Cross-section of modified Luneberg lens

disk; the major difference is that the source is placed on the axis of the cylinder at some distance from the lens. This is the only variable-index lens designs now available, which does not have the source adjacent to the lens surface. In this respect, it is most closely allied to the conventional lenses utilizing a constant index of refraction.

The ray paths through a cross-section of this lens are given in Fig. 9. It can be seen that the source has an image at infinity. The expression for the required radial variation in refractive index is more complex than those previously given. This variation is

$$T(n^2 - 2/3 \sin^2 \theta) = (n^2 - \sin^2 \theta)^{1/2} (n_0 T - \sec \theta + 1)$$

where  $n_0$  is the index at the axis,  $T$  is lens thickness and  $\theta$  is the angle between the axis and the radius vector from the source point to a general point of the adjacent lens surface.

This lens has been compared to a constant-index lens with shaped surfaces. A typical pattern, shown in Fig. 10, indicates that the beam-width from this lens is narrower than that expected from an aperture of this size. This is probably due to the existence of a trapped field about the periphery of the disk, which tends to produce a greater effective aperture.

A comparison of the off-axis characteristics of the two lenses showed that the variable-index lens was superior. Analysis involving ray tracing has also shown that good off-axis performance can be expected.

An interesting feature of any disk lens is that it can have a periodic structure as the thickness is increased. Any lens with feed adjacent to a surface has ray paths

which are curved to focus at an image point within the thicker lens, then diverge, and again curve to form a second image point and so on until the second lens surface is reached. The radiation pattern obtained depends on the point in the cycle where the second lens surface is introduced.

In the Kelleher lens, a similar periodic structure is obtained by doubling the lens thickness so the rays are curved to form an image at a point symmetrical with the source point. Additional lenses of equal thickness can be introduced at the correct positions to continue the periodic-ray variation.

## Other Lens Shapes

Besides spherical and disk-shaped lenses, several others have been studied in the microwave-optics field. One of these is a modification of the Luneberg lens to minimize lens thickness. This modification permits a reduction in the radius of the lens in the region of the detecting system.

A cross-section through this lens, together with typical ray paths, is given in Fig. 11. A source at infinity is imaged perfectly at the corresponding point on the surface of reduced radius. Three existing expressions for the modified Luneberg lens are listed below for comparison:

$$(1) n^2 = (2a - r^2)/a^2 \text{ for } 0 \leq r \leq a \text{ and } n^2 = (2 - r)/r \text{ for } a \leq r \leq 1;$$

$$(2) 4an^2 = \frac{(1+P)[\sqrt{\delta(1+a)} + \{4P^2 + (1-a)^2\}^{1/2}]^2}{(P + \sqrt{\delta a})^2}$$

for  $0 \leq r \leq a$  and  $r^2 n^2 = 1 + \delta(1-r)(r-a)$  for  $a \leq r \leq 1$  where  $P = 1 - r^2 n^2$  and  $\delta$  is a constant;

$$(3) n^2 = (1 + a^2 - r^2)/a^2 \text{ where } a \text{ is the radius of the lens in the reduced region.}$$

## Typical Lens Design

Design of any of the lenses described is relatively simple since the index varies only with one coordinate.

A typical design involves the spherical Luneberg lens whose index varies with radius as  $n^2 = 2 - r^2$ . At this point, it should be observed that the index squared is equal to the dielectric constant, so it is possible to relate the lens-design equation directly to dielectric-constant

values. The design technique found most practical uses the void dielectric of Eq. 1 and 2. The desired sphere is formed from a collection of disks of varying radius, placed one above the other, to approximate a spherical form similar to that in Fig. 4.

There are four steps in the design.

(1) Select base material of dielectric constant  $K_1$  and obtain the coefficient  $C = (1 - K_1)/(1 + 2K_1)$ ; using polystyrene with  $K_1 = 2.52$ ,  $C = -0.252$ . (2) Write Eq. 1 using values of  $K_1$  and  $C$  to obtain a relationship between void-dielectric constant and fractional volume;  $K = 2.52(1 - 0.504F)/(1 + 0.252F)$ . (3) Combine the lens equation relating dielectric constant to coordinate value with Eq. 1 to obtain a relationship between coordinate value and fractional volume;  $2 - r^2 = 2.52(1 - 0.504F)/(1 + 0.252F)$ . (4) Compute fractional volume as a function of the position within the lens.

To use the disk assembly technique, note that  $r^2 = a^2 + d^2$  where  $d$  is the distance of the disk from the lens center and  $a$  is the radius coordinate within the disk. The fractional volume is then given by

$$F = 3.97 \left\{ \frac{0.52 + a^2 + d^2}{7.04 - a^2 - d^2} \right\}$$

For a disk at a given distance  $d$  from the lens center, the fractional volume at any disk radius is known.

In practice, each disk is divided into annular rings of width less than  $\lambda/4$  so no void will be large in terms of a wavelength. The desired fractional volume in each annular ring is determined from the above equation. This void volume is then obtained by drilling the correct size and number of holes.

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# SLAB LINE NOMOGRAPH

**S**UMMARY — Design of air-dielectric slab line used as transition or matching section between coaxial and strip transmission lines. Nomograph relates characteristic line impedance, diameter of inner conductor and separation between parallel ground planes

By ELIO SION

**S**LAB LINES have numerous applications in microwave transmission circuits.

The slab line is a double-slotted coaxial line whose outer shield has been unwrapped and extended to infinity in both directions. The resulting configuration consists of a round cylindrical conductor between two parallel planes, for which exact impedance formulas have been developed.<sup>1</sup>

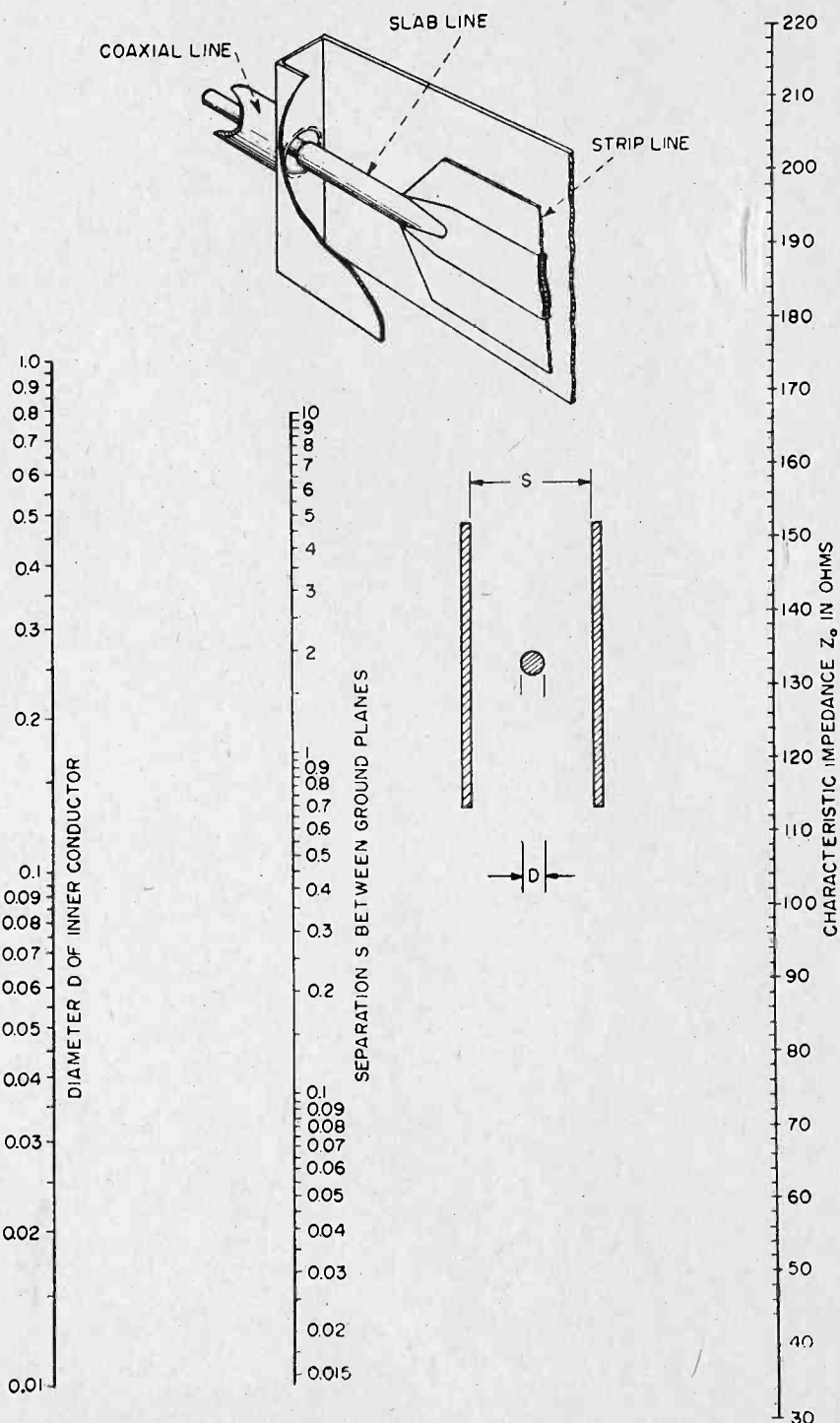
The simplified formula<sup>2</sup>  $Z_0 = 138 \log_{10} (4S/\pi D)$  used in the construction of the accompanying nomograph for such slab lines is accurate to within 2 percent for values of  $S/D > 1.5$ .

Suppose it is desired to design a slab line of 100 ohms impedance with an inner conductor 0.025 inch in diameter. Enter the left-hand column at  $D = 0.025$  and connect that point with a straight line to  $Z_0 = 100$  ohms on the right-hand column. The center column yields the separation between plates as 0.105 inch.

To prevent radiation the width of the ground plates should be, as a rule of thumb, at least five times the separation between plates. Here  $5 \times 0.105 = 0.525$  inch, so make the plates at least  $\frac{1}{2}$  inch wide.

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Nomograph for designing slab lines used as transitions or matching sections between coaxial lines and strip transmission lines

# EQUIVALENT R-Z CHART

**S**UMMARY—Parallel components of resistance and reactance in a given frequency range for an unknown circuit can be obtained quickly and easily by use of Q meter and nomographs

**T**HE Q METER is useful in obtaining the parallel components of resistance and reactance of a network. When a number of readings are to be taken over a frequency range, the use of nomographs can provide a saving in time and effort. The procedure for using the nomographs is as follows:

Tune the Q meter to resonance at the measurement frequency,

By HALLAN E. GOLDSTINE

using a relatively high-Q shielded coil. Record the frequency, Q-meter capacitance reading and the Q reading. These are  $f$ ,  $C_1$  and  $Q_1$ .

Connect the unknown network

across the capacitance terminals of the Q meter. Without changing frequency, retune the capacitance of the Q meter to resonance. Only measurement values within the proper range can be used, otherwise the readings may not be obtainable on the Q meter.

Record the capacitance and Q with the network connected.

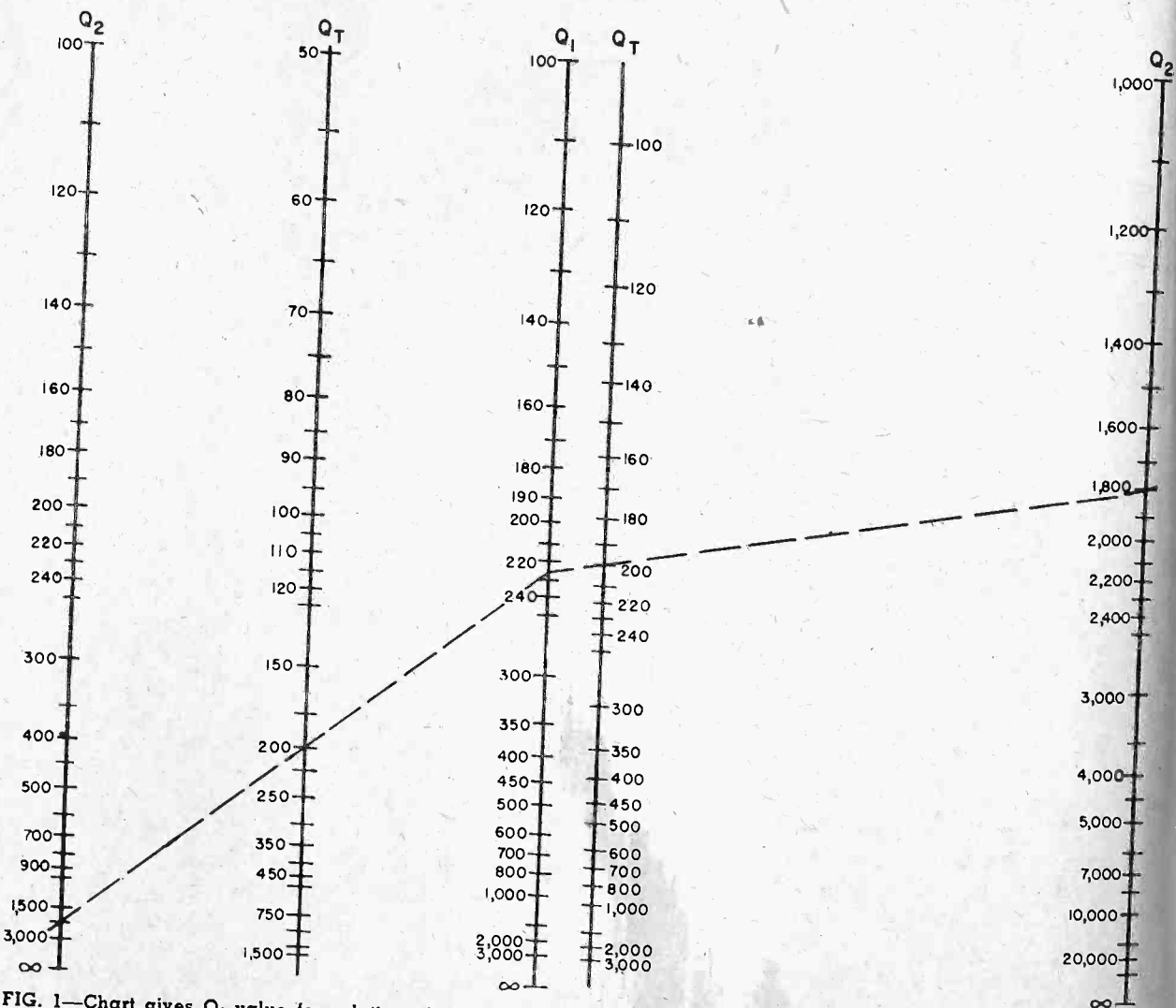


FIG. 1—Chart gives  $Q_2$  value for solution of parallel resistance equation

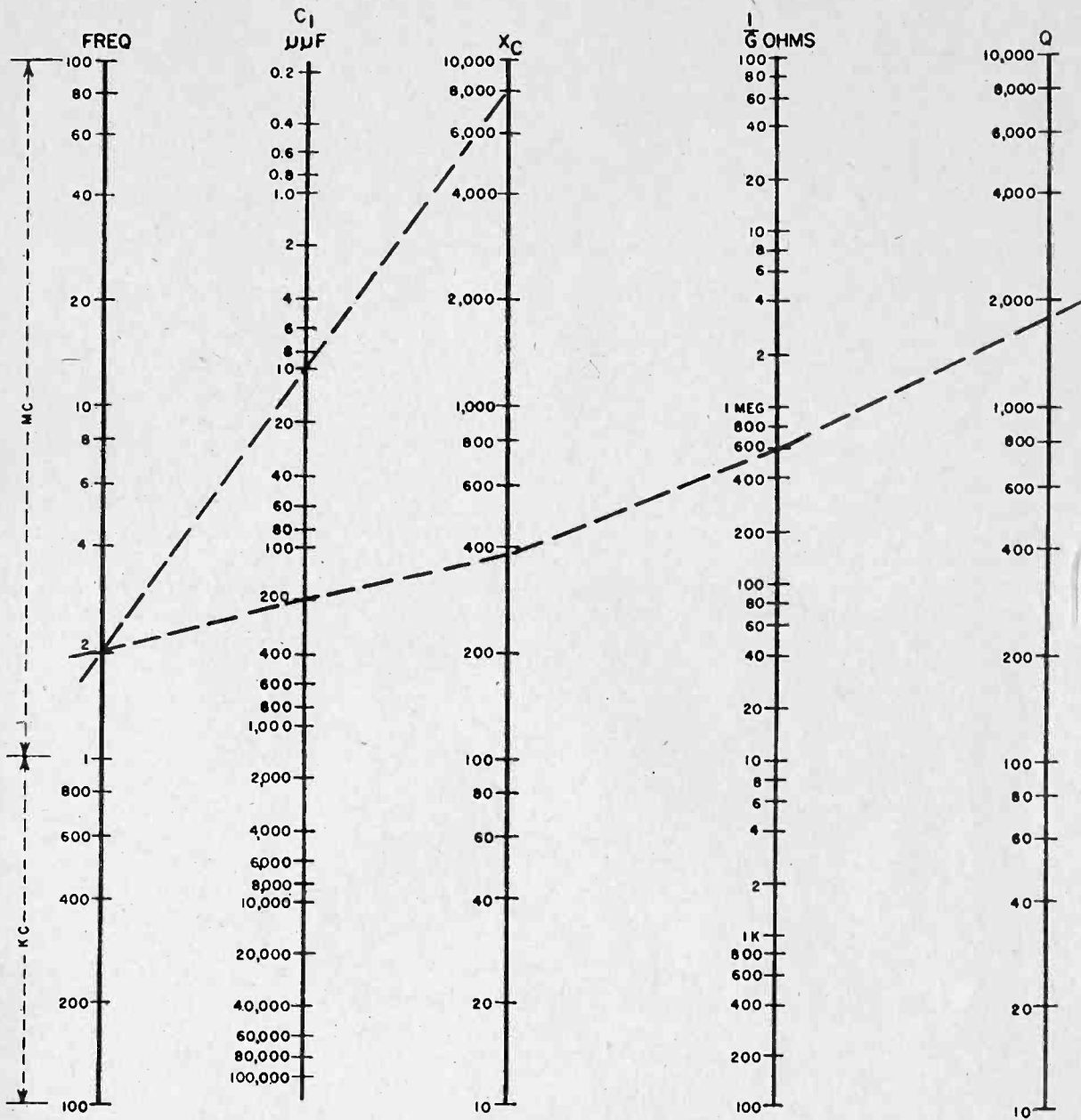


FIG. 2—Nomograph solves equations for both parallel resistance and reactance

The parallel resistance and reactance are

$$\frac{1}{G} = X_c Q_2 \quad Q_2 = \frac{Q_1 \times Q_T}{Q_1 - Q_T}$$

$$\frac{1}{B} = \frac{-j}{\omega(C_1 - C_T)}$$

where  $1/G$  = parallel resistance in ohms and  $1/B$  = parallel reactance in ohms.

As an example, at a frequency of 2 mc the Q meter readings were  $C_1 = 210 \mu\mu f$ ,  $Q_1 = 225$ .

After connecting the network, readings were  $C_T = 200 \mu\mu f$  and  $Q_T = 200$ .

Referring to Fig. 1 a straightedge is placed across from 225 on the  $Q_1$  column, through the value of 200 on the  $Q_T$  column, and approximately 1,800 is obtained on the  $Q_2$  column on the left side. To obtain better accuracy for high  $Q_2$  values, the right side of the chart is used. By placing the straightedge on the  $Q_1$  value of 225, through  $Q_T$  value of 200 on the right, the  $Q_2$  value of approximately 1,800 is obtained on the right-hand  $Q_2$  column.

Using Fig. 2, the straightedge is placed on the frequency of 2

mc and the capacitance  $C_1$  reading of 210. The  $X_c$  reading of 380 is read. The straightedge is then placed from 380 on the  $X_c$  column to the  $Q_2$  reading of 1,800 giving a value of 700,000 ohms.

Reactance component  $1/B$  is equal to  $-j/\omega(C_1 - C_T)$ . To obtain this value from Fig 2, set straightedge again on 2 mc, through value of  $(C_1 - C_T)$ , in this case  $210 - 200 = 10 \mu\mu f$ , and the value of 8,000 is read off the  $X_c$  scale.

The parallel components are thus  $1/G = 700,000$  ohms and  $1/B = -j 8,000$  ohms.

# UNIVERSAL RESPONSE CURVES

— By HERMAN I. LEON and HOWARD WEINBERGER —

**SUMMARY**—Graph showing spurious responses that may occur in wide-band uhf and vhf superheterodyne receivers aids in selection of intermediate frequencies and specifications for preselector selectivity

**S**ELECTIVITY of superheterodyne receivers makes possible a high degree of protection from adjacent-channel interference. Unless the receiver is properly designed, however, it is possible for a signal not in the immediate vicinity of the dial setting to produce a spurious response.

It is possible, by proper choice of the intermediate frequency, to place these spurious response frequencies far from the dial setting. In this way, the preselector selectivity required for a given spurious response attenuation is minimized.

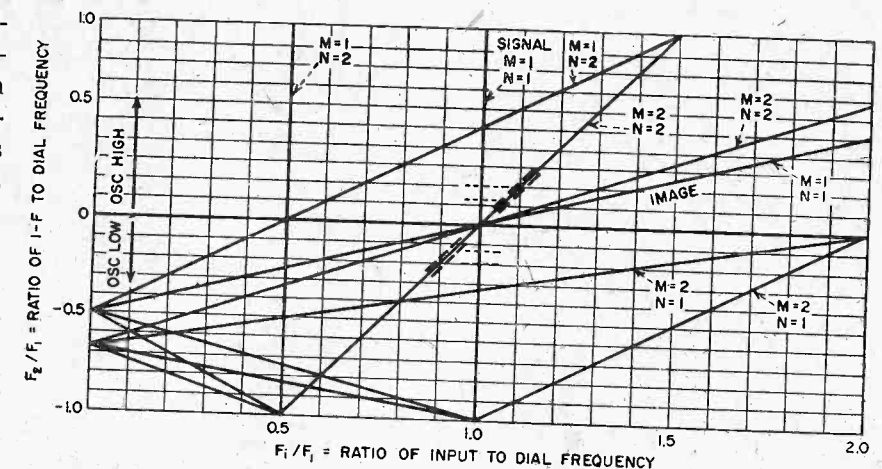
## Equations

A spurious response is produced whenever integral multiples of the input and local oscillator frequencies differ by the intermediate frequency. The curves presented here show the strongest responses. Additional curves may be constructed for the higher-order responses from

$$\frac{F_2}{F_1} = \pm \frac{N}{M \pm 1} \frac{F_i}{F_1} - \frac{M}{M \pm 1} \quad (1)$$

where  $F_1$  = dial frequency,  $F_2$  = center of i-f passband,  $F_i$  = any input frequency,  $M$  = order of local-oscillator harmonic and  $N$  = order of signal harmonic.

This is the equation of a series of lines. For the local oscillator frequency above the dial frequency, only positive values of  $F_2/F_1$  apply. For the local oscillator frequency below the dial frequency, only negative values of  $F_2/F_1$  apply.



In the case of a receiver with a wide i-f bandwidth or one with a sweeping local oscillator, each line becomes a band whose boundaries are obtained by drawing two lines parallel to and equidistant from the original line. The displacement in the vertical direction from the original line is

$$\pm \frac{1}{2} \left[ \frac{M}{M \pm 1} \frac{B_o}{F_1} + \frac{1}{M \pm 1} \frac{B_2}{F_1} \right] \quad (2)$$

where  $B_2$  = i-f bandwidth and  $B_o$  = sweep band of local oscillator, if any.

## Example

As an example, for a vhf receiver tunable from 100 to 150 mc and having a 20-mc i-f, the ratio  $F_2/F_1$  ranges from 0.20 to 0.13 over the dial. Referring to the chart, it is seen that, for the local oscillator on the high side, the  $M = 2, N = 2$  harmonic response will appear for input frequencies 6.5 to 10 percent above the dial frequency (about 10 mc

above the dial frequency). If a 2-mc i-f bandwidth is assumed, the bandwidth term, calculated from Eq. 2 and represented by the dashed lines, reduces this margin by about 1 mc. For a crystal mixer the  $M = 2, N = 2$  response is normally attenuated about 35 db. If the dynamic range of the receiver is greater than this, r-f preselection is necessary.

Other harmonic responses at midband are  $M = 1, N = 2$  at 50 percent and at 33 percent below the dial frequency,  $M = 2, N = 2$  at 25 percent above, the image  $M = 1, N = 1$  at 35 percent above.

For the local-oscillator frequency below the dial frequency, the closer harmonic responses appear for the image  $M = 1, N = 1$  at 35 percent below the dial frequency,  $M = 2, N = 2$  at 25 percent and at 5 to 9 percent below,  $M = 2, N = 1$  at 50 percent and at 92 percent above dial frequency.

# RADAR PERFORMANCE NOMOGRAPH

**SUMMARY**—Pulsed radar performance is found in terms of percent of rated range available for a given radar target area when transmitted pulse width, average pulse power, minimum detectable signal and prf are known

**R**ADAR PERFORMANCE can generally be determined by measuring the transmitted pulse width and pulse repetition frequency (duty cycle), the averaged transmitted power and the minimum detectable signal. With these measurements, this nomograph provides a rapid method of determining the performance of a pulsed radar in terms of the percent of rated range available for a target of given radar area.

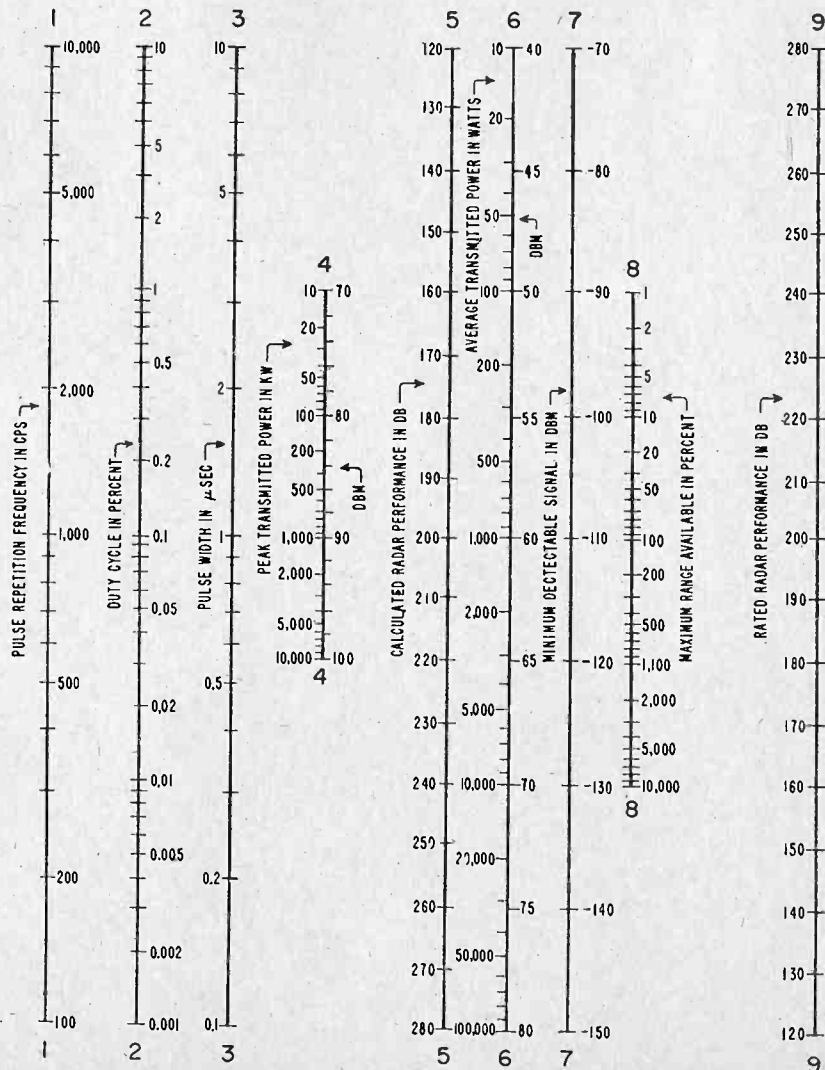
(1) Connect the pulse repetition frequency on scale 1 with the pulse width on scale 3. The intersection of this line with scale 2 will be the duty cycle.

(2) Connect the average transmitted power on scale 6 with the duty cycle on scale 2. The intersection of this line with scale 4 will be the peak transmitted power.

(3) Connect the minimum detectable signal on scale 7 with the peak transmitted power on scale 4. The intersection of this line with scale 5 will give the radar performance figure.

(4) Connect the rated performance of the radar on scale 9 with the calculated radar performance found on scale 5. The intersection of this line with scale 8 will be the percent of maximum range available for a given target. For instance, if scale 8 is intersected at the 200-percent point, a target which would normally not be detected until it was 40 miles away can be detected at 80 miles.

By EDWARD A. WOLFF



# DESIGN CHART FOR SELECTIVE CATHODE TRAPS

By K. HILLMAN

**SUMMARY**—Equations for determining attenuation introduced at trap frequency and at other desired frequency used with chart speed determination of values for R, L and C for cathode trap. Graph can also be used to determine bandwidth of trap

**I**N DESIGNING cathode traps of the type shown in Fig. 1, attenuation must be introduced at a trap frequency,  $f_0$ , without greatly affecting the gain at some other frequency,  $f$ .

It is useful, therefore, to consider how the gain at  $f$  relative to the gain at  $f_0$  varies with trap Q, normalized frequency spacing  $\delta$ , and the increased loss at  $f$  due to the presence of the trap. A cathode resistor  $R_k$  has been included in the circuit, but may be set to zero or bypassed, if desired.

## Chart Construction

In obtaining the expression from which the chart is plotted, the following assumptions are made: grid-cathode and cathode-ground capacitances are negligible, the tube is a constant-current generator ( $i_p = g_m e_{gk}$ ) and the trap may be represented by a parallel combination of R, L and C.

Let  $|\bar{r}_1| \equiv \frac{\text{gain reduction factor at } f \text{ with trap}}{\text{gain reduction factor at } f \text{ or } f_0 \text{ without trap}}$

$$= \left| \frac{1 + g_m \left[ R_k + \frac{R}{1 + jQ\delta \frac{(2+\delta)}{(1+\delta)}} \right]}{1 + g_m R_k} \right|$$

and  $r_2 \equiv \frac{\text{gain reduction factor at } f_0 \text{ with trap}}{\text{gain reduction factor at } f_0 \text{ or } f \text{ without trap}}$

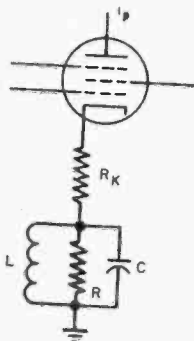
$$= \frac{1 + g_m (R + R_k)}{1 + g_m R_k}$$

It can then be shown that

$$\frac{r_2}{|\bar{r}_1|} = \left[ \left( Q\delta \frac{(2+\delta)}{(1+\delta)} \right)^2 \left( \frac{|\bar{r}_1|^2 - 1}{|\bar{r}_1|^2} \right) + 1 \right]^{1/2}$$

The ratio

$$\frac{r_2}{|\bar{r}_1|} = \frac{\text{gain reduction factor at } f_0 \text{ with trap}}{\text{gain reduction factor at } f \text{ with trap}}$$



$$f_0 = \frac{1}{2\pi\sqrt{LC}}$$

$$Q = \frac{R}{X_{f_0}}$$

$$\delta = \frac{f - f_0}{f_0}$$

has been plotted against  $Q \left| \delta \frac{(2+\delta)}{(1+\delta)} \right|$  for various values of  $|\bar{r}_1|$ . In addition, contour lines indicating levels where the value of  $r_2$  remain constant are shown on the chart.

## Example

An example of a typical design problem will show how the chart can be used to obtain component values and aid in gaging the trap bandwidth.

It is desired to reduce the gain at 10 mc by a factor of 20 relative to the gain at 7 mc.

The gain at 7 mc is to be decreased by no more than five percent. The circuit constants are  $R_k = 0$ ,  $g_m = 5,000 \mu\text{mhos}$ . Find R, L and C.

The intersection of  $r_2/|\bar{r}_1| = 20$  and the curve corresponding to a value of  $|\bar{r}_1| = 1.05$  occurs for an abscissa corresponding to

$$Q \left| \delta \frac{(2+\delta)}{(1+\delta)} \right| = 66$$

since

$$\left| \delta \frac{(2+\delta)}{(1+\delta)} \right| = (0.3) \frac{1.7}{0.7} = 0.73,$$

$$Q = \frac{66}{0.73} \cong 90$$

FIG. 1—Basic cathode trap circuit

Also,  $r_2 = 1.05 (20) = 21 = 1 + 0.005R$  so that  $R = 4,000$  ohms

$$10 \text{ mc} = \frac{R}{Q} = \frac{4,000}{90} = 44 \text{ ohms}$$

in which  
 $L \cong 0.7 \mu\text{h}$   
 $C \cong 360 \mu\text{uf}$

Suppose a  $0.7\text{-}\mu\text{h}$  coil is now made and found to have a  $Q > 90$ . Let the measured value be  $Q = 30$ . The chart shows that the intersection of  $r_2 = 1 + 20/30/90 = 30$  and  $Q|\delta(2 + \delta)/$

$(1 + \delta)| = 94$  occurs for value of  $r_2/|\bar{r}_1| \cong 28.5$  and for  $|\bar{r}_1| = 1.05$ .

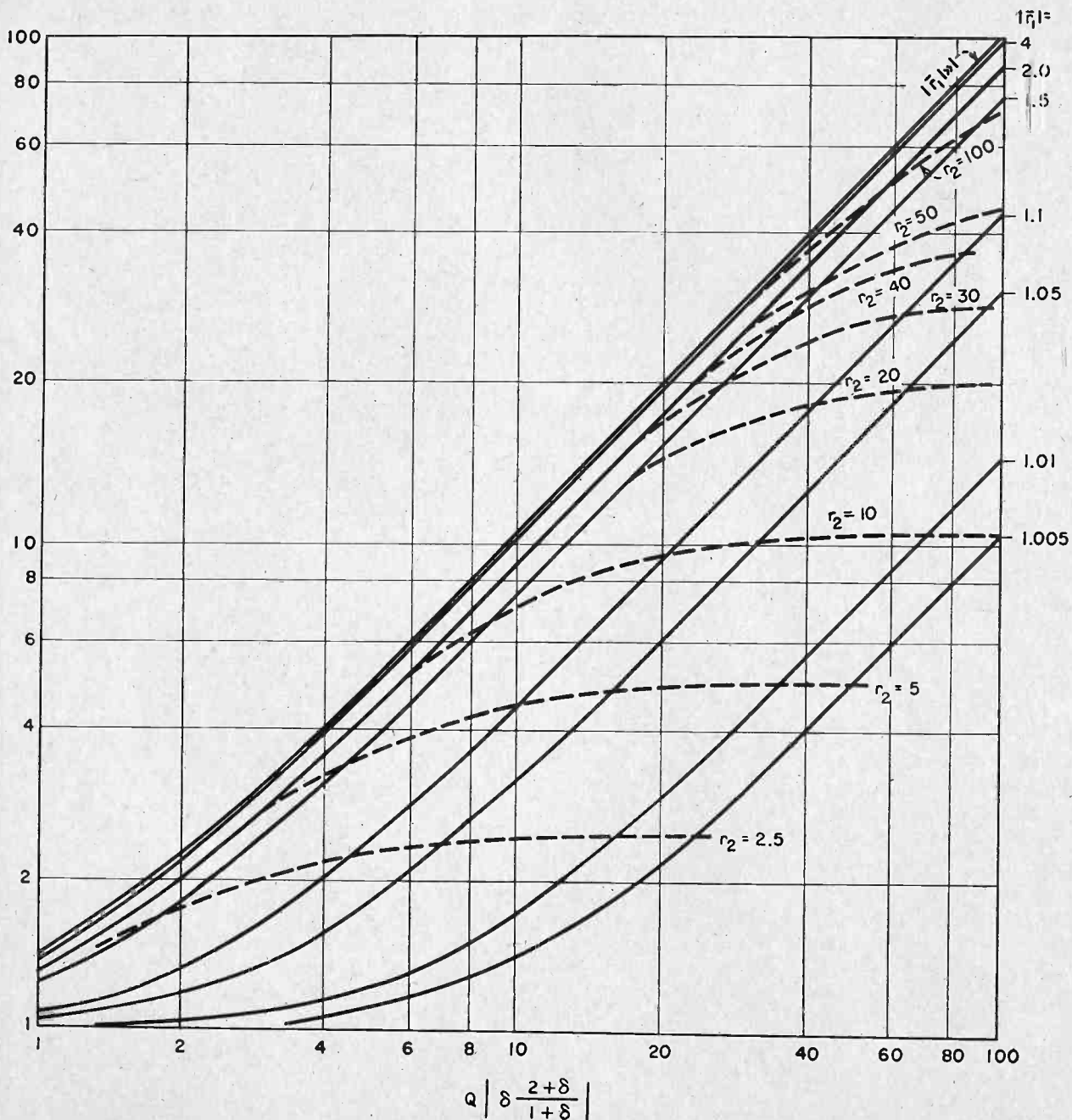
If desired, the inductance may be reduced, assuming the coil  $Q$  is held constant, so that  $r_2/|\bar{r}_1| = 20$  is again obtained but at a value of  $|\bar{r}_1| < 1.05$ .

### Trap Bandwidth

Sometimes a band of frequencies rather than a single frequency is to be attenuated. The chart may be used to gauge

the trap bandwidth. In the preceding example, the range of frequencies where the gain relative to 7 mc is decreased by a factor of ten or more can be found.

Since  $r_2 = 21$ , for  $|\bar{r}_1| \geq 10 (1.05) = 10.5$ ,  $r_2/|\bar{r}_1| \leq 2$ . The intersection of  $r_2/|\bar{r}_1| = 2$  with the curve  $|\bar{r}_1| \gg 1$  occurs at about  $Q|\delta(2 + \delta)/(1 + \delta)| \cong 2 Q|\delta| \cong 1.7$ , so that  $2|\delta| \cong 1.7/90 \cong 0.019$ . Hence the trapping bandwidth (as defined) is 0.019 (10) or 0.19 mc.





# TRANSISTOR FLIP-FLOPS

**SUMMARY**—Flip-flops for digital computers may be designed in three ways: direct coupled, emitter coupled or resistance coupled. Delay and transition times are discussed for these circuits under loaded and unloaded conditions. Non-saturating circuits and the effects of loading with zero to four transistor bases are also given

By A. K. RAPP and S. Y. WONG

**T**RANSISTORS HAVE made possible electronic computers requiring only a small fraction of the space and power required by the vacuum tube equivalent.

This article compares maximum speeds measured for changes of state for three types of circuits using surface-barrier transistors.

### Basic Pulse Amplifiers

Shown in Fig. 1, the three basic types of pulse amplifier circuits are the direct-coupled, the resistance-coupled and the emitter-follower-coupled cascades.

Figure 1A illustrates the simplest method of coupling cascaded common-emitter stages by connecting the output of one stage directly to the base of the following stage.<sup>1</sup>

The circuit modification in Fig. 1B overcomes one of the principal limitations in the switching speed of transistors, the storage of minority carriers in the base region of a saturated transistor. This storage produces a time delay at the collector on application of a cutoff signal.

One convenient means of reducing turnoff time delay is to limit

the base current by inserting resistance in the base leads. Capacitors are shunted across the base resistors to help speed up the circuit.

Figure 1C illustrates the use of an emitter follower as an active coupling network. The emitter follower does not suffer from hole storage and its low source impedance permits high charging currents to be supplied to the stray and internal capacitances, usually the limiting factors in fast pulse operation.

Figure 2 shows flip-flops using

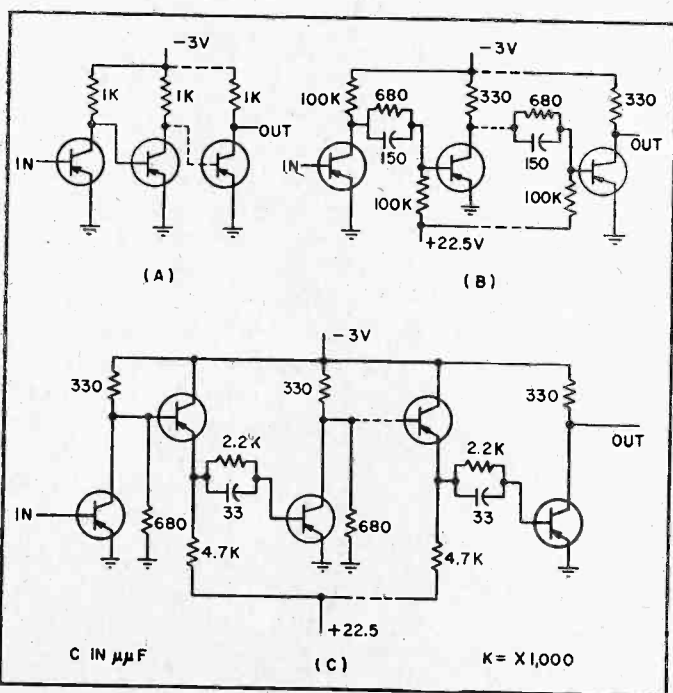


FIG. 1—Direct-coupled (A), resistance-coupled (B) and emitter-follower-coupled (C) pulse amplifiers coupled in cascade

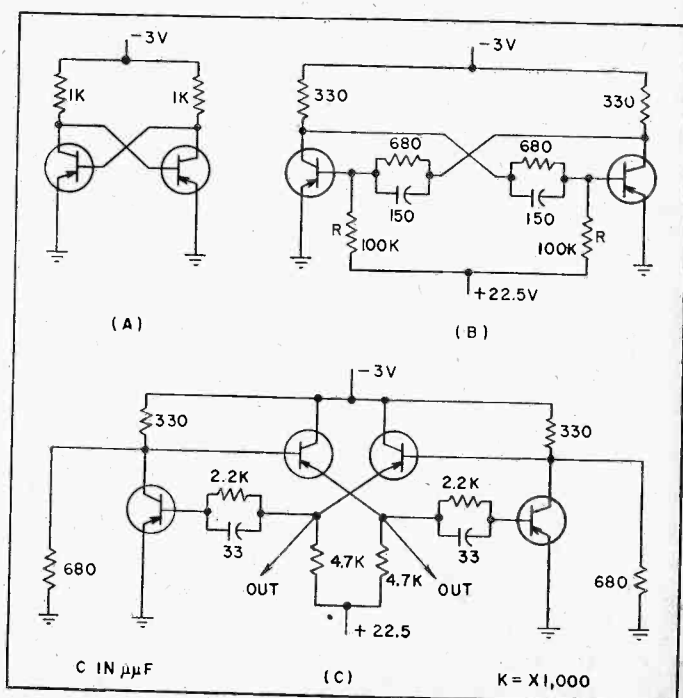


FIG. 2—Flip-flops derived from circuit configurations of Fig. 1. Circuit (A) contains a minimum number of components

the three types of coupling given in Fig. 1. The circuit of Fig. 2A is a simple flip-flop circuit containing a minimum of components.

The flip-flop of Fig. 2B is analogous to the Eccles-Jordan circuit. It may be operated without the bias network consisting of +22.5 v and resistors, R, since the network has no effect on speed but increases reliability.

The emitter-follower stages of Fig. 2C produce buffering action and consequently provide convenient output terminals.

### Switching Times

The direct-coupled flip-flop of Fig. 2A is redrawn in Fig. 3 to illustrate the switching times employed as criteria of high-speed performance. The delay time,  $\delta$  is the time interval between the point where the collector potential of the gating transistor changes by 10 percent of its total voltage excursion and the point where the collector potential of the off-going transistor falls 10 percent of its total voltage excursion.

The total transition time X is the delay plus the fall time of the collector voltage of the off-going transistor. Fall time is the time required for the collector voltage of the off-going transistor to move from 10 percent to 90 percent of its voltage excursion.

### Time Measurement

Delay and transition times were measured with the flip-flops loaded symmetrically with from zero to four pairs of transistor bases. Owing to its higher ratio of collector to base current, the resistance-coupled circuit has considerable less delay than the direct-coupled circuit. Transition time is more indicative of operational speed since it represents the total time required for the flip-flop to acquire a new state. Using transition time as the criterion, the resistance-coupled circuit requires about 18 percent less time than

the direct-coupled, while the added complexity of emitter-follower coupling results in a 70 percent reduction in transition time.

### Speed

The speed of the direct-coupled circuit increases to double its no-load value when it is loaded with four pairs of bases, while the resistance-coupled circuit is slowed down by the addition of load. The buffer action of emitter followers allows the emitter-follower-coupled flip-flop to remain relatively unaffected by load.

The nonsaturating, resistance-coupled flip-flop<sup>2</sup> shown in Fig. 4 makes use of small resistors connected from each base to ground to form a voltage divider which limits the voltage swing of the base. The insertion of resistance into the circuit common to both emitters provides d-c feedback which forces the emitter to follow about 0.3 v more positive than the base of the conducting transistor. Since this base-to-emitter potential is independent of the emitter resistance, the choice of resistance controls the emitter current. Once the base voltage and emitter current are fixed, the collector current is also determined. A small collector resistance then holds the collector voltage of the conducting transistor sufficiently negative with

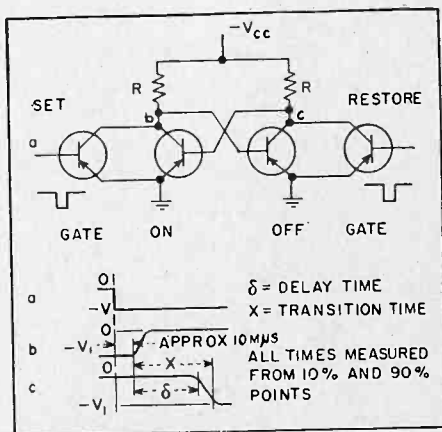


FIG. 3—Direct-coupled flip-flop illustrates switching time criteria for high-speed performance with symmetrical loads

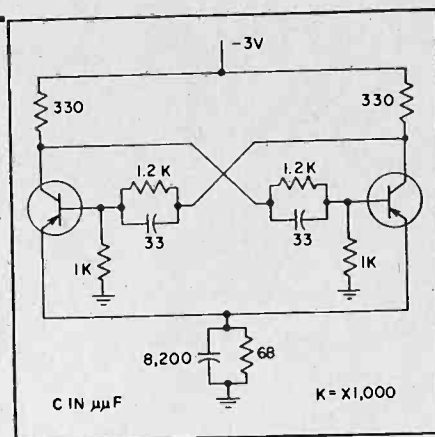


FIG. 4—Nonsaturating resistance-coupled flip-flop has d-c feedback

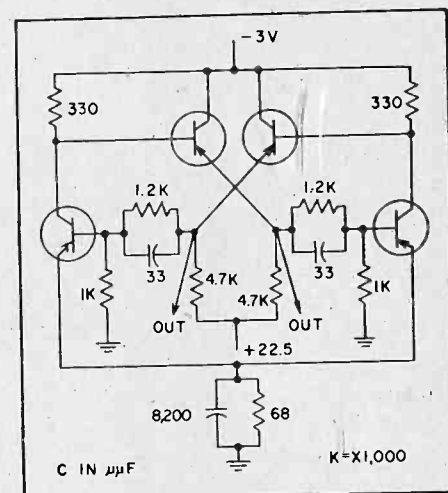


FIG. 5—Nonsaturating emitter-follower coupled flip-flop uses emitter biasing

respect to the base to prevent saturation.

The nonsaturating, emitter-follower-coupled flip-flop shown in Fig. 5 also applies the emitter-biasing method of preventing saturation to the emitter-follower-coupled flip-flop.

The avoidance of saturation produces a reduction of more than 60 percent in the transition time of the resistance-coupled circuit. Prevention of saturation in the emitter-follower circuit results in an increase in speed to the extremely fast transition time of 22 millimicroseconds.

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- (2) R. E. McMahon, Designing Transistor Flip-Flop, *ELECTRONIC DESIGN*, p 24, Oct. 1955.

# TOROIDAL VIDEO TRANSFORMER DESIGN

By G. W. GRAY

**SUMMARY**—Design data is given for tv video transformers with 6-mc bandwidth that drive a 50-ohm coaxial cable. In addition to line-driver applications, transformers can also be used as interstage-coupling devices in transistor video amplifiers

**W**HEN DRIVING a low impedance such as a coaxial cable from a vacuum tube or transistor, there is a loss of gain due to the poor impedance match between the load and the driving source. If the signal is narrow band, a transformer is usually used to produce a better impedance match.

This article describes the development of transformers to drive a 50-ohm coaxial cable with television video signals of 6-mc bandwidth. To ease the low-frequency requirement to passing a 15-kc square wave, the technique of using a keyed-clamp stage following the transformer has been assumed. This is the existing situation in television cameras where the video signal is amplified first in the camera and then transmitted over cable to another amplifier for additional amplification.

A gain of one-third is usually realized from the grid of the last tube in the camera to the grid of the first tube in the remote amplifier. If a transformer with a three or four-to-one turns ratios could be inserted between the line driver and the line, the gain of one-third would be increased to unity. If a second transformer could be used to step up the voltage between the cable and the grid of the first tube in the remote amplifier, the gain could be raised from unity by whatever step-up ratio could be obtained.

## Core Material

The transformers are wound on Supermalloy tape-wound toroids manufactured by the Arnold Engi-

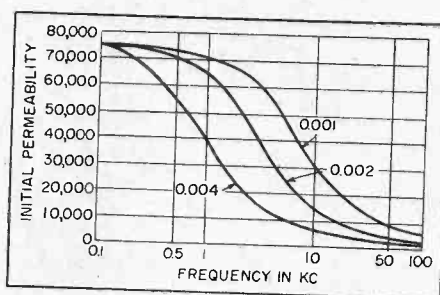


FIG. 1—Effect of tape thickness on initial permeability of Supermalloy

neering Co. Magnetic properties of this type core are particularly suited to video transformers. The low-frequency permeability is approximately 70,000, providing the necessary inductance with relatively few turns.

The permeability is a function of frequency—high at low frequencies and low at high frequencies. This feature is of importance since the distributed capacity that tends to resonate the primary would have to be impractically low if the permeability were uniformly maintained at all frequencies. This effect allows high primary inductance at low frequencies, where it is required, and effectively decreases the inductance at high frequencies, to prevent resonance with the distributed capacity within the pass-band.

As an example, transformers with a primary inductance of the order of  $\frac{1}{2}$  henry at 1 kilocycle are needed for good low-frequency response. If such an inductance were maintained up to 6 mc, the capacity required to resonate the primary would be about 1,000  $\mu\mu\text{f}$ . Fortunately, the permeability of tape-

wound cores changes radically from low to high frequencies so the required inductance is obtained at low frequencies, but a much lower inductance is present at high frequencies. Thus resonance with the distributed capacitance is avoided at least until a much higher frequency than with a constant permeability core.

Since it is a lack of penetration of the core material by the magnetic flux that causes the decrease in permeability with increasing frequency, the core tape thickness will control the frequency at which the permeability changes. This effect is shown in Fig. 1.

## Coupling

Although loss of permeability with frequency is necessary, it is not without ill effects. With a high permeability toroidal core, the coupling between primary and secondary is good and independent of the physical configuration of primary and secondary. However, with

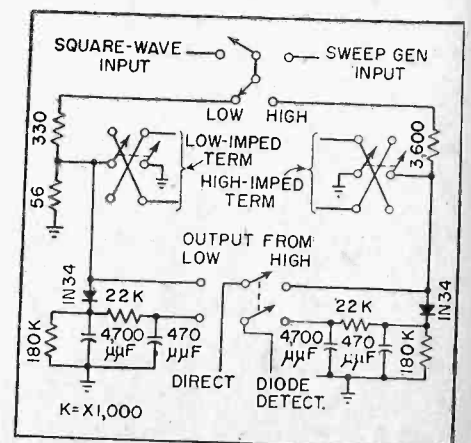
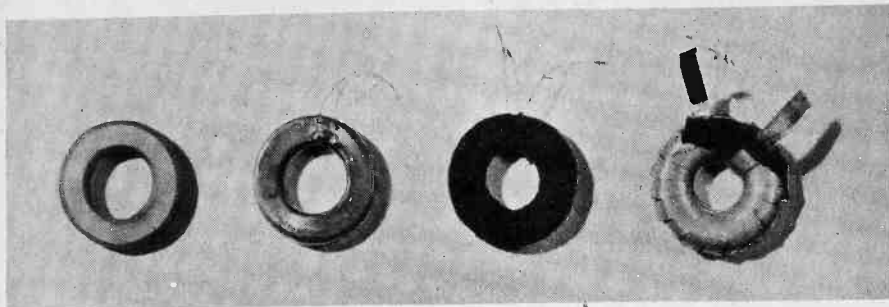
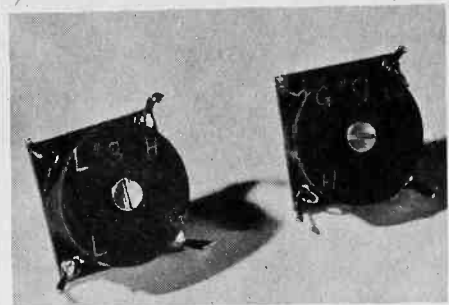


FIG. 2—Test circuit for video transformers



Steps in transformer construction, from left to right: core; core with primary; primary with rayon-tape cover; complete transformer



Completed video-transformers mounted in protective cases

a low permeability core, the coupling is almost entirely dependent upon the physical configuration of the primary and secondary. Therefore, the physical configuration of the windings must be designed for good coupling between primary and secondary without aid from the core material.

To evaluate and compare experimental transformers, the test setup of Fig. 2 was used. Either the low or high-impedance windings can be driven from a sweep or square-wave video generator, with about 3,600-ohm driving impedance for the high-impedance winding and about 50-ohm driving impedance for the low-impedance winding. Likewise, the voltage across either the high or low-impedance winding can be observed either directly for square waves or with a diode detector for sweep response. Two switches are provided to reverse the end of the winding which is grounded, for either primary or secondary.

### Windings

The primary winding used on all of the transformers is a single layer of uniformly spaced wire going around the toroid, thus producing minimum distributed capacity for the number of turns required.

The secondary winding is similar to the primary but of fewer turns, distributed uniformly over the primary and spaced a small distance away. The secondary must be distributed over the primary to maintain coupling at high frequency where the core has negligible permeability. Spacing between pri-

mary and secondary is necessary to minimize the capacity between primary and secondary, although too wide a space will decrease coupling.

To verify the frequency range over which the core contributes to the coupling, a transformer was made with the primary wound on one half of the toroid and the secondary on the other half. Response was normal at low frequencies, but fell off rapidly in the region where permeability decreased in accordance with the curves in Fig. 1.

To show that coupling is good

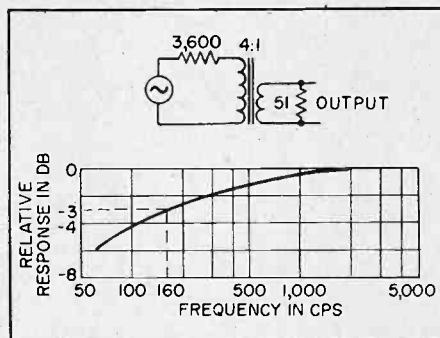


FIG. 3—Low-frequency response of video transformer

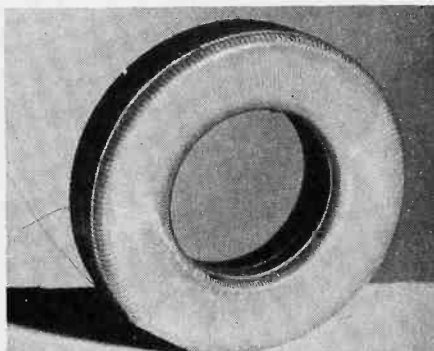


FIG. 4—Primary winding on 4-mil core

with the secondary wound over the primary, a transformer was wound with a lucite toroidal core the same size as the Supermalloy cores. The resulting transformer had a uniform response from 1 to 12 mc, showing that magnetic core material is not necessary above frequencies of 1 mc.

### Core Permeability

The core material has a permeability considerably greater than unity even in the megacycle region. It increases the inductance so as to cause a resonance and limit the high-frequency response. The curves in Fig. 1 indicate the use of a thicker tape would result in a permeability that starts to decrease at a lower frequency and might thereby be expected to be down to a lower percentage of its low-frequency permeability at any particular high frequency. The material which loses permeability at the lowest frequency is 4-mil tape; therefore, this material was tried. One and 2-mil tapes have also been tried, but the 4-mil tape seems to be best.

Recently two cores with 6-mil tape have been obtained. Initial work indicates a marked superiority over 4-mil tape for high-frequency response, with somewhat poorer low-frequency response. Most transformers in this article use type 5340 S-4 cores; the 5340 refers to the physical size (0.810 in./o.d., 0.440 in./i.d., 0.195 in./thick); S-4 indicates the core material (4-mil Supermalloy).

In selecting the primary inductance an advantageous compromise

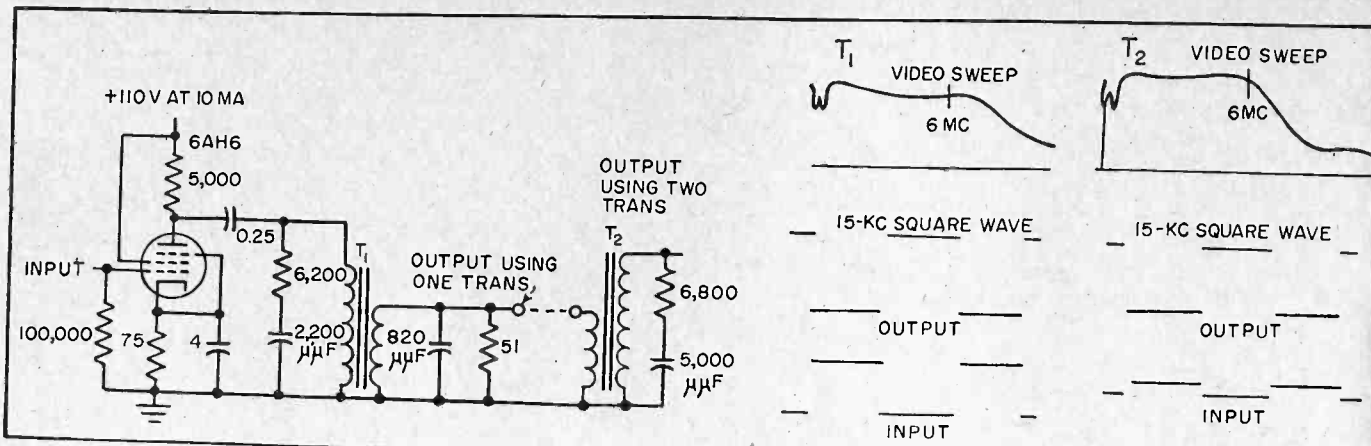


FIG. 5—Both  $T_1$  and  $T_2$  have 4-mil cores and 190-turn primaries;  $T_1$  has 190-turn primary of No. 50 Formex wire and secondary of 26 turns of 0.002 by 0.070 in. copper;  $T_2$  has 190-turn primary of No. 52 Formex and 44-turn secondary of 0.002 by 0.075 in. anodized aluminum. Video-sweep and square-wave responses are shown at right

is to allow approximately a 10-percent tilt in the response to a 15-kc square wave, thus necessitating fewer turns on the primary winding than if a more perfect low-frequency response is attempted. The fewer turns result in obtaining about a 50 percent greater turns ratio for the same high-frequency response.

The 15-kc square-wave tilt can be completely compensated at the cost of about 10-percent amplitude loss by placing a resistor in series with a capacitor across the primary; thus about 50-percent increase in gain is achieved at the expense of 10-percent loss. On this basis about 190 turns are required for the primary.

Figure 3 shows the sine-wave low-frequency response of such a transformer with a 4 to 1 turns ratio and terminated in 50 ohms. The response falls off more slowly than even a single R-C or R-L circuit would; this is caused by the peaking effect of the rising permeability as the frequency decreases. With this response, even though the amplitude does not start to fall until about 1 kc, there is enough phase shift to require compensation at 15 kc. The loss of low frequencies is due almost entirely to insufficient primary inductance. If the primary is driven from a lower impedance source, a much better low-frequency response can be obtained, confirming that the coupling in the transformer at low frequency is good.

Experimentally, it has been found advantageous to use wire at

least as small as No. 50 for the primary winding to have considerable space between adjacent turns and minimize distributed capacity. It is also important to have the uniformity of the winding virtually perfect. For example, a transformer made for a 6-mc response had one turn that crossed over the adjacent turn near the middle of the primary winding; the result was about a 5-mc response. The crossed turn was cut out and the two ends soldered together about  $\frac{1}{8}$  inch from the core; this added about  $\frac{1}{2}$  mc to the response, but did not bring the response to normal. Figure 4 shows the primary winding on a 4-mil core with 180 turns of No. 50 wire.

Experiments show that best results are obtained by winding all the way around the core. For example, a transformer that gave a 6-mc response with the winding on approximately 350 deg of the core only gave a 3.5-mc response with the same number of turns on 260 deg of the core.

### Spacing Between Windings

Having wound the primary, the next step is to decide upon the spacing between primary and secondary. Good transformers have been made with spacing from as small as possible to about 0.050 inch. A wide spacing assures ability to ground either end of the secondary to select the desired polarity of signal output. A close spacing will require the same input and output polarity, but the transformer will operate equally well as a step-up or step-down transformer.

In general good results will be obtained with a moderate spacing as is obtained by winding the primary with a ribbon of Minnesota Mining and Manufacturing No. 14 rayon tape so there is a single layer on the outside edge while the inside will be about two layers of tape. Such a spacing usually allows the secondary polarity to be reversed while still operating well as a step-up transformer.

Though the secondary may be reversed with little change in frequency response, the primary requires one particular end to be grounded. If the other end of the primary is grounded, the frequency response is nearly cut in half independent of the polarity of the secondary.

The secondary is made from wire as large as is possible to use and still maintain a single layer on the inside of the toroid with the number of turns giving the proper turns ratio, usually about 4 to 1. It is wound uniformly over the primary, starting at one end of the primary and finishing at the other end. The direction or sense of the secondary winding should be the same as the primary.

### Ribbon Wire

Instead of using round wire for the secondary, a considerable improvement in performance can be obtained by using anodized aluminum ribbon wire. This type of wire seems to produce a transformer with approximately twice the turns ratio and a bandwidth at least as wide in response as with round

wire and possibly better. Soldered connections to the aluminum are made by first copper plating the aluminum. The effect of the ribbon is to decrease leakage inductance at high frequencies by providing a continuous shield completely covering the primary.

Figure 5 shows a circuit that may be used with the transformers to drive a low-impedance line. The waveforms illustrate the gain and frequency response. Using one transformer the gain from the grid of the tube to a 51-ohm load is 1.4. The gain would be higher except for the low valued plate resistor of the 6AH6. With a higher plate supply voltage, the plate resistor could be raised to increase the gain about 10 db. The circuit provides double termination for the cable since the transformer transforms the 2,770 ohms in the plate circuit (5,000 ohms in parallel with 6,200 ohms) to 52 ohms. Thus, a cable terminated at the receiving end with a 51-ohm resistor, or gain-control po-

tentiometer, will look back into 52 ohms at the sending end. The gain can be increased about four times by using a second transformer at the receiving end.

### Frequency Compensation

High-frequency peaking, is obtained with the 820- $\mu\text{mf}$  capacitor across the 51-ohm resistor. Alternatively, an inductance can be placed in series with the 6,200-ohm resistor in the primary of  $T_1$ .

Polarity can be reversed by reversing the low impedance winding of either transformer.

In addition to increasing the gain in driving a low impedance from the tube, the transformer also multiplies the current swing obtainable. The circuit shown in Fig. 5 will produce about 2.5 volts peak to peak across the 51 ohms, which is equivalent to a current swing of 50 ma. Total d-c current is less than 15 ma.

The resistor in series with the capacitor across the high impedance winding of each transformer

compensates the low frequency response. Without compensation, each transformer introduces about 15-percent tilt on a 15-kc square wave.

Figure 6 shows the results obtained with a 6-mil core. The winding would have given only one-half the bandwidth, if a 4-mil thick tape had been used.

### Winding Machine

A device which has wound toroids with wire as small as No. 52 and maintained uniform spacing between turns is shown in a photograph. Since No. 52 wire is as small as is possible to obtain as yet, the minimum wire size the winder will handle is not known. To produce uniformity in the winding, tension is continually maintained on the wire so that the wire tends to stay where it is laid down. This is the principle feature of the winder. When the toroid with the primary winding is removed from the winding machine it is coated with a thin coating of rubber-base Bostick cement. The toroid is then wrapped with a strip of  $\frac{1}{8}$ -inch wide rayon tape, starting at the same place as the primary winding and wound in the same sense and direction all the way around. The tape should be about a single thickness on the outer rim of the toroid.

The secondary is wound to start and finish at the same place the primary starts and finishes, with the turns in the same direction as the turns of the primary. If round wire is used for the secondary, it should be large enough so a close spaced single layer winding is produced on the inner side of the toroid. If ribbon wire is used, it should lap over itself on the inner side of the toroid to produce a nearly complete covering on the outside of the toroid.

Transformers of this type have been used as interstage-coupling devices in transistor video amplifiers. They are now finding further use in industrial-television equipment, both monochrome and color, where their advantages as line drivers are being utilized.

Credit is due E. K. Kurz for the design and construction of the winding machine without which these transformers would not have been developed.

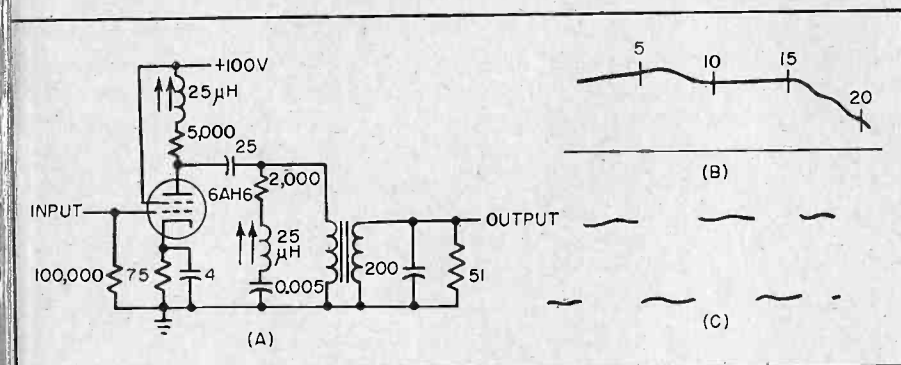
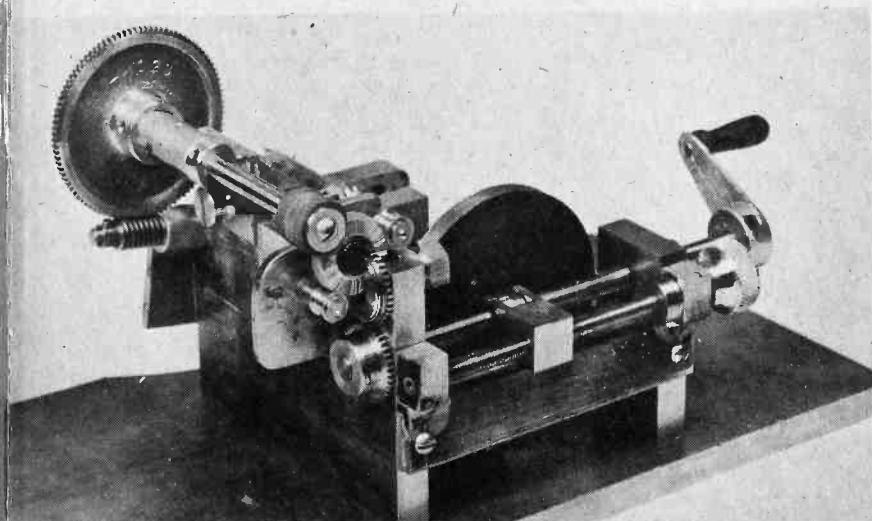


FIG. 6—Wide-band line driver (A) and response to video sweep (B) and 15-kc square wave (C). Transformer has 185-turn primary of No. 50 Formex and secondary of 40 turns of No. 24 eds wire



Machine winds toroid cores with No. 52 Formex insulated wire

# HOW TO DESIGN COLPITT

By H. E. GRUEN

**SUMMARY**—Cut-and-try approach characteristic of crystal oscillator development can be avoided by using design method described. Oscillator output voltage can be predicted to better than 25 percent. Performance curves of output and crystal drive level allow performance prediction of circuits having a wide range of parameter values

**D**ESIGN of practical crystal oscillator circuits has always involved a considerable amount of cut and try. Although a complete mathematical analysis is possible when all circuit characteristics are known the result is so complex that its application to a useful circuit is not practical.

Often this mathematical analysis is simplified by various assumptions to the point where little, if any, quantitative information results. The method of design outlined be-

low correlates the two approaches to the problem—a simplified analysis yielding qualitative information, supplemented by circuit performance measurements to provide quantitative information.

The measurements, obtained over a wide range of operating conditions, include such factors as frequency stability, output voltage and power and crystal drive level determined as a function of circuit component values and voltages.

Design data will be developed for

the Colpitts crystal oscillator and for the adaptation of this circuit to electron coupling.

In the circuit of Fig. 1A, the crystal operates at antiresonance with the total grid-to-ground capacitance. Crystal drive level, as well as the available output voltage, is a function of crystal and tube characteristics and operating voltages as well as the capacitance ratio  $C_3/C_2$ .

For this oscillator the equivalent circuit of Fig. 1B is most con-

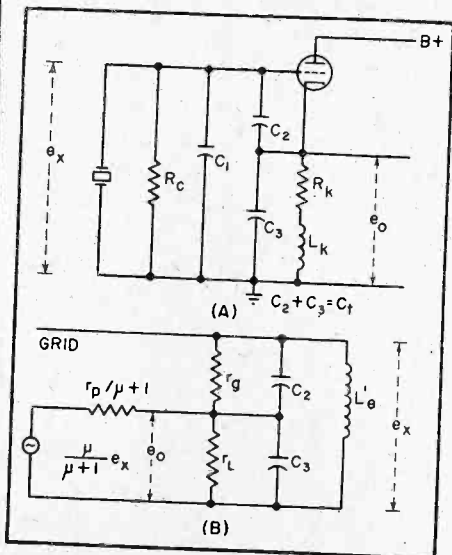
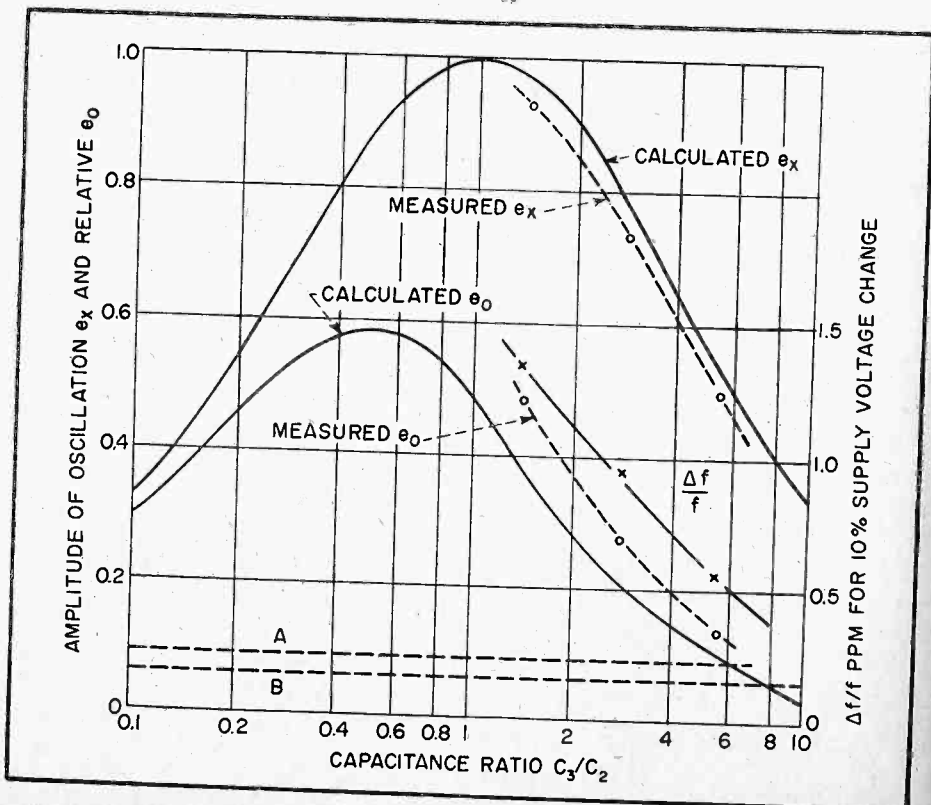


FIG. 1—Colpitts crystal oscillator circuit (A) and equivalent circuit (B) that serve as the basis of the design

FIG. 2—Circuit performance as a function of ratio of the capacitance between cathode and ground to grid and cathode



# CRYSTAL OSCILLATORS

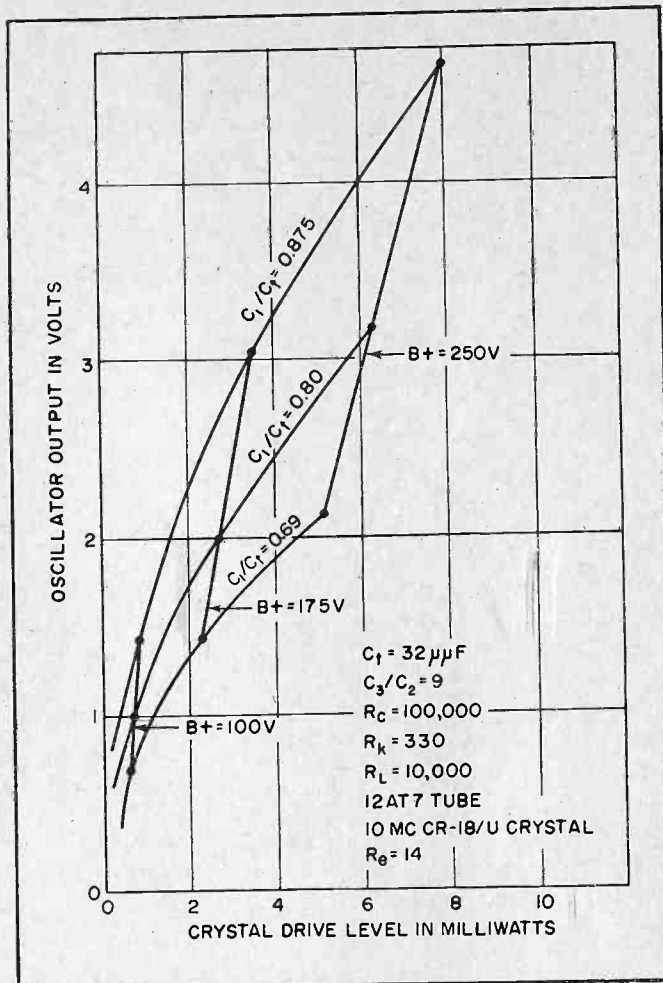
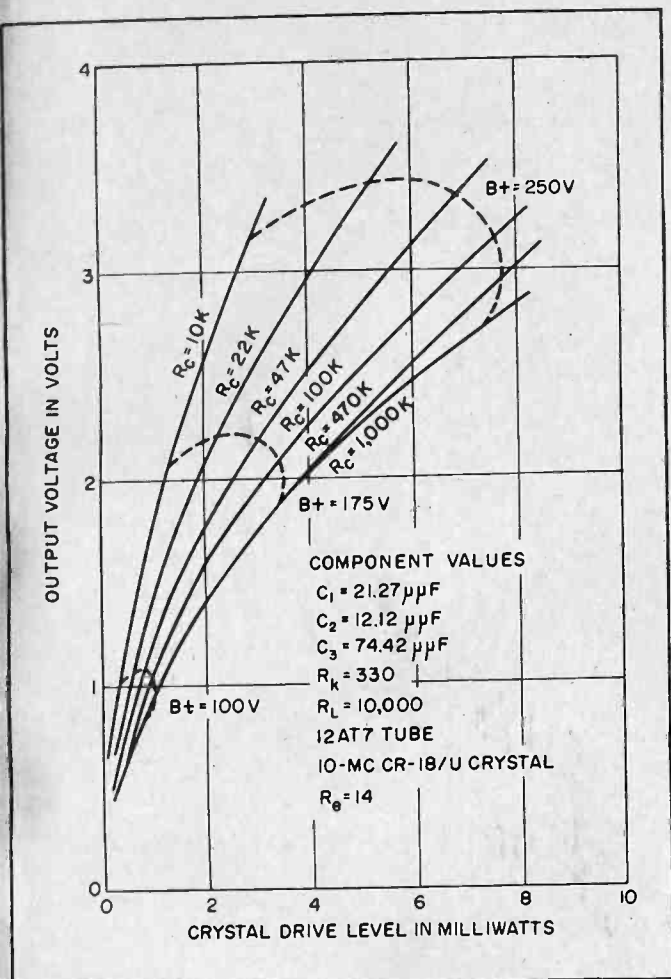


FIG. 3—Crystal oscillator output voltage vs crystal drive as a function of grid bias resistance

FIG. 4—Output voltage vs crystal drive as a function of  $C_1$  connected between grid and ground

venient since the voltages of interest appear across the crystal and from cathode to ground. The value of  $L_k$  is chosen such that its reactance is several times that of  $C_3$ . It thus provides a d-c path from cathode to ground whose a-c impedance is sufficient to be neglected.

The grid circuit losses are represented by  $r_g$ , and the crystal loss by  $r_L$  when  $C_1$  is included as a part of the crystal network. The resistance  $r_L$  is the load on the generator when the grid loss  $r_g$  is neglected. Using this value of load impedance, the equation of conditions necessary for oscillation can be developed as follows

$$r_p = \frac{\mu PI N f(\omega r_g) f(C_1)}{(1 + N)^2}$$

where  $N = C_3/C_2$

$PI = 1/(\omega^2 C_1^2 R_c) =$  performance index of crystal

$$f(\omega r_g) = \frac{r_g \omega C_2}{[1 + (r_g \omega C_2)^2]^{1/2}} \text{ and}$$

$$f(C_1) = \left(1 + \left[\frac{(N + 1) \omega C_1 R_c}{1 - C_1/C_2}\right]^2\right)^{1/2}$$

The equation is satisfied when steady-state oscillations exist. The factors  $f(\omega r_g)$  and  $f(C_1)$  include the effects of circuit losses. The values of these expressions approach unity as the frequency increases and as  $R_c$  of the crystal decreases.

The resultant plot of the loss-free condition is shown in Fig. 2. The upper solid curve represents the amplitude of oscillation, or crystal voltage, and the lower curve the relative output voltage for this condition.

Figure 2 also shows the measured

performance of a 10-mc oscillator as compared to the loss-free condition. For the measurements shown the effective grid-to-ground capacitance of  $C_2$  and  $C_3$  was held constant while their ratio was varied. This maintains a constant crystal load capacity  $C_1$ .

### Circuit Measurements

Because of the inherently large stray capacitance included in  $C_3$ , no measurements were made at ratios less than one. The curve marked  $\Delta f/f$  shows the improvement in frequency stability as the capacitance ratio is increased. The horizontal lines A and B are used in the design examples.

The graph of Fig. 3 shows measured output voltage and crystal



drive level as a function of plate voltage for different values of grid bias resistance. This data taken at 10 mc shows increasing values of drive as the resistance increases, indicating the desirability of using small values of resistance if high output at low crystal drive is desired.

However, at lower frequencies oscillation may not start if  $R_g$  is too small. The choice of  $R_g$  is therefore dependent on the use to which the oscillator is to be put. These results were obtained at 10 mc. At lower frequencies a graph having the same scales would be obtained with larger values of  $R_g$ . For example, at 1 mc the line representing  $R_g$  equal to 100,000 ohms will be approximated by an  $R_g$  of 1 megohm.

In Fig. 4 are shown the results of varying  $C_1$ , the grid-to-ground capacitance, while maintaining a fixed ratio of  $C_2/C_1$  and a constant load capacitance. As  $C_1/C_2$  becomes larger, the output increases greatly for moderate increases in drive level. Within the limits set by stray capacitance in  $C_2$  and  $C_1$  it is advisable to make  $C_1$  as large as possible to obtain large output-to-drive ratios. However, for good stability  $C_2$  should be padded to several times the stray capacitance.

Figure 5 indicates the results obtained by use of different tube types. Both triodes and pentodes of miniature and subminiature construction are included. A type 12AT7 was selected as the reference for obtaining the general circuit performance measurements.

### Performance Curves

Circuit performance information is presented in a general form in Fig. 6. The oscillator output in volt-megacycles (rms output voltage times frequency in megacycles) and the crystal drive level are presented as a function of plate supply voltage. For a fixed supply voltage and a given frequency, a range of both output voltage and crystal drive is indicated. The exact values obtained depend on the resistance of the crystal used. The circuit and the range of resistance values used in determining the curve are shown

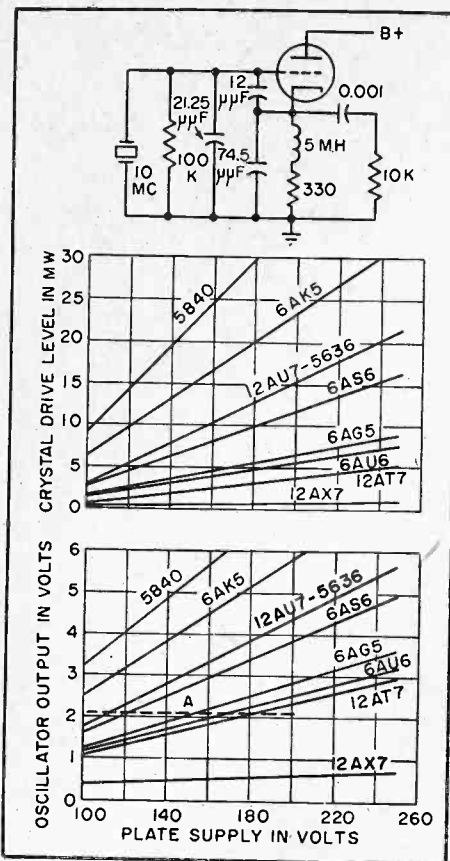


FIG. 5—Output voltage and crystal drive for a number of tubes used in the representative circuit (top)

on the figure.

As an example of the use of this curve, assume that an 8-mc oscillator having an output of 2 volts is required. The volt-megacycle product is 16 and from the curve the required plate voltage can be determined. In this case the required plate voltage will be in the range of 130 to 170 volts. Use of a 150-volt plate supply will yield an output of 2 volts plus or minus 15 percent. The resulting drive level will be from 1.5 to 4 milliwatts depending on crystal resistance.

At frequencies below 3 mc, higher values of grid and cathode bias resistance are required to insure proper starting and drive characteristics. Figure 7 is a generalized performance curve for the low frequency range. The applicable circuit is shown and use of the curve is the same as before.

Electron coupling is used in crystal oscillators as well as in conventional self-excited circuits. Advantages of the electron coupled arrangement include ease of fre-

quency multiplication, high output voltage to crystal drive ratio and frequency stability relatively independent of load variations. This circuit readily adapts itself to electron coupling since the plate operates at a-c ground potential.

The circuit diagram of the electron coupled oscillator appears in Fig. 8. The voltage of interest in determining circuit performance now becomes the screen voltage rather than the supply voltage. Characteristics of triode connected pentodes were determined and circuit performance data for several types are included in Fig. 5 for comparison.

The design of an electron coupled oscillator is taken from the curves just described using the pentode tube connected as a triode. When the performance of the triode circuit has been determined the plate output can be calculated as for a pentode amplifier based on effective values of transconductance and plate circuit impedance.

Excellent isolation of plate impedance variations can be accomplished by using a tube having a separate suppressor lead connected to a bypassed bias potential equal to the cathode bias. Output voltage, crystal voltage and frequency change as a function of plate load impedance for three circuit arrangements are shown in the curves of Fig. 9.

A 6AU6 tube was used, first with suppressor-to-cathode connection, then as a tetrode with suppressor connected to plate and finally with the suppressor connected to a positive bias of five volts. The solid line curves indicate the improved performance of the biased suppressor arrangement.

### Design Method

The oscillator circuit shown in Fig. 6 was designed to operate over the frequency range of 2.85 to 16 mc with large output voltage to crystal drive ratios. The corresponding circuit and performance characteristics for the 1 to 2.85 mc frequency range are shown in Fig. 7. These performance characteristics can be used directly in predicting

operation of the standard circuits and can also be used in conjunction with other figures given here to design additional circuits meeting specific performance requirements.

Use of this design method is explained in the example below. The steps necessary if the reference circuit of Fig. 6 meets the given requirements are outlined in detail as shown below.

It is required that the circuit have a frequency of 7 mc; voltage output of 2.25 v rms across a 5,000-ohm load, frequency tolerance of  $\pm 0.006$  percent and power supply voltage of 150 v.

The crystal unit to be selected should be a high-quality antiresonant unit of the desired frequency. To obtain proper operation of the crystal the circuit is designed to provide the required load capacitance, which is the total grid-to-ground capacitance of the circuit. The circuits given here are for use with military type crystal units for which a load capacitance of 32  $\mu\mu\text{f}$  is required.

Military type crystal units that can be used in these circuits include the CR-18/U, CR-27/U and CR-36/U. The CR-18/U is a non-temperature-controlled unit, while the CR-27/U and CR-36/U are designed to operate at 75 and 85 C respectively. In this case a CR-18/U crystal unit will meet the requirements provided that frequency changes produced by the oscillator are less than  $\pm 0.001$  per cent (the difference between the  $\pm 0.006$ -percent frequency tolerance requirement for the circuit and the  $\pm 0.005$ -percent tolerance of the CR-18/U over the operating temperature range).

### Reference Stability

The stability characteristics of the reference circuit are such that nominal component value changes produce frequency shifts in the order of one or two parts per million. Plate supply changes of  $\pm 10$  percent produce corresponding frequency variations of less than two

parts per million. Thus the frequency tolerance of the circuit is well within the  $\pm 0.001$ -percent (10 parts per million) requirement.

Having determined that crystal unit CR-18/U is the proper choice, other characteristics of the unit such as recommended drive level (10 milliwatts), effective resistance and other crystal characteristics should be kept in mind. Detailed information on all military type crystal units is contained in military specification MIL-C-3098B.

In this example the output requirement of 2.25 v rms at a frequency of 2 mc yields a volt-megacycle product of 15.75. Plate voltage necessary for obtaining the desired performance from the reference circuit is determined in Fig. 6. From 15.75 on the volt-megacycle scale a horizontal line is projected to intersect the center dotted curve. This is shown as line A of Fig. 6. A plate voltage of nearly 150 v is indicated. Line B projected vertically downward to the drive level scale denotes a drive

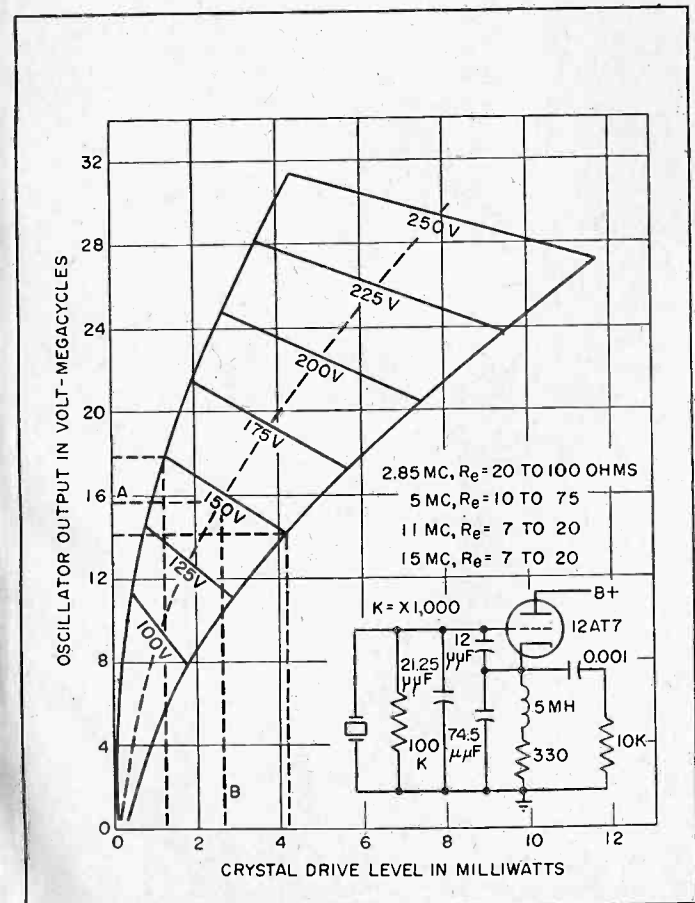


FIG. 6—Performance characteristics for high frequencies

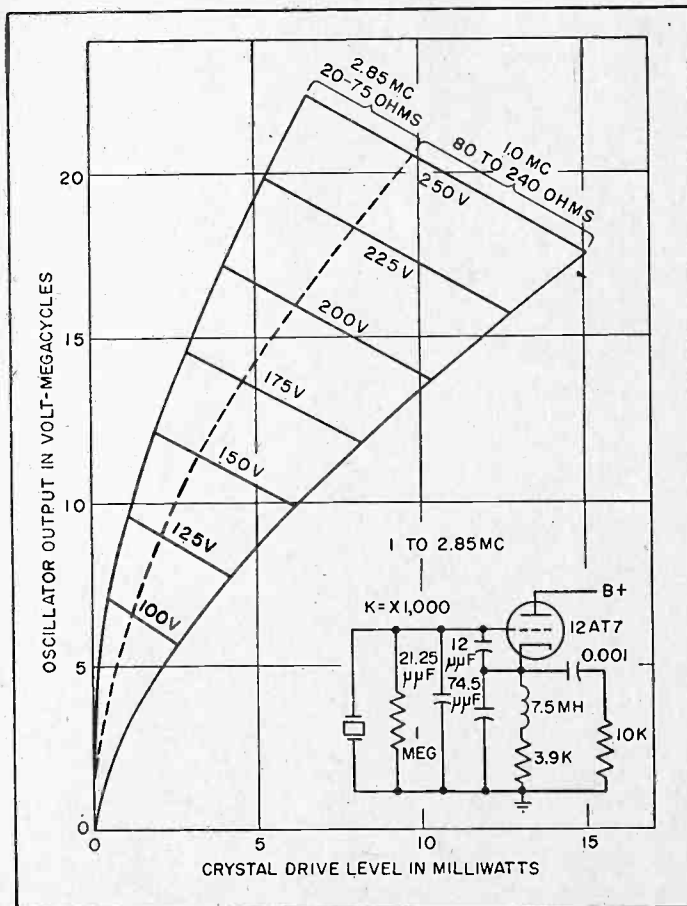


FIG. 7—Performance characteristics for low frequencies

# REFLECTION POINT AND

By Z. PRIHAR

**SUMMARY**—Determination of propagation losses over complex paths requires a knowledge of the reflection point that is seldom midway between antenna and an obstruction contributing to knife-edge diffraction. Nomograms give distance and angle with little additional computation

**A**NGLE and point of reflection of radio waves are required information when calculating propagation losses in four-path propagation, as by knife-edge diffraction.

If no logical reflection point is apparent, it is found by choosing a distance at which the angles of incidence and reflection from the tangent plane are equal. This is done by a trial and error method that is sometimes laborious and time-consuming.

A direct analytical method is suggested below. Nomograms give a direct reading of the distance and angle with little additional computation.

Referring to Fig. 1, the following particulars are usually known: antenna height  $h_1$  in feet; obstruction height  $h_2$  in feet; and distance  $d$  from  $h_1$  to  $h_2$  in miles.

From Fig. 1,

$$\begin{aligned} \text{effective height } h_1' &= h_1 - p_1 \\ \text{effective height } h_2' &= h_2 - p_2 \end{aligned}$$

If  $a$  = earth's radius (3,963 miles)

$$(a + p_1)^2 - a^2 = d_1^2$$

since

$$p_1 \ll 2a, \quad p_1 = d_1^2/2a \quad (1)$$

Denoting  $R = Ka$  = effective earth radius, for  $K = 4/3$ ,

$$\begin{aligned} p_1 = d_1^2/2R = \\ 5,280d_1^2/(2.4/3.3963) = d_1^2/2 \quad (2) \end{aligned}$$

where  $p_1$  is expressed in feet and  $d_1$  in miles.

If  $d_1$  is known, the effective height  $h_1'$  will be given by

$$h_1' = h_1 - d_1^2/2 \quad (3)$$

and

$$h_2' = h_2 - d_2^2/2 \quad (4)$$

where

$$d_2 = d - d_1$$

At the point of reflection, since angle of incidence must

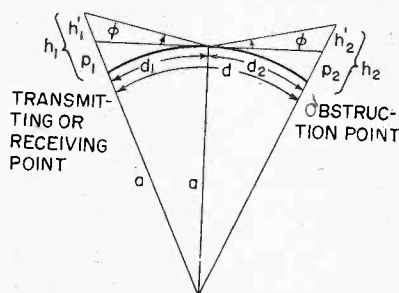


FIG. 1—Geometry of path between station and obstruction

be equal to the angle of reflection,

$$h_1'/d_1 = h_2'/d_2 \quad (5)$$

Substituting Eq. 3 and 4 in Eq. 5 and rearranging results in the following implicit expression for  $d_1$  for any value of  $K$

$$\begin{aligned} d_1^3 - 3dd_1^2/2 + \\ d_1(d_1^2/2 - h_1Ka - h_2Ka) + dh_1Ka = 0 \quad (6) \end{aligned}$$

and for  $d$  and  $d_1$  in miles,  $h_1$  and  $h_2$  in feet and for any  $K$ , Eq. 6 becomes

$$\begin{aligned} d_1^3 - 3dd_1^2/2 + d_1(d_1^2/2 - \\ 3h_1K/4 - 3h_2K/4) + 3dh_1K/4 = 0 \quad (7) \end{aligned}$$

and for  $K = 4/3$

$$d_1^3 - 3dd_1^2/2 + d_1(d_1^2/2 - h_1 - h_2) + dh_1 = 0 \quad (8)$$

It will be found that Newton's approximation method will offer the simplest and quickest way of finding the value of  $d_1$ . If  $d_1$  is chosen arbitrarily for which Eq. 8 is  $f(d_1) \neq 0$ , an approximate solution will be obtained with  $d_1'$  when

$$d_1' = d_1 - f(d_1)/f'(d_1) \quad (9)$$

$d_1$  is the arbitrarily chosen value and  $f'(d_1)$  the first derivative of Eq. 8

$$f'(d_1) = 3d_1^2 - 3dd_1 + (d_1^2/2 - h_1 - h_2) \quad (10)$$

A still better approximation will be obtained by repeating the calculation of Eq. 9 with the newly found value  $d_1'$  when

$$d_1'' = d_1' - f(d_1')/f'(d_1')$$

The following example illustrates the application of the above method. Let  $h_1 = 100$  feet,  $h_2 = 2,000$  feet,  $d = 60$  miles and  $K = 4/3$ . Assuming an arbitrary value of  $d_1 = 10$  miles, Eq. 8 yields for  $d_1 = 10$  miles

$$f(d_1) = f(10) = -5,000$$

and according to Eq. 10

$$f'(d_1) = f'(10) = -1,800$$

$$f(d_1)/f'(d_1) = 5,000/1,800 = 2.783$$

hence

$$\begin{aligned} d_1' &= 10 - 2.783 \\ &= 7.217 \quad (\text{say } 7.22) \end{aligned}$$

# ANGLE NOMOGRAPHS

$$t' = (d^2/4 + h_1 + h_2) / s^2$$

$$q' = (h_2 - h_1) / ds^3/2$$

$$d_1 = w + d/2$$

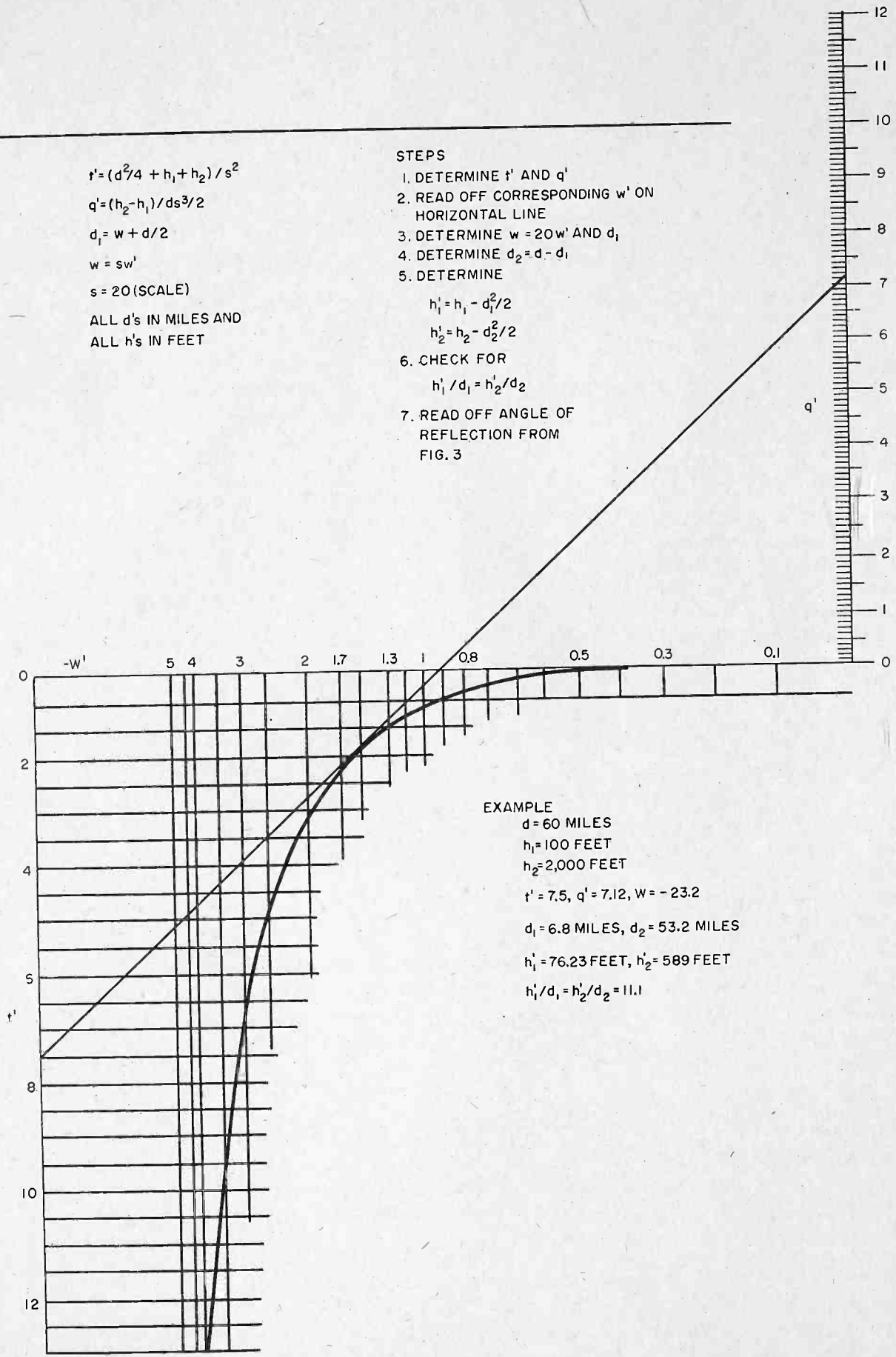
$$w = sw'$$

$$s = 20 \text{ (SCALE)}$$

ALL d's IN MILES AND  
ALL h's IN FEET

### STEPS

1. DETERMINE  $t'$  AND  $q'$
2. READ OFF CORRESPONDING  $w'$  ON HORIZONTAL LINE
3. DETERMINE  $w = 20w'$  AND  $d_1$
4. DETERMINE  $d_2 = d - d_1$
5. DETERMINE
  - $h'_1 = h_1 - d_1^2/2$
  - $h'_2 = h_2 - d_2^2/2$
6. CHECK FOR
  - $h'_1/d_1 = h'_2/d_2$
7. READ OFF ANGLE OF REFLECTION FROM FIG. 3



### EXAMPLE

$d = 60$  MILES

$h_1 = 100$  FEET

$h_2 = 2,000$  FEET

$t' = 7.5$ ,  $q' = 7.12$ ,  $W = -23.2$

$d_1 = 6.8$  MILES,  $d_2 = 53.2$  MILES

$h'_1 = 76.23$  FEET,  $h'_2 = 589$  FEET

$h'_1/d_1 = h'_2/d_2 = 11.1$

Fig. 2—Intermediate nomogram gives distance data and tangent value

# Reflection Point and Angle Nomographs (Continued)

Repeating the same process for  $d_1' = 7.22$

$$f(d_1') = f(7.22) = -481.3$$

$$f'(d_1') = f'(7.22) = -1,443.2$$

$$f(d_1')/f'(d_1') = 481.3/1,443.2 = 0.334$$

$$d_1'' = 7.22 - 0.334 = 6.886 \text{ miles}$$

The actual value for  $d_1$  in the above example was 6.88 miles.

Having determined  $d_1$  all the other values can now be deduced.

$$d_2 = d - d_1 = 60 - 6.886 = 53.114 \text{ miles}$$

$$h_1' = h_1 - d_1^2/2 = 76.234 \text{ feet}$$

$$h_2' = h_2 - d_2^2/2 = 589.8 \text{ feet}$$

reflection angle = incident angle  
 $= \phi = \tan^{-1} h_1'/d_1 = \tan^{-1} h_2'/d_2$   
 From above,

$$h_1'/d_1 = 11.069; \quad h_2'/d_2 = 11.105$$

The numerical value of  $f(d_1)/f'(d_1)$  for any arbitrarily chosen value of  $d_1$  will offer some indication how far  $d_1$  is off its correct value.

for  $f(d_1)/f'(d_1) > 1$  the difference is substantial

for  $f(d_1)/f'(d_1) < 1$  the difference is small

A reasonably approximate value of  $d_1$  is given by

$$d_1 = d/2(h_2/h_1)^{1/2}$$

For instance; for the above numerical example, with  $d = 60$  miles,  $h_2 = 2,000$  feet,  $h_1 = 100$  feet

$$d_1 = 60/2 \times 4.472 = 6.75$$

The actual value, as found above, was 6.886.

$$\text{Let } d_1 = w + d/2$$

then Eq. 8 will have the form

$$-w^3 - tw - q = 0$$

where

$$t = (d^2/4 + h_1 + h_2)$$

and

$$q = (h_2 - h_1)d/2$$

where  $d$  is expressed in miles and  $h$  in feet. Figure 2 will give the value of  $w$  for any given values of  $t$  and  $q$ . To keep the values of  $q$  and  $t$  within the limits of the nomogram a reducing scale  $s = 20$  was used. With this scale, the relationships shown on Fig. 2 hold true.

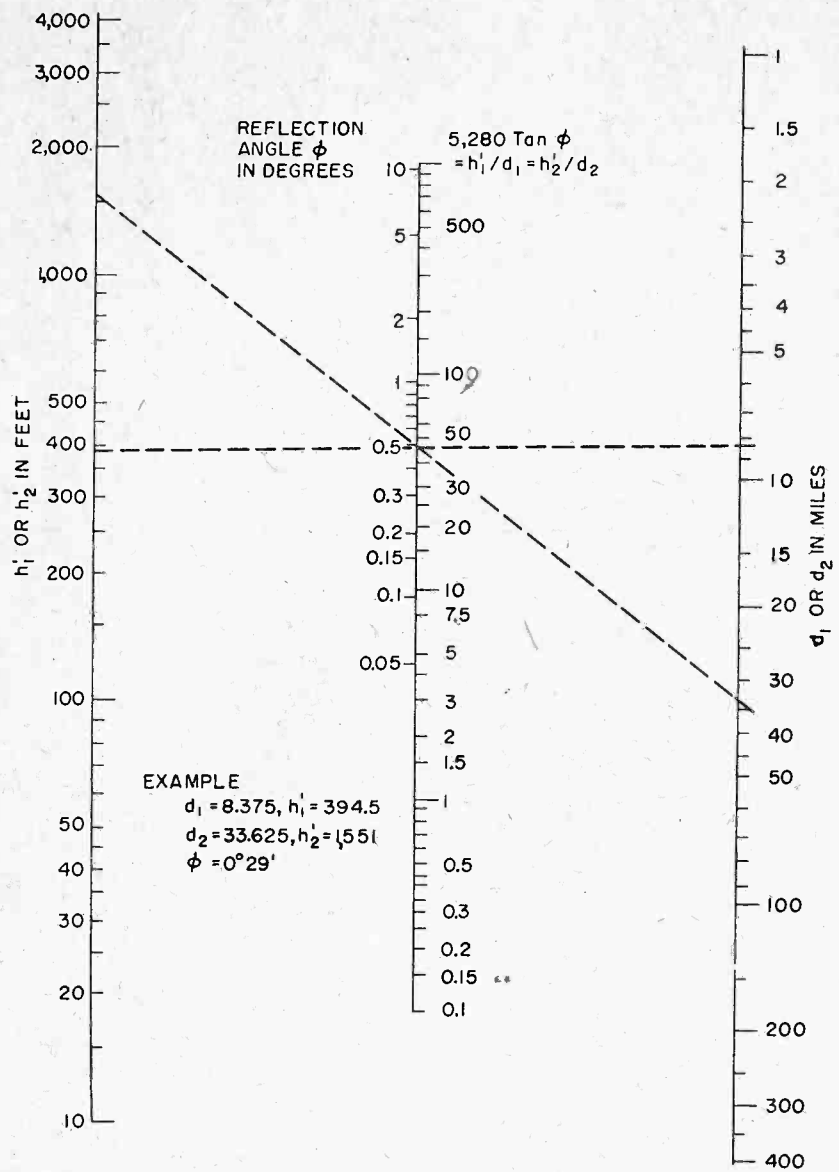


FIG. 3—Chart shows tangent value for four-thirds earth and reflection angle

$$t' = (d^2/4 + h_1 + h_2)s^2$$

$$q' = (h_2 - h_1)s^2d/2$$

and

$$w' = sw$$

For the numerical example,  $d = 60$  miles,  $h_1 = 100$  feet and  $h_2 = 2,000$  feet,

$$t = 3,000, \quad t' = 7.5$$

$$q = 57,000, \quad q' = 7.12$$

$$w = -1.16, \quad w' = -23.2$$

and

$$d_1 = -23.2 + 30 = 6.8$$

For any  $K$  value, other than  $K = 4/3$ ,

$$t' = (d^2/4 + 0.75Kh_1 + 0.75Kh_2)s^2$$

and

$$q' = (h_2 - h_1)0.75Kds^2$$

where  $d$  and  $h$  are expressed in miles and feet respectively.

Having determined the value of  $d_1$  from Fig. 2, the value of  $d_2$  can then be deduced from  $d_2 = d - d_1$  and  $h_1'$  and  $h_2'$  from the relations given by Eq. 3 and 4 respectively.

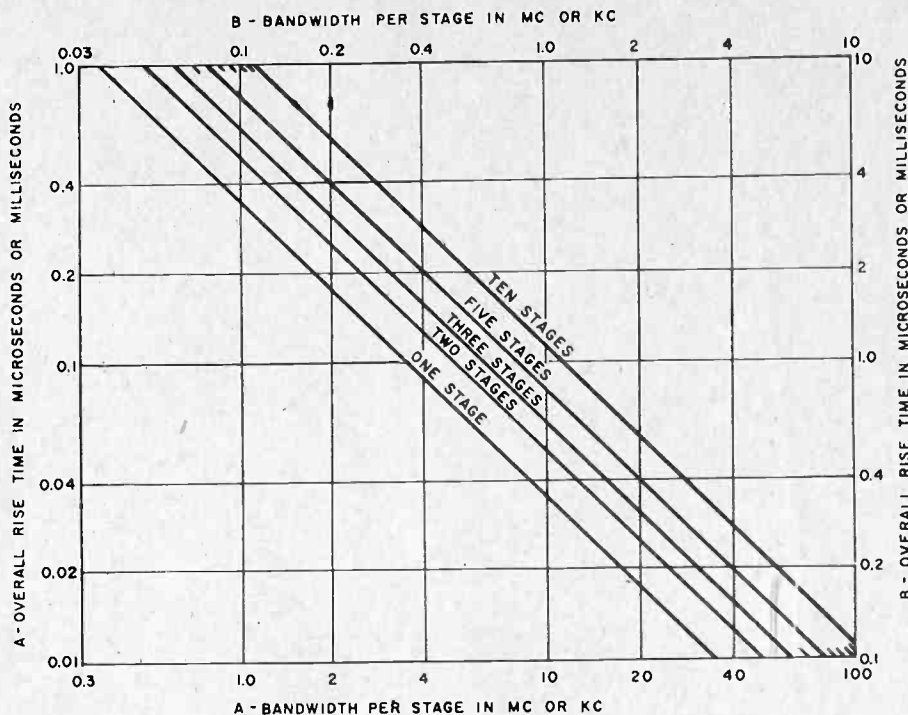
Given  $d_1$  and  $h_1'$  and  $d_2$  and  $h_2'$ , the angle of reflection corresponding to

$$h_1'/d_1 = h_2'/d_2$$

can then be obtained from Fig. 3 as illustrated by the example given.

# BANDWIDTH-RISE TIME CHART

By M. DAVID PRINCE



**SUMMARY** — Straight-line chart relates bandwidth and rise time over wide frequency range for 2 to 10 pulse-amplifier stages in cascade. Overall rise time of amplifier can also be determined

**T**HE CHART presented here solves graphically two equations often used in pulse-amplifier design. The first applies to a single stage with less than 5-percent overshoot and relates the rise time to the bandwidth by the approximate empirical formula: (Rise Time)  $\times$  (Bandwidth) = 0.35.

This equation also applies to an amplifier containing more than one stage, in which case the rise time and the bandwidth both apply for the overall amplifier.

The second equation relates the rise time of an amplifier consisting of a number of identical stages in cascade with the rise time of each stage. This relation, which applies if the overshoot of each stage is less than 3 percent, is  
Overall rise time = (Rise time per stage)  $\times \sqrt{\text{Number of stages}}$ .

Care must be taken to use the A scales together or the B scales together, and to use microseconds and magacycles together or milliseconds and kilocycles together, as noted on the graph.

### Examples

Three examples illustrate several applications of the chart.

(1) The bandwidth of a single stage is 4 mc. What is the rise time of five identical stages connected in cascade?

Enter chart at 4-mc bandwidth per stage. Go up to five-stages line, then over to rise time in microseconds and read 0.2 microsecond.

(2) The rise time of one stage is 10 microseconds. What is the rise time of ten stages in cascade.

Enter chart with rise time at 0.01 milliseconds. Intersection with one-stage line gives an

equivalent bandwidth for a single stage of 35 kc. Move along 35-kc line to ten-stages line. Read on A-scale at 0.032 millisecond or 32 microseconds the rise time of ten stages in cascade.

(3) An overall effective bandwidth of 3.5 mc is required in a system. How many cascaded isolation amplifiers of 6-mc bandwidth can be used?

Enter the bandwidth scale at 3.5 mc and read up to the one-stage line. On the rise-time scale, the 3.5-mc overall bandwidth corresponds to a 0.1-microsecond overall rise time. Now, read over on the 0.1-microsecond rise-time line to the intersection with the 6-mc bandwidth line. This point of intersection indicates that three amplifiers can be connected in cascade without degrading the bandwidth beyond 3.5 mc.

# PROOF OF PERFORMANCE

**SUMMARY**—Steps required to check tv transmitters for station license or renewal under FCC proof-of-performance regulations are outlined. Frequency spectrum, field strength, visual and aural harmonics, frequency response and noise test procedures are given along with results obtained by one station. Other sources of FCC information are also given

By **JESSE R. SEXTON**

**N**EW TV STATIONS filing for a station license after Oct. 1, 1954, as well as all stations filing for renewal of license after that date, must comply with new FCC proof-of-performance regulations.

### Letter of Information

The commission's letter of information relating to these regulations contains six parts.

The first three, deal with the performance requirements for color of section 3.687.

It is assumed that the station does not transmit color programs in color, and that its transmitter has been modified to suppress the frequencies indicated in the letter,

either by the manufacturer or by installing a kit supplied by the manufacturer. All manufacturers, without exception, make this modification kit available to their customers hence complying with this portion of the requirements is relatively simple.

Part 4 of the letter deals with stations transmitting color programs in color and is not concerned with proof-of-performance tests for stations transmitting monochrome signals.

Part 5 requires data showing overall attenuation versus modulating frequency of demodulated signal for modulating frequencies from 0 to 4.75 mc.

Further information says the amplitude of the 0.2-mc sideband must be used as a reference point for comparison.

### Test Procedure

The equipment is set up as shown in Fig. 1. The test is made with the demodulator probe placed in the coaxial line to the antenna after the harmonic filter and with the transmitter operating into a dummy load. The demodulator is placed on crystal output.

To determine the various levels of the modulating frequencies the screen of a Tektronix oscilloscope must be calibrated in db. This is done by introducing a video voltage with a bandwidth of 0-5 mc from a Markasweep generator into the transmitter video input.

The transmitter is then fully modulated and the amplitude of the signal on the oscilloscope adjusted to a convenient level.

The signal generator is set at 0.2 mc and the marker pip located. The pip will be close to the carrier frequency and near the point of maximum amplitude of the oscilloscope waveform. This point is designated 0 db and a mark is placed on the screen. The sweep generator attenuators are adjusted to add 10 db to the circuit. The

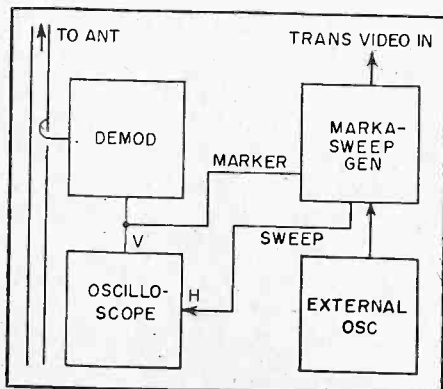


FIG. 1—Setup to obtain attenuation against frequency curves and to measure upper and lower sideband field strength

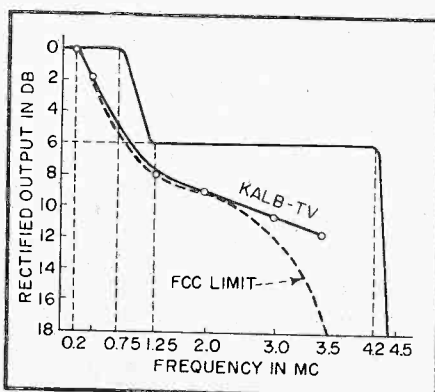
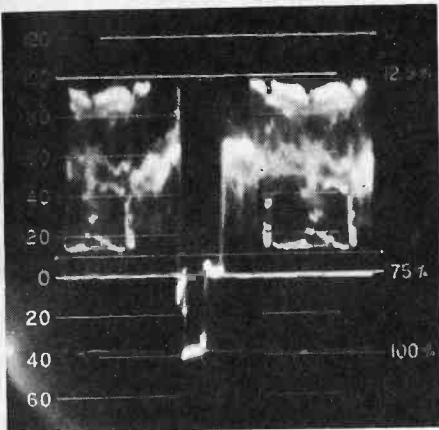


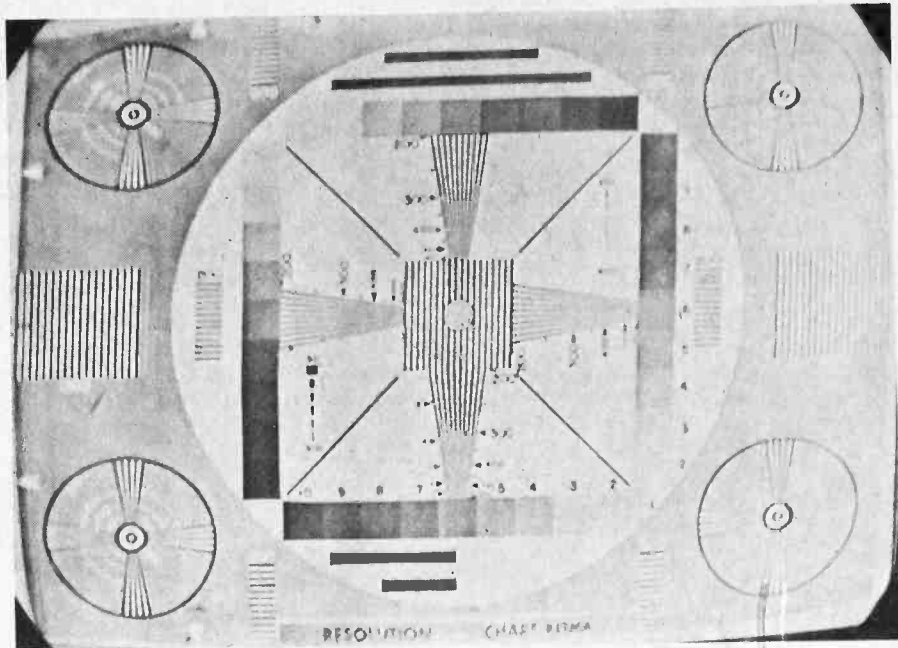
FIG. 2—Curve obtained using setup of Fig. 1 to determine attenuation against frequency for the upper sideband

# OR TV BROADCASTING



Waveform exhibit taken from face of calibration monitor

Test pattern exhibit taken from the screen



level on the scope will drop and the new level is marked—10 db. Additional steps of attenuation are introduced and each new level is marked with the appropriate db reading until the signal is completely attenuated.

The amplitude of the 0.2-mc pip is designated 0 db. Additional frequencies of 0.5, 1.25, 2.00, 3.00 and 3.5 mc are fed into the sweep generator from the signal generator.

### Curves

The db levels of the various frequencies are located along the sloping shoulder of the upper sideband and plotted on a curve as seen in Fig. 2.

None of the points should drop below the FCC limit indicated on the curve, for the rules say: "The overall attenuation characteristics of the transmitter, measured in the

antenna transmission line after the vestigial sideband filter (if used), shall not be greater than the following amounts below the ideal demodulated curve: 2 db at 0.5 mc, 2 db at 1.25 mc, 3 db at 2.0 mc, 6 db at 3.0 mc and 12 db at 3.5 mc." Should any of these values fall below the limit, it will be necessary to improve the overall linearity of the transmitter.

### Field Strength

The second paragraph of Part 5 says: "Field strength or voltage of lower sideband for modulating frequencies of 200 kc to 5 mc and of the upper sideband for modulating frequencies of 200 kc to 8 mc."

Further, information from section 3.687i not included in the above says: "All emissions removed in frequency in excess of 3 mc above or below the respective chan-

nel edge shall be attenuated no less than 60 db below the visual transmitted power (or not less than 48 db below the 0.2-mc reference point.)"

In addition, according to section 3.687 (a) (2), the respective channel edges at 1.25 mc for the lower sideband and 4.75 mc for the upper sideband must be attenuated no less than 20 db.

To measure the field strength of the upper sideband, the equipment is set up as shown in Fig. 1. Since levels must be measured 3 db above and below the respective channel edges, a video voltage 0 to 10-mc wide is used to modulate the transmitter.

### Sideband

The 0.2-mc sideband is located by introducing a 0.2-mc signal from the signal generator, and is designated 0 db. Additional frequencies from the external oscillator are then fed into the sweep generator and their levels recorded, according to the actual measurements shown in Table I.

The transmitter is swept with a 20-mc-wide video voltage to be sure there is nothing beyond the 10-mc range. In this case there was no measurable signal beyond the 9.0-mc point. The various levels are

## AND AS TO COLOR . . .

The information in this article shows how the holder of a monochrome tv broadcast station temporary authorization can obtain a full-fledged station license. Under present rules, no further proof-of-performance is required if station later decides to broadcast color.

It will be necessary, however, to adjust the transmitting equipment for color in conformance with FCC regulations. The tests to insure proper color performance have been described earlier in issues of ELECTRONICS.



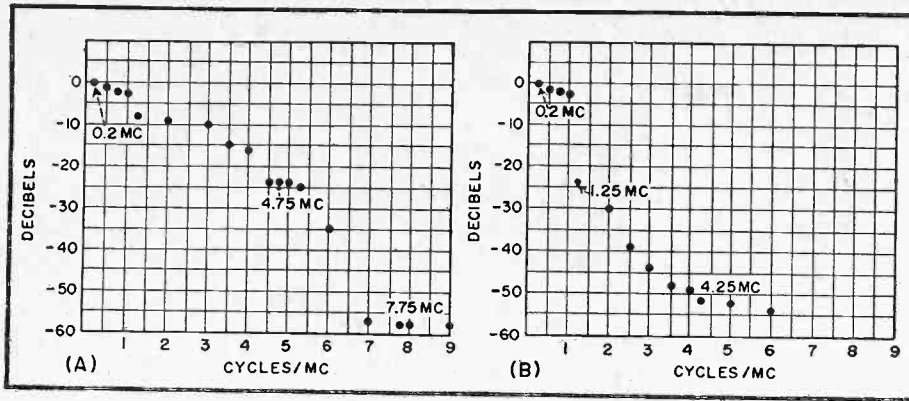


FIG. 3—Curves show upper (A) and lower (B) sideband field strength

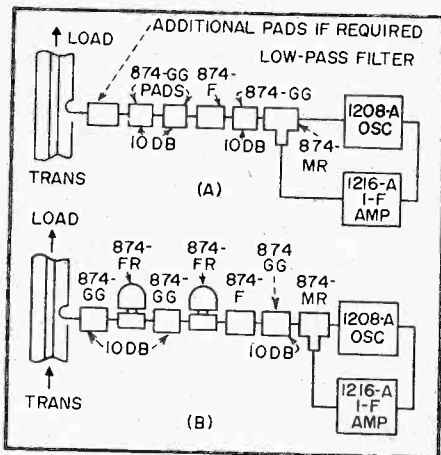


FIG. 4—Setup required to measure carrier fundamental (A) and harmonics (B)

then plotted on a curve, db levels versus frequency as shown in Fig. 3A.

The same procedure is used to measure the lower sideband. The results are shown in Fig. 3B. Since tv transmitters are single sideband, the lower sideband should fall off sharply between 0.75 and 1.25 mc.

**Harmonics**

The equipment needed to measure both visual and aural r-f harmonics includes the following General Ra-

dio types or their equivalents: oscillator 1215-B (50-250 mc), for Channels 2-6; oscillator 1209-B; 874-F low-pass filters; 874-GG loss pads; 1216-A i-f amplifier; 874-MR coaxial element; and 874-FR rejection filters.

Different model numbers of this equipment are necessary for Channels 7-13 and for the uhf channels.

The equipment is set up as shown in Fig. 4. The level of the fundamental carrier is first measured and entered in the appropriate column in the data sheet, a sample of which is shown in Table II. The levels of the various harmonics from the second through the tenth are then taken and entered. Occasionally trouble may be encountered in differentiating between the true harmonic and responses generated in the measuring equipment, especially as the higher frequencies are reached. Questions of this nature can generally be resolved by disconnecting the equipment from the transmission line and noting whether the response disappears or remains.

The actual frequencies of each

Table I—External Oscillator Frequencies

Mc	Db Level
0.2	0
0.5	-1
0.75	-2
1.0	-2.5
1.25	-8
2.0	-9
3.0	-10
3.5	-15
4.0	-16
4.5	-25
4.75	-25
5.0	-25
5.3	-26
6.0	-35
7.0	-57
8.0	-58

harmonic are given on the data sheet for each channel. The corrective factors for each harmonic, as shown on the data sheet, are used to arrive at the true db levels. The level of the fundamental carrier is then assumed to equal 0 db and is plotted along with the levels of the harmonics below the fundamental level as computed from the data sheet. Figure 5 shows plots for both aural and visual carriers.

When the measurements are taken, the transmitter should be at full power output and operating into a dummy load. Also, the measurements must be made with the probe placed in the transmission line after the harmonic filters. Each harmonic must be a minimum of 60 db below the level of the fundamental to comply with the requirements.

**Photographs**

Further requirements concerning the visual section of the transmitter include taking photographs of a waveform and test pattern. The photograph submitted as a waveform exhibit was taken from the face of the calibration monitor waveform oscilloscope being driven from the demodulator and was that of a standard test pattern. In this exhibit it is necessary that the setup interval be shown plainly to be within 2½ percent of the value of 7½ percent set by the commission.

The photograph of the test pattern was taken from the screen of the calibration monitor. It is permissible to use an ordinary home

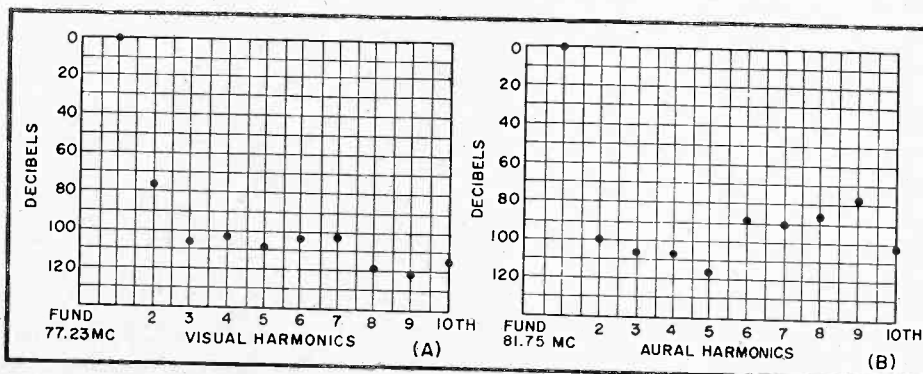


FIG. 5—Plots show level of specific visual harmonics (A) and aural harmonics (B)

receiver if the picture shows adequate detail. Requirements are that it show at least 350 lines of resolution and 5 shades of gray.

### Aural Tests

For the frequency-response curve, the system must be measured from the studio microphone input to the transmitter output over a band of 50 to 15,000 cps, excluding any limiting amplifiers but including preemphasis. Each point must fall between the limits shown in Fig. 6 and Appendix 3, Fig. 8, Part 3 Rules and Regulations.

To make this test, the equipment is set up as shown in Fig. 7. A loss

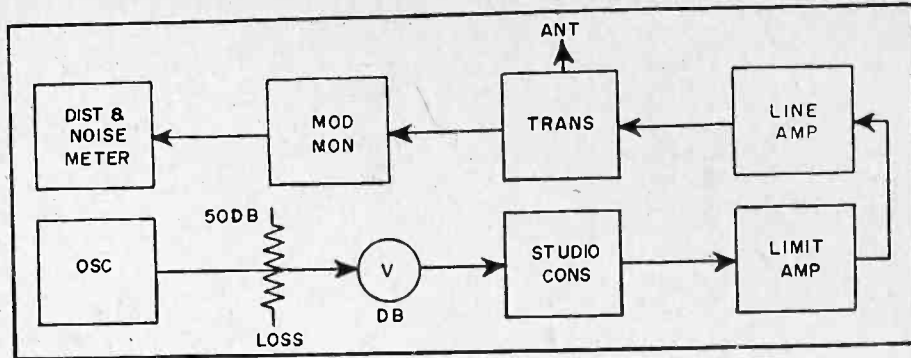


Fig. 7—Setup required to make aural measurements

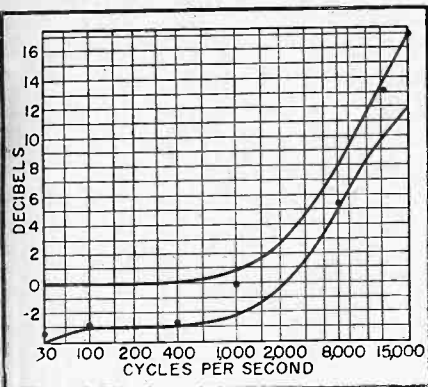


FIG. 6—Limits for frequency response are shown as standard preemphasis curve at top and FCC limit at bottom with specific points obtained between

pad is introduced between the oscillator and microphone input to lower the output of the oscillator approximately 50 db, depending on the type microphone and preamplifier used. The pad should match the impedance of the microphone preamplifier input and the output of the oscillator. It should be made of noninductive resistors and the capacitance between resistors and between input and output leads should be kept as low as possible since small capacitances at higher audio frequencies can result in incorrect readings.

The db meter should be large and have a scale showing at least  $-18$  to  $+4$  db. Since preemphasis is employed and, to comply with the regulations, the transmitter must

be kept at 100 per cent modulation for each reading, it is necessary that the input values not output values be read and plotted. If the input level were maintained at a constant value for each frequency, as is generally done in making amplitude-modulation tests, the output level, instead of remaining at 100-percent modulation, would vary over a wide range owing to the preemphasis.

### Frequency Response

A signal of 50 cps is introduced into the microphone input from the oscillator. All gains are set at normal, and any program limiters or compressing devices are removed from the circuit. The oscillator level is adjusted so that the trans-

Table II—Sample Harmonic Measurement Date Sheet

Harmonic	Freq	Set LO	Nearest Spurious Resp-mc	Level A <sub>s</sub> + A <sub>m</sub> db	Pads Removed db	Corr for Coupling Loup-db	Corr for Filter db	Level A <sub>θ</sub> (A + Corr) db	Harmonic Level A <sub>θ</sub> (Fund) A <sub>θ</sub> (Harm)
Fund Filt Out	77.25	107.25		70+8.4		0	0	78.4	
Fund Filt In	"	"	-6.4, +17.25	3+5.3		0	0	8.3	
2nd	154.5	184.5	+17.25	6.0		-6	+2	+ 2.0	76.4
3rd	231.75	261.75*	-6.4, +17.25	2.7	-20db	- 9	0	-26.3	104.7
4th	309.0	339.0	+17.25	4.6	-20db	-12	+3.5	-23.9	102.3
5th	386.25	416.25	+17.25	3.0	-20db	-14	+1.5	-29.5	107.9
6th	463.5	493.5	+17.25	3+7.6	-20bd	-15.6	0	-25.0	103.4
7th	540.75	570.75*	-6.4, +17.25	3+7.5	-20db	-16.9	+2.5	-23.9	102.3
8th	618.0	648.0*	-6.4, +17.25	4.4	-30db	-18.1	+3.5	-40.2	118.6
9th	695.25	725.25	+17.25	3.9	-30db	-19.1	+3.0	-42.2	120.6
10th	772.5	802.5	+17.25	3+9.2	-30db	-20	+1.5	-36.7	115.1

\*A small spurious response may be found 6.4 mc below the true local oscillator frequency. Set the local oscillator to the higher of the two close responses.

# Proof of Performance (Continued)

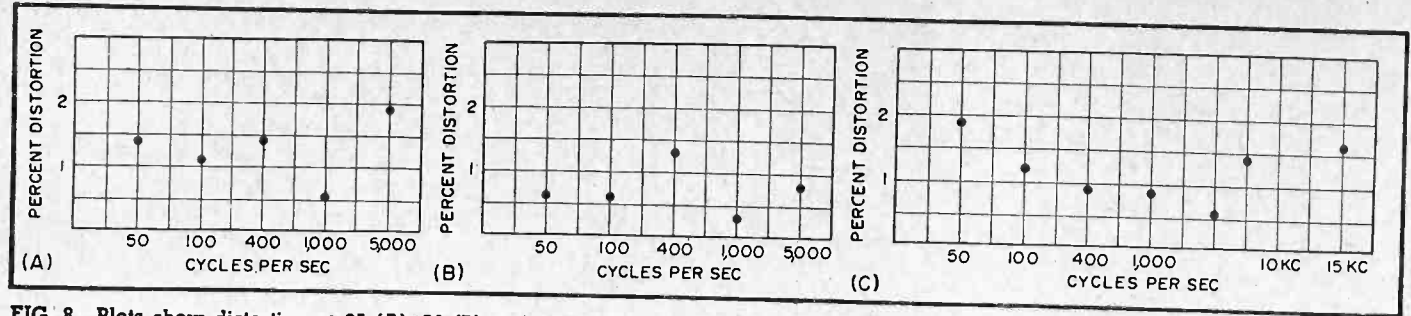


FIG. 8—Plots show distortion at 25 (A), 50 (B) and 100-percent modulation (C) as measured at 100-percent modulation

mitter modulation monitor reads exactly 100 percent.

The signal input meter reading will fall between 0 and +4 db. This value is carefully read and recorded. Without changing gain control settings other than oscillator level, frequencies of 100, 400, 1,000, 5,000 and 15,000 cps are fed into the system and the level read on the input meter for each frequency. At each frequency the transmitter should be returned to 100-percent modulation.

At 15,000 cps, the input level reading will have dropped off to -16 to -20 db for 100-percent modulation. Since the various input signal levels were read rather than output, the data represents an image of the output. A true curve is obtained by changing the polarity sign of each reading. The frequency response curve thus obtained and must fall between the upper and lower limits of the FCC curve.

There is nothing to prevent shifting the entire curve up or down if doing so will fit it between the limits. For example, if the 50-cps reading is +1 db and the 15,000-cps level falls outside the upper limit at +18 db, the entire curve may be moved downward 1½ db thereby bringing the 15,000-cps

reading well within the upper limit while still keeping the 50-cps reading within the lower limit. If the curve will not fit between the limits of the standard curve, then the frequency response of the system is not satisfactory and must be improved.

### Distortion

Distortion must be measured at 100-percent modulation for a frequency band of 50 to 15,000 cps and at 50-percent and 25-percent modulation for a frequency band of 50 to 5000 cps. The distortion levels must not rise above the following values: 50 to 100 cps 3.5 percent; 100 to 7,500 cps 2.5 percent and 7,500 to 15,000 cps 3.0 percent.

The test set up is shown in Fig. 7. A signal of 50 cps from the oscillator is fed into the microphone input. With all gains set at normal, the oscillator input level is adjusted for a 100-percent reading on the modulation monitor. The amount of distortion is read from the distortion and noise meter and recorded. For 100-percent modulation this is repeated for frequencies of 100, 400, 1,000, 5,000, 7,500, 10,000, and 15,000 cycles per second. For 50 percent and 25 percent modulation, frequencies of 50, 100, 400, 1000, and 5,000 cycles are used. The results are shown in Fig. 8.

### Noise

In a frequency modulated transmitter, there are two inherent types of noise—that which modulates the carrier frequency and that which modulates the carrier amplitude. Both must be measured. The f-m noise level, in the band of 50 to 15,000 cps, must be at least -55 db below 100-percent modulation. The amplitude noise level

must be down -50 db below 100 percent modulation. Measuring the f-m noise level is relatively simple. The a-m noise level presents considerably more of a problem.

To measure the f-m noise level the video transmitter is shut down, since as yet the commission has not taken into consideration noise that might be introduced into the aural section from the visual portion. The oscillator output is introduced into the microphone input through the loss pad. With all gains set at normal and no limiting nor compression used, a frequency of 400 cycles is fed into the system and the modulation brought to 100 percent by the oscillator gain control. The oscillator signal is removed and the noise level read directly from the distortion and noise meter. This is repeated for a signal of 1,000 cps.

At present there is no equipment on the market to measure the a-m noise level of an f-m transmitter. Figure 9 shows a schematic of the method recommended by RCA for their f-m transmitters. An r-f voltage from the transmitter is introduced at the circuit input.

The amplitude of the rectified r-f is adjusted by the potentiometer until a reading of approximately 4 v is obtained on the voltmeter, with the switch in the r-f position. The switch is then placed in the a-c position, and the a-c amplitude adjusted until it is exactly the same as the rectified r-f reading on the voltmeter. The noise and distortion meter is then calibrated to 0 db. The switch is then thrown back to the r-f position, and the a-m noise level read from the distortion and noise meter.

The author acknowledges the assistance of E. Miller, E. Love, and R. Richardson.

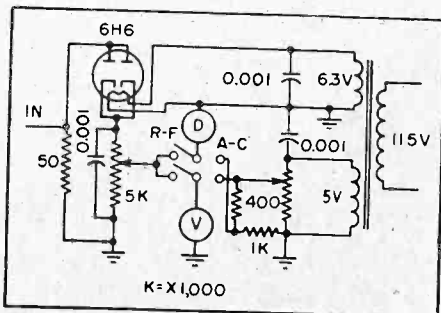


FIG. 9—Recommended method for measuring a-m noise on f-m carriers

# HORSEPOWER NOMOGRAPH FOR RADAR ANTENNA ROTATORS

**SUMMARY**—Chart assists designers in making rapid preliminary calculations of the horsepower necessary to rotate shipboard radar-antenna reflectors which are not enclosed by radomes. Chart is applicable to elliptical as well as rectangular reflectors

By PAUL W. PEAY

**K**NOWING THE DIMENSIONS and desired speed of rotation of a radar antenna, this chart permits a rapid determination of the horsepower required to power the drive mechanism.

The total torque necessary to rotate the antenna was calculated from  $T = \sqrt{T_D^2 + T_U^2} + T_M$ , where  $T_D$  is torque for a balanced antenna in moving air,  $T_U$  is torque for an aerodynamically unbalanced antenna rotating in moving air and  $T_M$  is torque for a mechanically unbalanced antenna due to roll of a ship. In utilizing these torques, the following assumptions were made: wind velocity = 80 mph; aerodynamic unbalance factor = 0.25 ft; streamline or drag coefficient = 1.0; center of gravity displacement = 1 ft; antenna height above ship's roll center = 100 ft; period of ship's roll = 5 sec; ship's roll = 30 deg.

The horsepower was then found from the relationship  $hp = (\text{torque} \times \text{rotational speed}) / 5,250$ .

### Examples

(1) Find the hp per ft of antenna height to drive a 20-ft wide by 12-ft high antenna revolving at 10 rpm.

Draw a vertical line from 20

on the reflector width scale to intersect the 10-rpm curve; from this draw a horizontal line to the hp/ft scale where the answer is 1.05. Multiplying this by 12 gives 12.6 as total horsepower.

(2) Find the total horsepower to drive a 28-ft wide by 15-ft high antenna revolving at 16 rpm. From 28 on the width scale, draw a vertical line to the

16-rpm curve. From this intersection draw a horizontal line to the base line, from there to 15 ft on the height scale. Horsepower is read as 60 from the total horsepower scale.

Horsepower values shown on this chart are for rectangular antennas; for elliptical antennas, use 59 percent of the rectangular antenna horsepower.

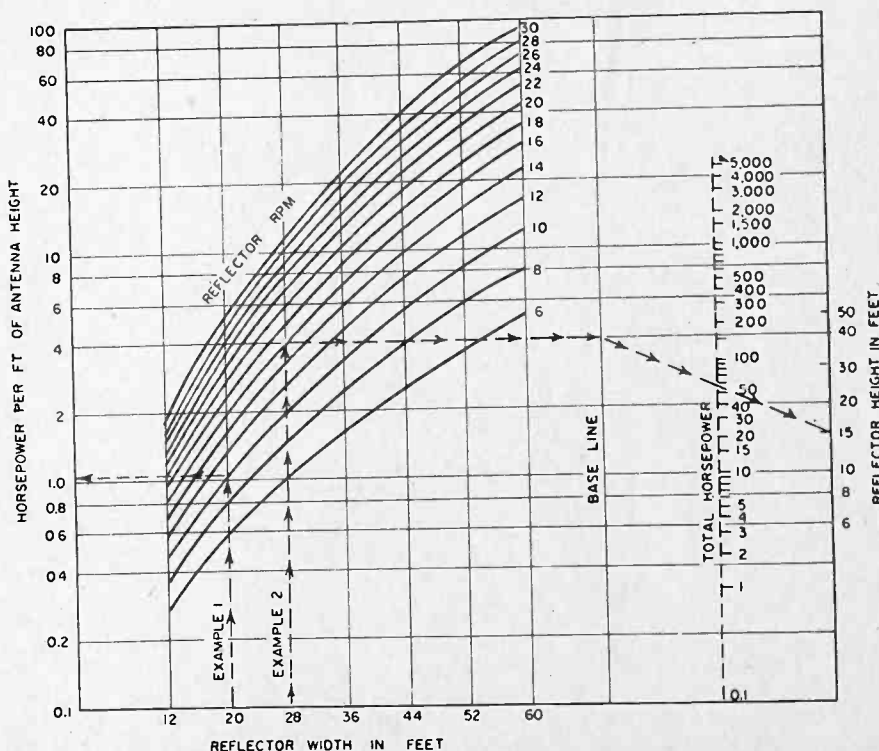
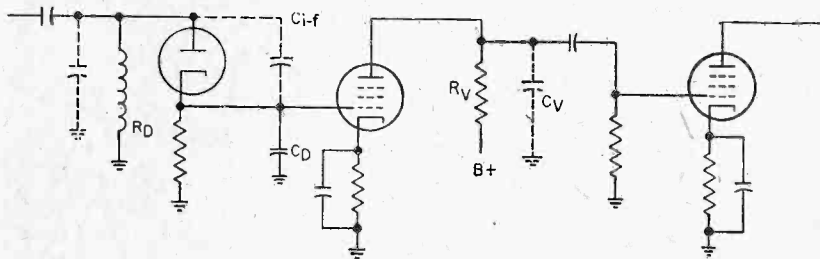


Chart gives horsepower in terms of radar antenna size and rotational speed

# RADAR SECOND DETECTOR FILTER NOMOGRAPH

**S**UMMARY — Gives optimum circuit constants for second detector and video circuits of radar receiver when i-f value, upper video cutoff frequency, tube and socket capacitances are known



Radar receiver circuit, showing constants covered by nomograph

**O**NE DETAIL which tends to receive little emphasis in radar receiver design is optimization of the filter constants of the second detector. The recurrent problem of compromising between adequately bypassing the i-f components of the signal and retaining the high-frequency components of the video signal is solved easily by the accompanying nomograph.

## Nomograph Scales

The basic nomograph consists of the scales  $f_{i-f}$  (intermediate frequency),  $f_D$  (detector filter frequency) and  $f_V$  (upper video 3-db cutoff frequency). The equation governing the relationship,  $f_D = \sqrt{f_{i-f} f_V}$ , determines the optimum detector filter frequency to be the geometric mean of the intermediate frequency or the lower 3-db frequency of

By CHESTER W. YOUNG

the i-f pass band and the upper video cutoff frequency.

Additional scales  $C_V$  and  $R_V$  give video circuit constants. Since good detector efficiency is based upon a good  $C_D/C_{i-f}$  ratio, this scale is added to the right of the nomograph.

## Example

As an example, determine the constants of the detector and video circuits when the i-f is 50 mc, the upper cutoff  $f_V$  is 1 mc for the video, the detector diode-socket capacitance  $C_{i-f}$  is  $2 \mu\mu\text{f}$  and the video tube and socket capacitances  $C_V$  total  $30 \mu\mu\text{f}$ .

Starting at the 50-mc point on the left-hand scale ( $f_{i-f}$ ), draw a straight line to the 1-mc point on the middle scale ( $f_V$ ) and read 7 mc on the  $f_D$  scale (A).

Selecting a  $C_D/C_{i-f}$  ratio of 10 on the scale at the extreme right, connect this value with the  $2\text{-}\mu\mu\text{f}$  value on the  $C_{i-f}$  scale and read the value  $20 \mu\mu\text{f}$  on the  $C_D$  scale (B). By extending a line joining the 7-mc point on the  $f_D$  scale and the  $20\text{-}\mu\mu\text{f}$  point on the  $C_D$  scale to the right, the value 1,100 ohms is obtained for  $R_D$  (C).

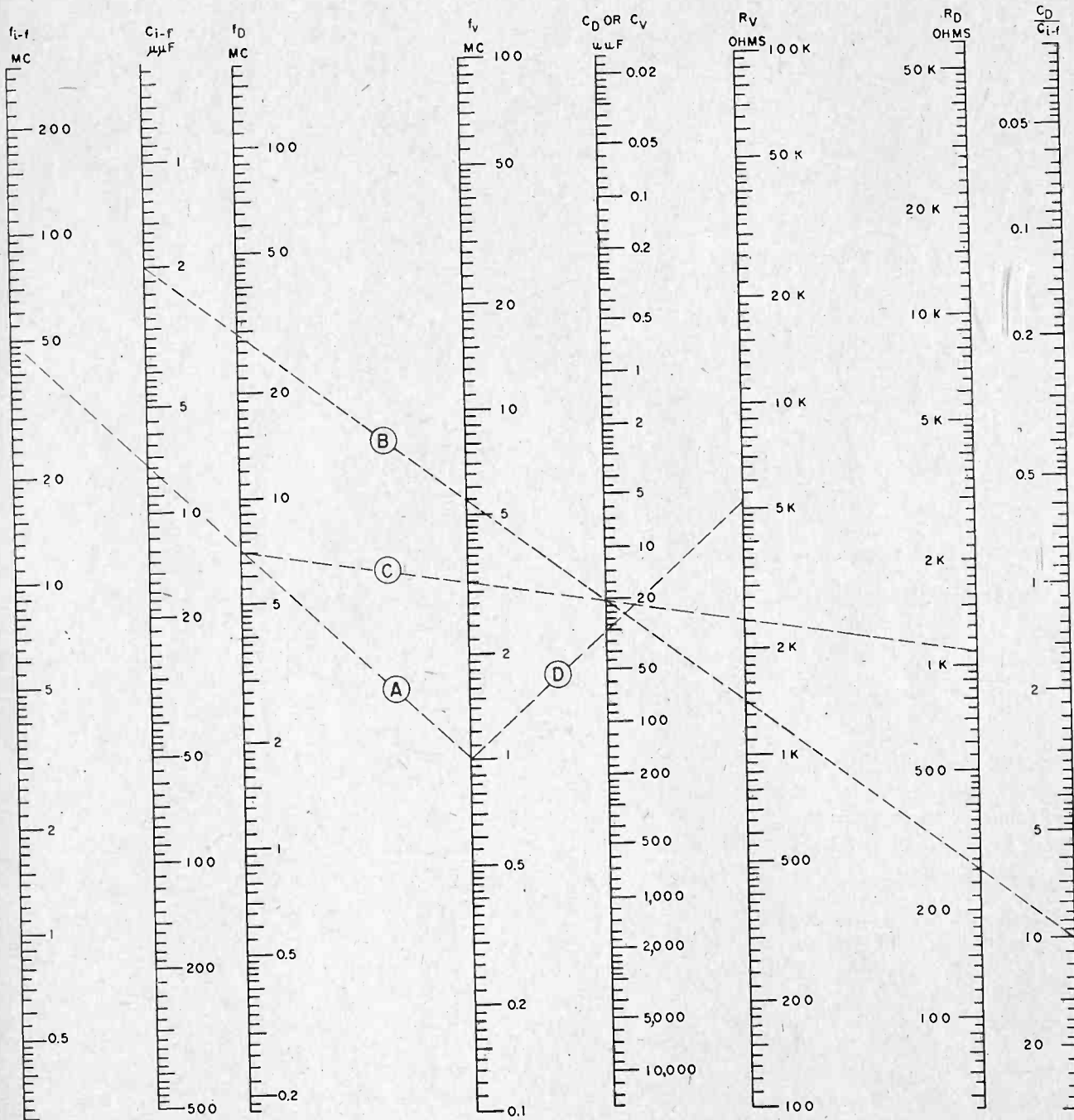
If no peaking compensation is used in the video circuit, the value of  $R_V$  can be determined to be 5,300 ohms by joining the 1-mc point on the  $f_V$  scale with the  $30\text{-}\mu\mu\text{f}$  point on the  $C_V$  scale and extending it to the right to the  $R_V$  scale (D).

The rectified voltage developed at the output of a diode detector

is a function of the voltage distribution between capacitances  $C_D$  and  $C_{i-f}$ . The ratio of these two values was chosen to be 10 in the foregoing example so that most of the signal voltage (actually 10/11) is impressed across  $C_D$  for transfer to the next stage of the receiver.

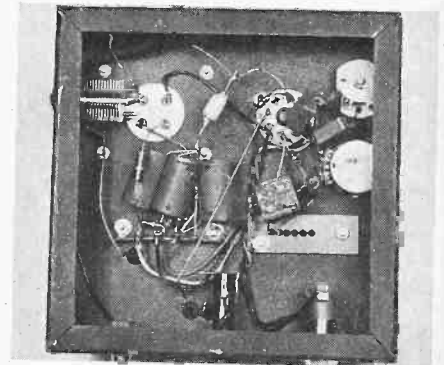
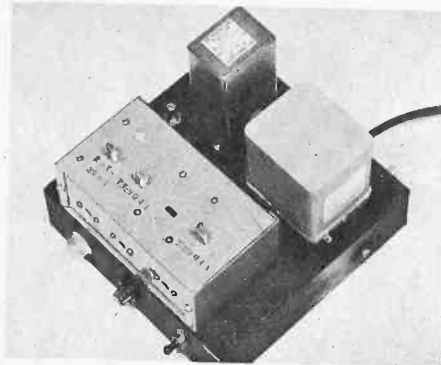
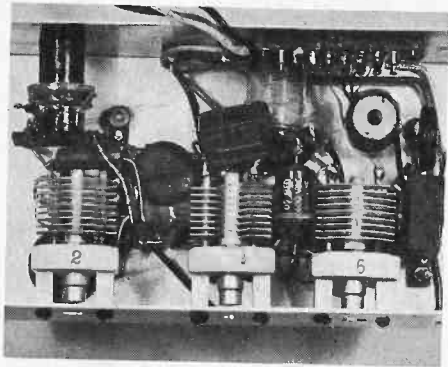
From the aspect of pulse envelope rise and fall time, the diode resistance should be low compared to the diode load resistance and the impedance of the i-f stage driving the detector. Specifically, it is recommended here also that the diode anode-cathode capacitance should be

considerably lower (by a factor of 10) than the input capacitance of the following stage. This ratio of 10 is an arbitrary compromise between the driving impedance and consequent pulse envelope degradation and the amount of i-f voltage that can be utilized as a signal.



Second detector filter nomograph. Lettered lines indicate four steps of design procedure. Line A gives detector filter frequency from i-f value and upper video cutoff frequency. Line B gives detector load capacitance value from detector capacitance ratio and detector tube capacitance. Line C gives detector load resistance value from detector filter frequency and detector load capacitance value. Line D gives first video amplifier plate load resistance from upper video cutoff frequency and video tube plate-cathode capacitance

# DESIGNING TRANSISTORIZED MEACHAM-BRIDGE OSCILLATORS



Underside of amplifier chassis and top and bottom views of complete junction-transistor oscillator

By SAMUEL N. WITT, JR.

**SUMMARY**—Circuits have been designed using both point-contact and junction transistors. Operating at one megacycle, oscillators provide good long and short-time frequency stability. They are stable with respect to temperature and supply-voltage changes

**D**EVELOPED to provide exceptional stability, the transistor Meacham-bridge oscillator provides a reliable standard for measuring the performance of other transistor oscillators.

### Electron-Tube Oscillator

The Meacham oscillator<sup>1</sup> consists of a bridge circuit and an amplifier. Most analyses assume that the amplifier is characterized by relatively constant gain and phase shift, zero initial phase shift and high amplifier input impedance. Maximum amplitude and frequency stabilities are obtained when all of the arms of the bridge are equal.<sup>2</sup>

Frequency instability is given by

$$\Delta f/f_0 \approx 2 \Delta \theta / (KQ) \quad (1)$$

where  $Q$  is the quality factor of the resonant circuit,  $K$  is the magnitude of the amplifier voltage gain with

the bridge connected and  $\Delta \theta$  is the incremental phase shift of the amplifier.

The stability is directly proportional to the amplifier voltage gain and is  $K/4$  greater than would be calculated on the basis of the  $Q$  of a resonant circuit without the bridge.<sup>3</sup>

When a transistor amplifier is used, power gain becomes important since the input impedance of most transistor amplifiers is low.

For all bridge impedances approximately equal to the input and output impedances of the amplifier, frequency instability is given by<sup>1</sup>

$$\Delta f/f_0 \approx 8 \Delta \theta / [Q(|\mu| + 8)] \quad (2)$$

where  $\mu$  is the open-circuit gain of the amplifier.

In terms of amplifier voltage gain with the bridge connected, Eq. 2 becomes

$$\Delta f/f_0 \approx 4 \Delta \theta / [Q(K + 4)] \quad (3)$$

which shows that the stability is approximately one-half as great as obtained with infinite amplifier input impedance.

The frequency variation as a function of gain is

$$\Delta f/f_0|_K \approx -4 \theta \Delta K / [Q(K + 4)^2] \quad (4)$$

where  $\theta$  is the phase shift of the amplifier and  $\Delta K$  is the magnitude of the incremental change in amplifier gain.

Equation 4 shows that if the amplifier phase shift is zero, changes in gain will have no effect on frequency.

Equations 1 through 4 neglect the frequency-pulling effects of harmonic distortion. This is permissible with most electron-tube amplifiers since the amplitude is maintained relatively low. However, when transistors are used, harmonic

distortion may be of considerable importance.

### Point-Contact Transistor

It was desirable to design a transistor oscillator to have a short-time instability of less than 1 part in  $10^7$ . On the basis of Eq. 3 and 4 it was concluded that the minimum voltage gain should be 25. Frequency of operation was to be one megacycle. Available crystals had a series-resonant impedance of 100 ohms. An investigation of suitable thermistors with a resistance of 100 ohms indicated that at least 4 mw would be necessary to drive the bridge. The oscillator in Fig. 1 was designed using two Western Electric type 1729 transistors.

This amplifier was capable of supplying about 8 mw to the bridge with low distortion. The output impedance was adjusted to 100 ohms by selection of the transformer turns ratio for maximum power transfer to the bridge. The input impedance was approximately 100 ohms. With the bridge connected, the overall voltage gain of the amplifier was about 25.

Crystal  $CR_1$  is connected in series with the amplifier input to prevent uncontrolled oscillations. Crystals  $CR_1$  and  $CR_2$  must be series resonant at nearly the same frequency. The series crystal acts as a band-pass filter and has little control over the frequency of oscillation.

### Oscillator Performance

Relative band-pass characteristics for three portions of the circuit are shown in Fig. 2. The pass-

band of the amplifier was broad because of the low values of  $Q$  resulting from the circuit loading. The passband of the amplifier and crystal combination is determined primarily by the characteristics of the crystal. The effective loaded  $Q$  is approximately one-half of the measured crystal  $Q$ . Maximum voltage gain is reduced one-half by the equivalent series resistance of the crystal.

Although the two crystals have approximately the same  $Q$ , the passband of the bridge circuit is narrower than that of the amplifier because of the effective  $Q$  multiplication of the bridge.

The relative phase characteristics of the circuit are also shown in Fig. 2. The amplifier without the series crystal would oscillate uncontrollably through the negative-feedback path of the bridge while with the series crystal it will not.

The oscillator performed satisfactorily, but it was not suitable for continuous laboratory use because of the unpredictable nature of point-contact transistors and because of the circuit changes and adjustments necessary when the transistors were replaced.

To obtain maximum power gain when a transistor was replaced, it was usually necessary to change the transformer turns ratios. The effective amplifier gain with the series crystal was only 12.5, zero amplifier phase shift did not occur at the transformer tuning which produced maximum gain and an isolated output capable of supplying appreciable power was not provided. Nevertheless, the oscillator compared

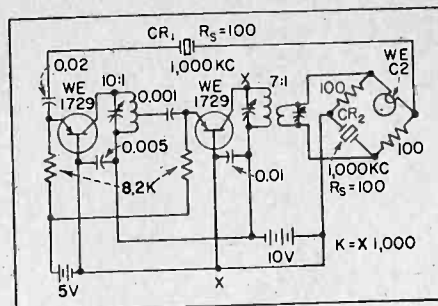


FIG. 1—Point-contact transistor oscillator using Meacham-bridge circuit

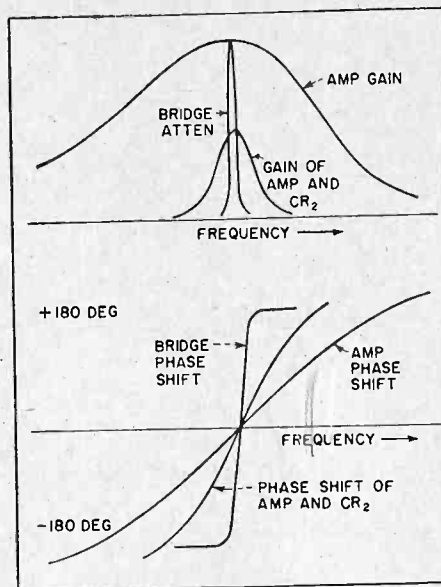


FIG. 2—Characteristics of point-contact transistor oscillator

favorably with an electron-tube oscillator' constructed for comparison. Table I shows the comparison of the two oscillators.

Short-time stability was not comparable, for either oscillator, to the voltage stability. The short-time instability was obtained as the maximum frequency change over a 4-hour period with the ambient temperature varying approximately 5 degrees centigrade. The same crystal was used for both oscillators.

### Junction-Transistor Oscillator

Of eight junction transistor types (more than 50 individual transistors), only the Germanium Products type RDX-300A was found suitable for the amplifier-output stage. The Texas Instruments type 904A silicon transistor was found suitable for the first amplifier stage.

The oscillator using junction transistors is shown in Fig. 3. The bridge amplifier is of conventional design using transformer coupling and includes a bias network to permit operation from a single power source. Measured input impedance

Table I—Comparison of Electron-Tube, Point-Contact and Junction-Transistor Oscillators

Item	Electron-Tube Osc	Point-Contact Transistor Osc	Junction Transistor Osc
Amplifying element	1-12BY7; 1-6S4	2-WE 1729	1-RDX-300A; 2-TI 904A
Frequency control	crystal in JK03 oven	crystal in JK03 oven	crystal in Lavoie oven
Frequency	1 mc	1 mc	1 mc
Output	3 v p-to-p to high impedance	3 v p-to-p to high impedance	5 v p-to-p to high impedance
Power supply	200 v d-c reg 6.3 v a-c	9 1.5-v batteries	15 to 20 v at 6 ma
Power required	16 w (less oven)	0.12 w (less oven)	100 mw (less oven)
Permissible voltage variation	±25 percent	±25 percent	±25 percent
Freq-voltage instability	2 parts in $10^9$ for 1 percent	2 parts in $10^9$ for 1 percent	3 parts in $10^9$ for 1 percent
Short-time instability (4 hr)	3 parts in $10^7$	4 parts in $10^7$	4 parts in $10^9$



# Meacham-Bridge Oscillator Design (Continued)

at 1 megacycle was greater than 100 ohms. Overall voltage gain with a 100-ohm load on the secondary of the output transformer was 50. The undistorted output to the bridge was 2 volts peak-to-peak or 5 milliwatts.

The bridge is not an equal-arm bridge. This was necessitated by the choice of the lamp thermistor. The Western Electric K1 switch-board lamp was chosen for its good nonlinear characteristics with minimum power consumption. One arm of the bridge was made variable so that crystals of different characteristics could be accommodated.

No attempt was made to compensate against temperature variations except for placing the crystal in a Lavoie type K00000005 oven. The series-resonant frequency of the CR-18 crystal was more than 100 cps below 1 megacycle. Therefore, it was necessary to raise the resonant frequency with a 30- $\mu$ f series capacitor. The capacitor was made variable from 28 to 32  $\mu$ f to permit precise adjustment.

Bypassing the RDX-300A second base had little effect on the gain or phase shift of the amplifier. When the second base was not bypassed, a signal voltage of 0.5 v peak-to-peak was observed at the second base terminal. Therefore, it was decided that this point could be used as an output since changes in loading would have little effect on the frequency of oscillation. The 904A output stage was added to provide additional isolation and greater out-

put than was available directly from the second base of the tetrode. With the transformer, the open-circuit output voltage from the power-output stage was 5 v peak-to-peak. The voltage dropped to 0.5 v with a 1,000-ohm resistive load. With 6 feet of unterminated coaxial cable, approximately 2 v was obtained.

Several decoupling capacitors, not shown in Fig. 3, were necessary to eliminate spurious oscillations.

## Construction

So-called miniature components were not used. All of the components were randomly chosen from a stock of standard tolerance components. The winding of the transformers was one of the major problems in the amplifier construction. The two transformers in the bridge amplifier were wound with tapped secondaries so the impedances could be matched to obtain maximum gain. The turns ratios shown are the ones which gave best results.

The two transformers of the bridge amplifier were placed at right angles to minimize coupling. The transformer of the power-output amplifier, at the upper left of the chassis, could not conveniently be placed at right angles to the other two transformers. As a result, some mutual coupling exists between the power-output stage and the bridge which accounts for a change in gain and phase shift of the bridge amplifier when the power-output stage is tuned. This has a slight effect on the frequency.

A regulated Transpac power supply is used with the equipment.

Table I shows that the voltage stability for this oscillator was slightly worse than that of the point-contact oscillator. The power required was less for the junction oscillator, which exclusive of the bias network and crystal oven required only 70 mw. The transistor oscillators and electron tube oscillator all operated satisfactorily over approximately the same range of voltage variations.

## Stability

Short-time stability of the junction-transistor oscillator was much better than that of either of the other two oscillators. This was in part due to the excellent temperature characteristics of the 904A silicon transistors. Use of a better crystal oven also resulted in some improvement over the other circuits. The same crystal was used with all of the oscillators.

When the junction-transistor oscillator was operated continuously for six weeks on a battery power supply, the total drift in frequency was only 1 part in  $10^7$ . This drift was caused primarily by crystal aging. The instability for periods of a few minutes was 1 part in  $10^8$ .

The transistorized Meacham bridge oscillator was developed as a part of a study by the Engineering Experiment Station of the Georgia Institute of Technology.<sup>5</sup> The program was sponsored by the Frequency Control Branch of the Signal Corps Engineering Laboratories, Fort Monmouth, New Jersey. The author expresses appreciation to B. J. Dasher and D. L. Finn of the Georgia Tech School of Electrical Engineering for their help in the preparation of this paper.

This paper was presented at the 1955 National Electronics Conference.

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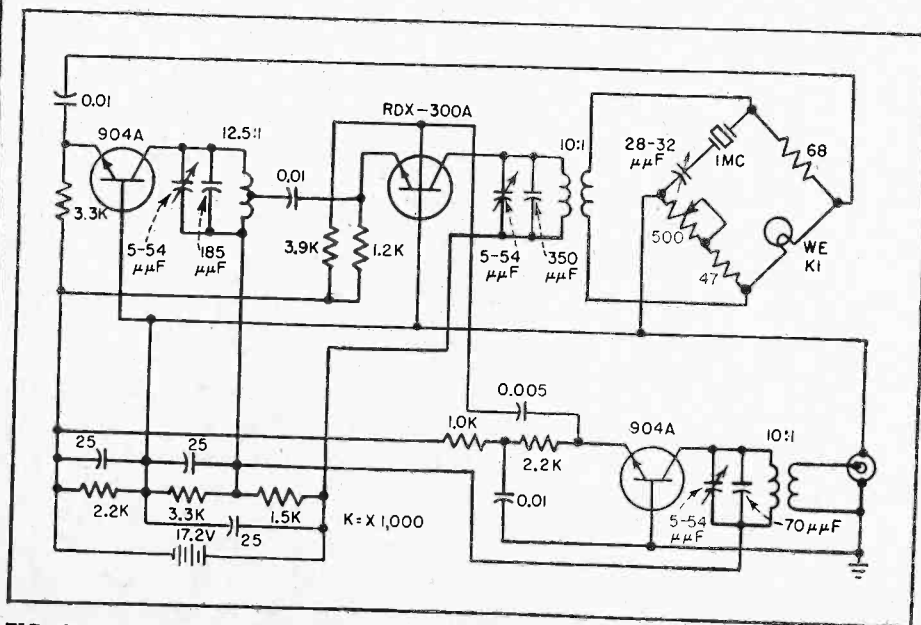


FIG. 3—Junction-transistor Meacham-bridge oscillator has three amplifier stages

# DESIGNING FERRITE-ROD ANTENNAS FOR X-BAND OPERATION

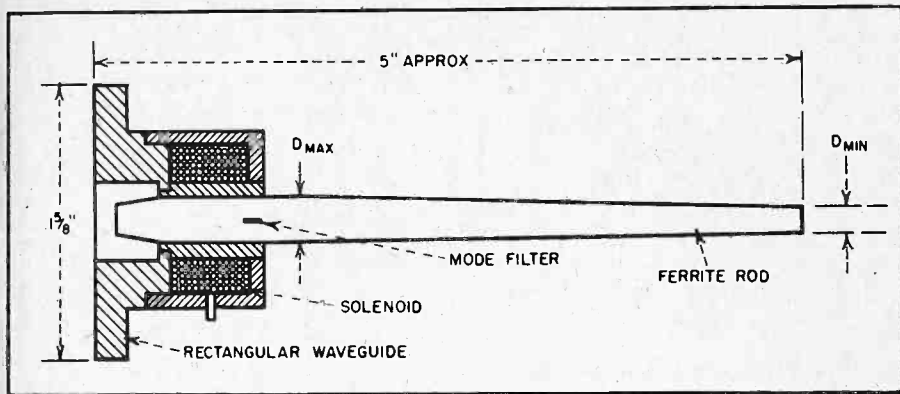
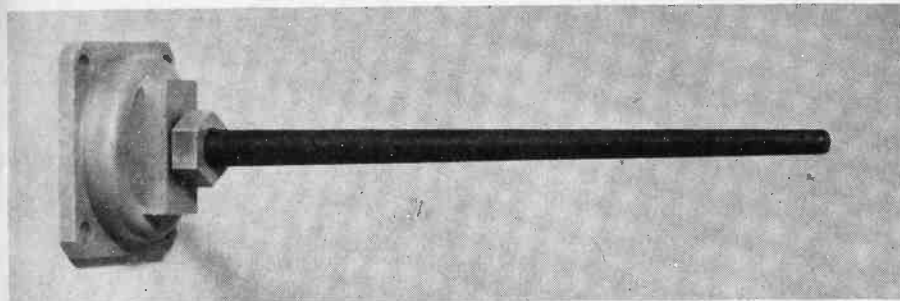


FIG. 1—Basic ferrite-rod antenna system for coupling to end of standard waveguide. Tapered end in waveguide aids impedance matching

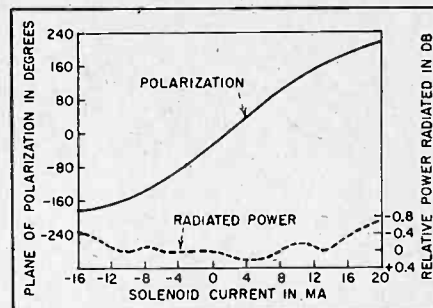


FIG. 2—Polarization and radiated power of ferrite antenna in relation to mode-switch solenoid current at 9,430 mc

By **FRANK REGGIA,**  
**E. G. SPENCER,**  
**R. D. HATCHER,**  
 and **J. E. TOMPKINS**

**SUMMARY**—Dielectric radiators use ferrite-rod elements and ferrite switching devices for mode switching, array scanning and beam lobing. Radiation patterns show optimum design configuration of rod radiators for operation in the 9,000-mc band. Gain of a single radiating element is about 20 with vswr of less than 1.2

**M**ICROWAVE antenna systems have been developed for X-band use, which employ rods of commercially available ferrites (ferrods) as dielectric radiating elements. Application of a magnetic field to a section of the ferrite radiator is used to obtain beam scanning, beam lobing, switching, modulation or rotation of the plane of polarization.

A typical X-band ferrite has a dielectric constant of 13.6 and an

initial permeability of 0.78. Its field-dependent permeability has a tensor characteristic which gives rise to the Faraday effect and the development of many useful devices.

The basic ferrite-rod antenna system is shown in Fig. 1. The radiator may be considered a dielectric-rod radiator, excited by a ferrite-filled section of cylindrical waveguide with a longitudinal applied magnetic field. The rod protrudes into the rectangular wave-

guide section and is magnetically coupled to the r-f fields. The short taper at the input end is used for impedance matching. The radiating portion of the ferrite rod is tapered to give maximum radiation along its axis and minimum radiation in the side lobes. The overall length of the system is about 5 inches. The ferrite-rod is  $\frac{1}{4}$ -in. in diameter and about  $4\frac{1}{2}$ -in. long.

The ferrite-filled waveguide section is  $\frac{3}{4}$ -in. long and is surrounded

# DESIGN OF TRIPLE-TUNED CIRCUITS

**SUMMARY**—Procedure and curves based on normalized low-pass filter enable the design of triple-tuned circuits having a maximally flat response and taking parasitic dissipation into account. Typical circuits and examples are given for interstage and band-pass filters

By PHILIP R. GEFTE

**C**ONVENTIONAL DESIGN procedures for interstage triple-tuned circuits have the disadvantages that formulas taking parasitic dissipation into account are not generally available and that conventional designs work between equal terminations. The latter causes a 6-db loss in voltage gain, in addition to the insertion loss of the filter.

### Low-Pass Prototype

The chart in Fig. 1 gives the element values of a low-pass filter normalized for a one-ohm source, open-circuit load and cutoff at one radian a second.

To design a low-pass filter to work from a source of  $R$  ohms and cutoff at  $f_c$  only impedance and frequency scaling to the normalized filter need be applied, using the following equations:

$$L' = RL/2\pi f_c \quad (1)$$

$$C_1' = C_1/2\pi f_c R \quad (2)$$

$$C_2' = C_2/2\pi f_c R \quad (3)$$

The result will be a low-pass filter having the flat-loss given in the chart and attenuation varying with frequency as follows:

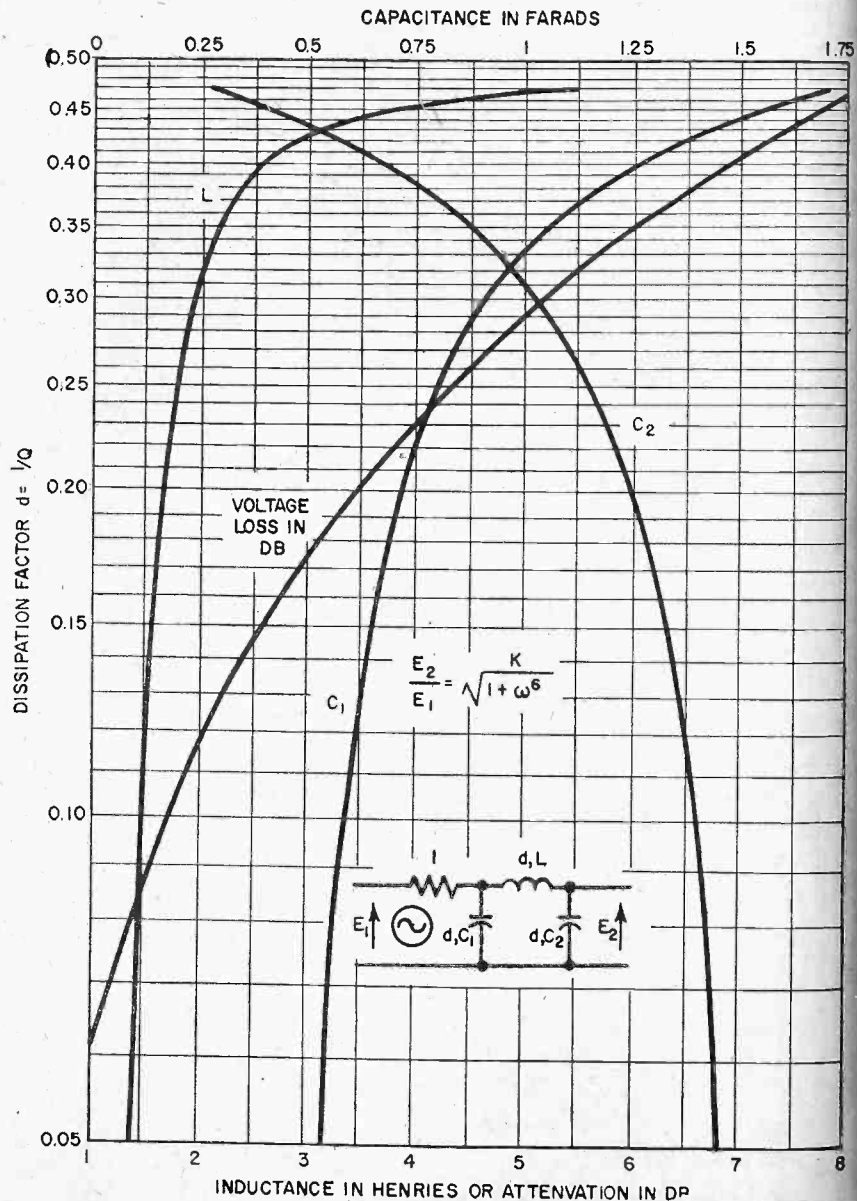


FIG. 1—Curves give normalized values of  $L$ ,  $C$  and  $d$  used in design procedure

$$A = \sqrt{1 + (f/f_c)^6} \quad (4)$$

for any frequency  $f$ .

Where  $d < 0.05$  the following approximate formulas give good accuracy

$$L = \frac{4 - 12d}{3 - 12d} \quad (5)$$

$$C_1 = \frac{3 - 12d}{2 - 7d} \text{ and Loss} =$$

$$20 \log_{10} (2d^2 - 2d + 1) \text{ in db}$$

By setting  $d = 0$  in Eq. 5 the correct values for lossless inductors and capacitors are obtained, hence

$$L = 1/2, C_1 = 3/2 \text{ and Loss} = 0 \text{ db} \quad (6)$$

To choose the value of  $d$  a relationship between the band-pass filter and its low-pass prototype, must be used, thus  $d = f_0/Q_{BP} (f_2 - f_1)$  (7) where  $Q_{BP}$  is the  $Q$  that is used in each branch of the band-pass filter,  $f_2$  and  $f_1$  are the cutoff frequencies of the band-pass filter and  $f_0 = \sqrt{f_2 f_1}$ . The value of  $d$  obtained from Eq. 7 is used to obtain element values and flat-loss from the chart. This value of flat loss will apply both to the band-pass filter and to its low-pass prototype.

### Low-Pass to Band-Pass

To transform from a low-pass to a band-pass filter, scale the normalized low-pass filter to an impedance level of  $R$  ohms and cutoff  $f_c$ . The cutoff frequency is equal to the bandwidth,  $f_2 - f_1$ , of the desired band-pass filter.

Next, tune all three branches of the filter to  $f_0$  by inserting a capacitor in series with  $L'$  and inductors in parallel with  $C'_1$  and  $C'_2$ , as shown in Fig. 2. Thus  $L'$  and  $C'$  resonate at  $f_0$  as do  $L'_1$ ,  $C'_1$  and  $L'_2$ ,  $C'_2$ .

### Performance

If the flat-loss is ignored the relative attenuation is

$$A = \sqrt{1 + y^6}, \text{ where} \quad (8)$$

$$y = b(f/f_0 - f_0/f), b = f_0/f_2 - f_1 \quad (9)$$

For calculating the attenuation at frequencies remote from the pass-band the following approximation may be used

$$A \cong y^3 \text{ or } 20 \log_{10} A \cong 60 \log_{10} y \text{ in db} \quad (10)$$

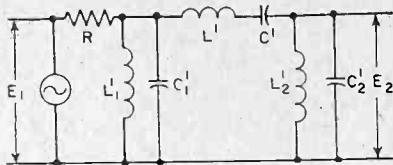


FIG. 2—Transformed band-pass filter

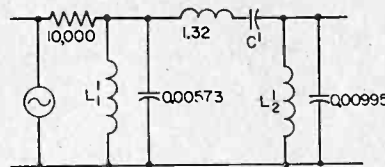


FIG. 3—Scaled band-pass filter designed from chart

Tolerances of from 1 percent to 5 percent on element values and 15 percent on  $Q$  will usually give satisfactory results provided that each branch of the filter is adjusted to resonate accurately at  $f_0$ .

### Examples

As an example, design an interstage filter to work from a 10,000-ohm plate resistance, having 3 db points at 9 and 11 kc, coil  $Q$  of 25 and giving 50 db attenuation at 20 kc.

Here  $f_0 = \sqrt{f_1 f_2} = \sqrt{99} = 9.95$  kc,  $b = 5$ , at  $f = 20$  kc,  $y = 7.56$  hence  $20 \log_{10} A = 60 \log_{10} 7.56 = 52.7$  db.

Evidently one triple-tuned circuit will have sufficient attenuation. From Eq 7,  $d = 0.20$ . Entering the chart at  $d = 0.20$  obtain  $C_1 = 0.720$ ,  $L = 1.66$ ,  $C_2 = 1.25$ , Loss = 3.5 db.

Scaling the normalized prototype to 10,000-ohm impedance level, and cutoff at 2 kc, obtain  $C'_1 = 0.00573 \mu F$ ,  $C'_2 = 0.00995 \mu F$  and  $L' = 1.32 H$ . So the band-pass filter will have the configuration shown in Fig. 3.

Choosing  $C'$  to resonate with 1.32H at 9.95 kc gives  $C' = 194 \mu \mu F$ . Similarly,  $L'_1 = 44.6$  MH,  $L'_2 = 25.7$  MH. Since the series coil is large enough to cause difficulty with its self resonant frequency, tap  $L'_1$  and  $L'_2$  at 10 percent of their inductance. This will reduce the impedance level of the series arm by a factor of

10 to give the final design shown in Fig. 4.

As another example, a 200-cps signal varies by  $\pm 5$  per cent, and it is desired to measure the second harmonic present while attenuating the fundamental and a large third harmonic by 80 db. Design a filter which will work from a 20,000-ohm source. Inductor  $Q$ 's of 16.6 are available.

If cutoff frequencies of 370 cps and 430 cps are chosen, then  $f_0 = 399$  cps and  $f_2 - f_1 = 60$  cps. Then  $b = 6.65$ . To check the attenuation in the pass-band, write  $y = 0.682$  at  $f = 420$  which is the maximum signal frequency and  $A = 20 \log_{10} \sqrt{1 + (0.682)^6} = 0.426$  db.

At 600 cps, the third harmonic,  $y = 5.58$ ,  $A = 60 \log_{10} 5.58 = 44.8$  db.

From these calculations it is apparent that two triple-tuned circuits will be needed, and the pass-band variation is 0.85 db.

From Eq. 7,  $d = 0.4$  which gives  $C_1 = 1.25$ ,  $C_2 = 0.68$ ,  $L = 2.57$  and loss = 6.8 db.

Raising this filter to a 20,000-ohm impedance level and a 60 cps cutoff gives  $C'_1 = 0.166 \mu F$ ,  $L' = 136.3$  H and  $C'_2 = 0.0902 \mu F$ .

Finding values to resonate with  $C'_1$ ,  $L'$ ,  $C'_2$  at 399 cps gives  $L'_1 = 0.958$  H,  $C' = 0.00117 \mu F$  and  $L'_2 = 1.76$  H and the configuration shown in Fig. 5.

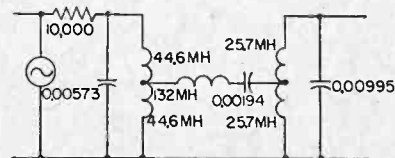


FIG. 4—Final interstage filter design derived from circuit of Fig. 3.

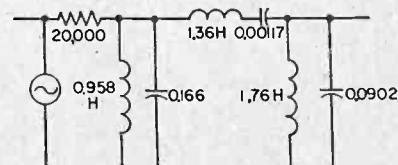


FIG. 5—Final band-pass filter configuration for second harmonic of 200-cps

# REGULATED TRANSISTOR

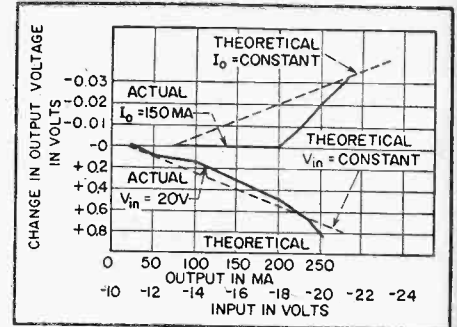
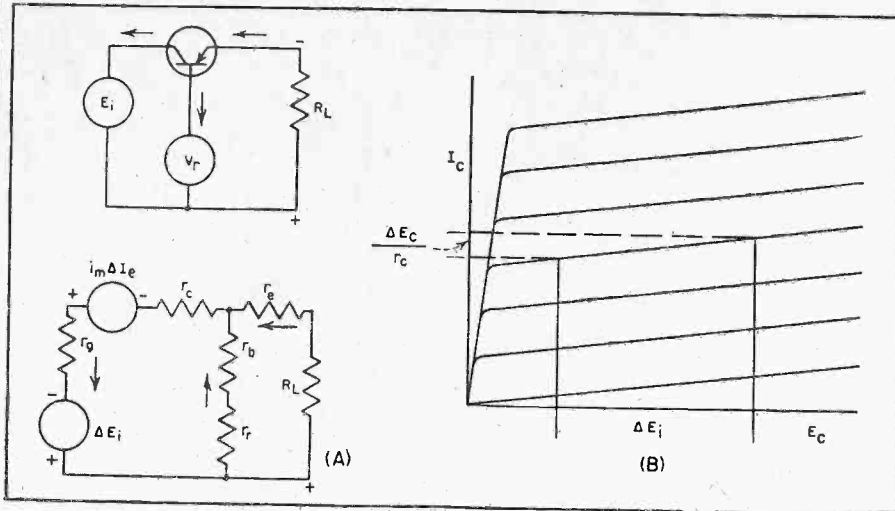
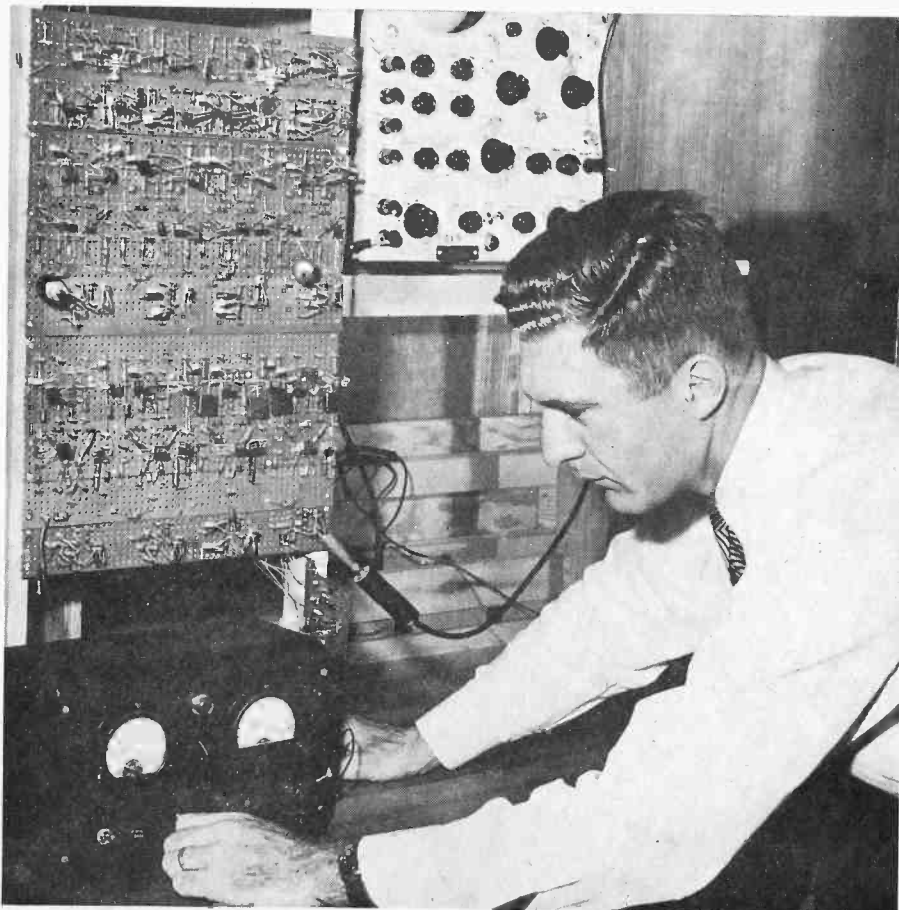


FIG. 2—Theoretical and actual characteristics of series-regulated supply

FIG. 1—Series-regulated supply and equivalent circuit (A) using transistor characteristic shown at (B)

**S**UMMARY—Series and shunt regulator design equations provide method of obtaining low voltage power supplies with any required degree of regulation. Actual circuit derived from these equations are discussed and laboratory tests show good agreement with predicted operation



Experimental supplies use terminal board construction for ease of measurement

**S**IMPLE compact low-voltage transistor power supplies are now entirely feasible using available transistors. Virtually any degree of regulation can be obtained with only a small increase in complexity of the circuit.

The output voltage of a power supply is a function of output current and input voltage

$$E_o = E_o(E_i, I_o) \quad (1)$$

$E_o$  = output voltage,  $E_i$  = input or line voltage,  $I_o$  = output or load current. Since in actual practice the load is established by the choice of load resistance, or more conveniently load conductance the output voltage can be written as  $E_o = E_o(E_i, G_L)$  where  $G_L$  is load conductance.

Then

$$\Delta E_o = \left( \frac{\Delta E_o}{\Delta E_i} \right)_{\Delta G_L=0} \Delta E_i + \left( \frac{\Delta E_o}{\Delta G_L} \right)_{\Delta E_i=0} \Delta G_L$$

Multiplying the second term numerator and denominator by  $E_o + \Delta E_o$ :

$$\Delta E_o = \left( \frac{\Delta E_o}{\Delta E_i} \right)_{\Delta G_L=0} \Delta E_i +$$

# POWER SUPPLY DESIGN

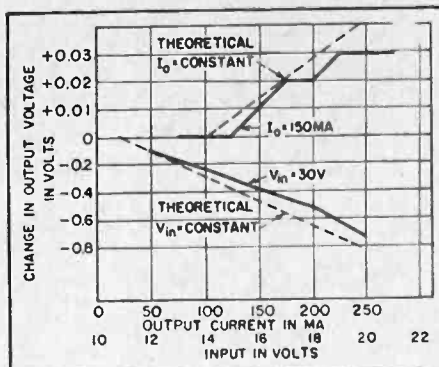
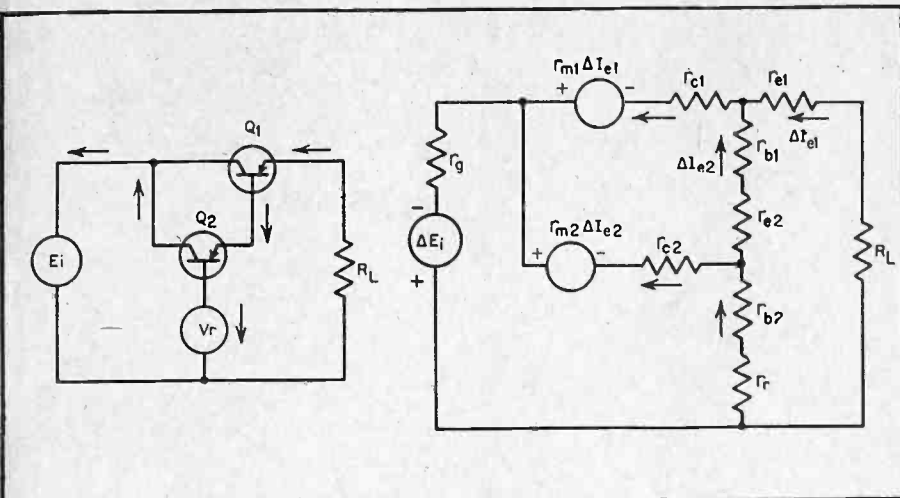


FIG. 4—Operating characteristics of two-transistor regulator circuit

FIG. 3—Two transistor regulator characteristics are determined by equivalent circuit as described in text

By J. WALTER KELLER, Jr.

$\left( \frac{\Delta E_o}{(E_o + \Delta E_o) \Delta G_L} \right)_{\Delta E_i=0} (E_o + \Delta E_o) \Delta G_L$   
 $(E_o + \Delta E_o) \Delta G_L$  differs from  $\Delta I_o$  by the term  $G_L \Delta E_o$ . This term can be neglected because, with any reasonable regulator, it is quite small compared to  $\Delta I_o$ . Thus

$$\Delta E_o = \left( \frac{\Delta E_o}{\Delta E_i} \right)_{R_L = \text{constant}} \Delta E_i + \left( \frac{\Delta E_o}{\Delta I_o} \right)_{\Delta E_i=0} \Delta I_o \quad (2)$$

This equation justifies the experimental procedure of holding  $R_L$  constant instead of  $I_o$  when obtaining the voltage regulation.

This equation is the basis for the a-c type of equivalent circuit. The output voltage variation is equal to the input voltage minus an I-R voltage drop. The two terms on the right of Eq. 2 should be as small as possible. Consequently the design of a voltage regulator should concentrate on making  $\Delta E_o / \Delta E_i$  and  $\Delta E_o / I_o$  as small as possible.

The most simple regulator design attempted is shown in Fig. 1A.

The transistor is a *pn*p power unit rated at 20 watts, with a heat sink at 25 C. The emitter of the transistor is biased in the forward direction and tends to be very close to the potential of the base which is the reference voltage. Line-voltage variations are dropped across the large dynamic collector resistance and are greatly reduced at the emitter.

To determine the coefficients of Eq. 1 assume linear operation and from small-signal equivalent circuit theory

$$\left( \frac{\Delta E_o}{\Delta I_o} \right)_{\Delta E_i=0} = -r_e - (1-\alpha)(r_b + r_r) \quad (3)$$

This is the load regulation of the circuit of Fig. 1A. The input-voltage regulation employing small-signal equivalent circuit theory is

$$\left( \frac{\Delta E_o}{\Delta E_i} \right)_{\Delta R_L=0} = \frac{r_b + r_r}{r_c \left[ 1 + \frac{(1-\alpha)(r_b + r_r)}{R_L + r_e} \right]} \times \frac{R_L}{R_L + r_e} \quad (4)$$

This assumes  $r_c \gg r_b + r_r + r_e$ , and  $R_L =$  load resistance.

The operation of input voltage

regulation can be seen by observing that the slope of the collector characteristics, shown in Fig. 1B, is approximately the series resistance to input voltage changes.

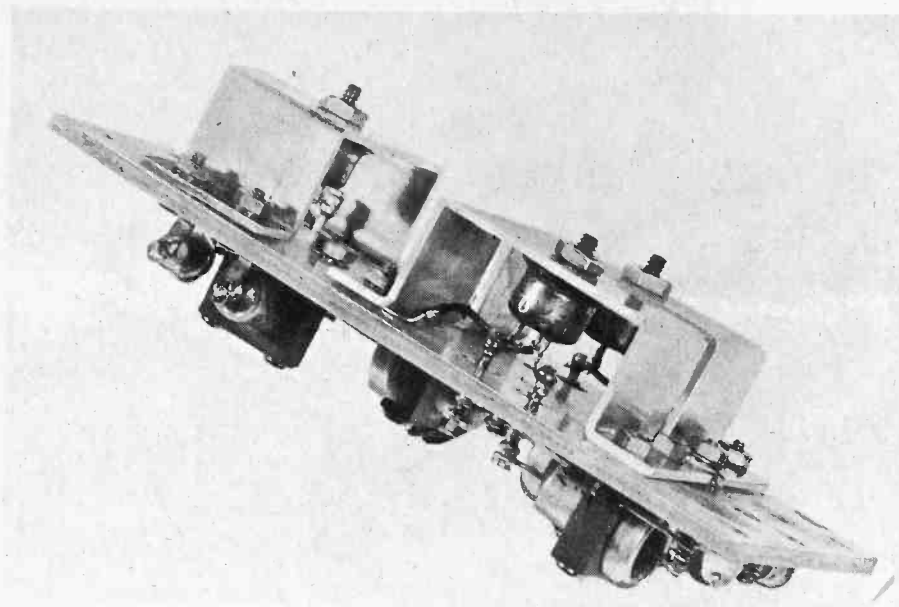
Now Eq. 2 becomes

$$\Delta E_o = \frac{r_b + r_r}{r_c \left[ 1 + \frac{(1-\alpha)(r_b + r_r)}{R_L + r_e} \right]} \times \frac{R_L}{R_L + r_e} \Delta E_i - [r_e + (1-\alpha)(r_b + r_r)] \Delta I_o \quad (5)$$

For a power transistor, substituting typical parameter values  $r_c = 10K$ ,  $r_e = 1.5$ ,  $r_b = 50$  and  $\alpha = 0.96$ ,  $R_L = 75$ ,  $r_r = 0$ , in Eq. 5 the following equation is obtained:

$$\Delta E_o = 0.004 \Delta E_i - 3.5 \Delta I_o \quad (6)$$

Using the circuit shown in Fig. 1A the curves of Fig. 2 were obtained. The nonlinearity of the experimental points and their departure from the theoretical value were expected in view of the large variation of transistor parameters with operating point. However, this does not limit the utility of the regulation equations in most practical cases because power supplies are usually employed in a narrow range making the assumption of a



Regulated power supply uses metal bracket construction as heat sink for power transistors. Rectifiers are mounted on underside of board

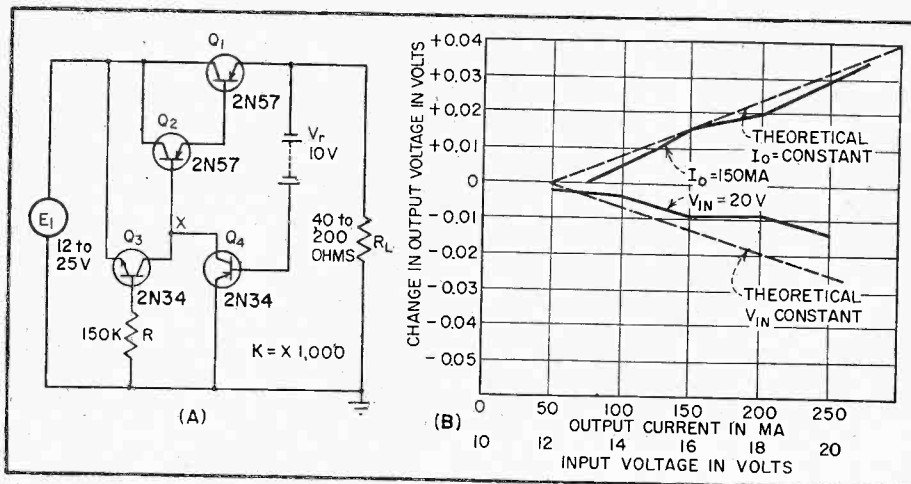


FIG. 5—Regulator using four transistors including a single-stage feedback amplifier (A) shows good correlation between actual and theoretical results (B)

single operating point a good approximation.

Equation 5 appears to contain sufficiently accurate relationships upon which further design considerations can be based. It can be predicted that better regulation would result from a higher alpha and  $r_e$  or lower  $r_b$ ,  $r_c$  and/or  $r_r$ .

One major drawback of the circuit of Fig. 1A is that it draws too much reference current. The circuit of Fig. 3 gives about the same regulation, but with substantially less reference current drain. Since  $I_r = (1 - a) I_o$ , the reference current assuming identical transistors is approximately  $0.002 I_o$ . This is equivalent to having a larger  $a$ .

Employing the equivalent circuit of Fig. 3 regulation will then be:

$$\frac{\Delta E_o}{\Delta I_o} = -[r_{e1} + (1 - \alpha_1)(r_{b1} + r_{e2}) + (1 - \alpha_1)(1 - \alpha_2)(r_{b2} + r_r)] \quad (7)$$

$$\frac{\Delta E_o}{\Delta E_i} = \frac{r_{b1} + r_{e2} + (1 - \alpha_2)(r_{b2} + r_r)}{1 + \frac{(1 - \alpha_1)}{R_L + r_{e1}}[r_{b1} + r_{e2} + (1 - \alpha_2)(r_{b2} + r_r)]} \times \frac{R_L}{R_L + r_{e1}} \quad (8)$$

These equations show that the reference resistance can be much larger than in the single transistor circuit before it becomes significant. Since  $Q_1$  will be carrying the full-load current and since the circuit will be required to deliver currents close to the peak ratings of  $Q_1$  the alpha and  $r_e$  of this transistor may be much smaller than for small-current bias. It would not be wise to assume equal parameters for the two transistors when using

Eq. 7 and 8. The values of the parameters used in the single-transistor regulator were large bias values. The proper values for  $Q_2$  are  $r_e = 90K$ ,  $r_b = 60$ ,  $r_c = 2.5$  and  $r_r = 50$  ohms and  $a = 0.97$ .

The equation for regulation can be shown to be

$$\Delta E_o = 0.0067 E_i - 3.7 \Delta I_o \quad (9)$$

This equation is compared with experiment in Fig. 4. The agreement is good since parameter values used in the equations were average values of a sample of ten transistors.

Both circuits discussed are basic series-type regulators employing the collector resistance for dropping line voltage to output voltage. The size of the dropping resistor is dependent upon the difference in voltage between the load and the base, or reference, less the drop in voltage caused by current in the emitter, base and reference resistances. The regulation is a function of the I-R drop in the circuit path between output voltage and reference. This drop can be made small by making the resistance of this path small or by making the change in current small in this circuit. Clearly, the size of the reference current change is dependent upon the amplification in the loop that tries to correct for output voltage changes.

When a single transistor is used to sense the difference in reference voltage and output voltage, regulation can be expressed as

$$\frac{\Delta E_o}{\Delta I_o} = \frac{\frac{r_{e1}}{1 - \alpha_1} + r_{b1} + r_r}{G_{es}} \quad (10)$$

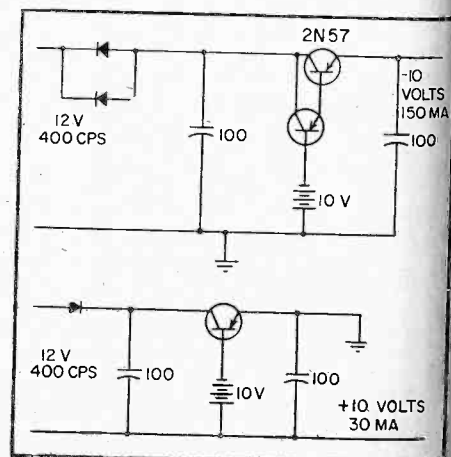


FIG. 6—Power supplies providing plus and minus 10 volts designed for use in ordnance field equipment

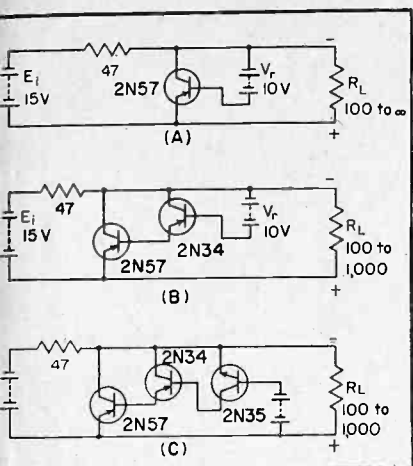


FIG. 7—Three shunt-type transistor regulators for low-voltage power supplies

$$\frac{\Delta E_o}{\Delta E_i} = \frac{\left[ \frac{r_{ef}}{1 - \alpha_f} + r_{bf} + r_r \right]}{G_c R} \quad (11)$$

where the subscript *f*, refers to the transistor parameter of the first amplifying stage, or the stage where the reference is compared with the output voltage. The  $G_c$ , is the total current gain in both the control and series resistance sections of the power supply and  $R$  is the total parallel resistance between the input voltage line and the junction of the series resistance and control sections.

Figure 5A shows an example of a voltage regulator employing a single-stage feedback amplifier. The dynamic series dropping resistor is made up of  $Q_1$  and  $Q_2$ . Transistor  $Q_1$  provides stage of gain. Transistor  $Q_2$  supplies a constant current to junction X which is shared by the base of  $Q_2$  and collector of  $Q_1$ .

If the output voltage decreases as the result of a greater load current the base voltage of  $Q_1$  will decrease toward ground causing  $Q_1$  to conduct less. The current that normally would have gone through  $Q_1$  now is diverted through  $Q_2$ . This causes both  $Q_2$  and  $Q_1$  to conduct more, which is equivalent to reducing the series-regulator resistance and results in the output voltage increasing, thus tending to compensate for the drop in voltage.

Transistor  $Q_2$  should be connected backwards, using the emitter as collector. Temperature stability of a transistor with large resistance in the base is poor unless the alpha is low. The alpha is usually quite

low in the back direction. Furthermore, the quality of this particular connection as a constant current source is independent of alpha.

Under certain conditions, better regulation could be obtained by employing transistor  $Q_3$  as an additional gain stage in the amplifier and using a resistor in the input voltage line to the base of  $Q_2$  to supply the needed current. This would depend mainly on how much larger the input voltage is as compared to the output voltage and the required regulation range.

The equation for regulation is

$$\Delta E_o = \frac{r_{e4} + (1 - \alpha_4)(r_{b4} + r_r)}{\alpha_4 R \frac{1 - \alpha_3}{\alpha_3}} \Delta E_i - \frac{(1 - \alpha_1)(1 - \alpha_3)}{\alpha_3 \alpha_4} \times [r_{e4} + (1 - \alpha_4)(r_{b4} + r_r)] \Delta I_o \quad (12)$$

A solution to Eq. 12 using typical transistor parameters gives  $\Delta E_o =$

employing high-gain servo amplifiers the major temperature problems are found in the amplifier, and principally, in the first stage where the comparison between reference and output voltage is made. Silicon components employed here may alleviate the problem but there will still be a need for compensation of the emitter to base voltage change in the first or comparison stage.

### Shunt Types

The shunt types of power supply shown in Fig. 7 are subject to the same general type of analysis as the series units. While their regulation in a limited range can be made as good as the series type, the total range over which they will regulate is in general less. Over a small range the circuit of Fig. 7C has desirable features. It is simple, its voltage reference is grounded on

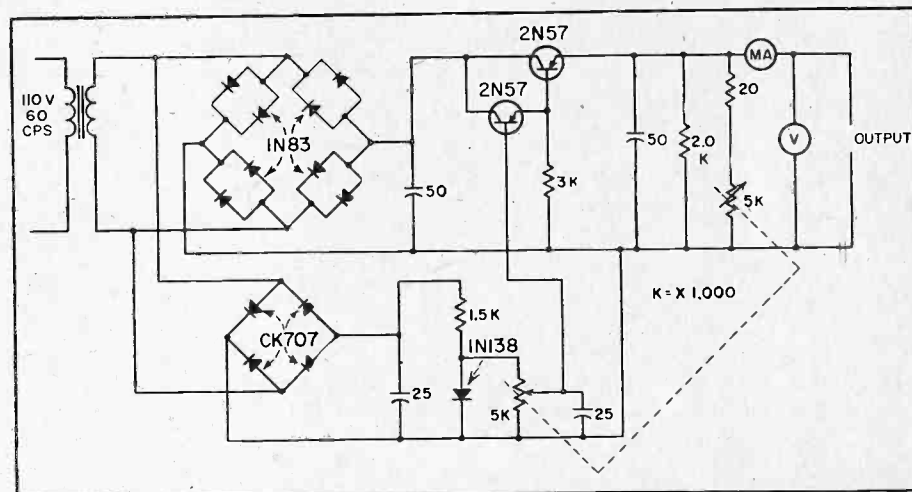


FIG. 8—Variable voltage regulated supply for laboratory use employs two transistors

$0.004 E_i - 0.13 \Delta I_o$ . The comparison of this equation with experiment is shown in Fig. 5B.

Supplies giving outputs of +10v and -10v are shown in Fig. 6.

### Temperature

The single transistor regulator of Fig. 1A has a 2.5-percent change in output voltage over the temperature range of 25 C to 80 C. The circuit of Fig. 3 has a 5-percent change in output voltage over that range. This temperature coefficient can be compensated by employing a reference with a negative temperature coefficient.

In more complicated regulators

one side which lends itself to use of Zener diodes and its regulation is comparable to the best 3-transistor series-type regulator.

A variable voltage regulated power supply for laboratory use is shown in Fig. 8. Note that there is no feedback stage. One additional transistor feeding back from the reference could improve the regulation by a factor nearly equal to the beta of the added transistor.

Thanks are extended Stanley Gordon who experimentally checked the formulas, Charles Durieu for recommendations of mathematical rigor and Morris Brenner for supplying transistor parameters.



# L NETWORK DESIGN

**SUMMARY**—Technique for using Smith chart to speed design of L matching networks for transmission lines and waveguides using lumped parameters. Shaded-area charts show at a glance impedance ranges that can be matched with each type of L network

**T**HE FAMILIAR Smith chart for transmission lines is also a useful tool for designing matching networks. As an example, consider the case where it is desired to match an impedance  $Z_L = (0.3 - j1.6)R_o$  to  $R_o$  with the L matching network shown in Fig. 1. It is assumed that the inductances are lossy so that  $R_1 = X_1 \tan \theta = 0.2X_1$ , and  $G_2 = -B_2 \tan \theta = -0.2B_2$ . All impedances and admittances are normalized with respect to  $R_o$  and  $G_o = 1/R_o$ , respectively.

Let  $Z_A = Z_L + R_1 + jX_1$ , and  $Y_A = 1/Z_A$ . Since  $Y_A + G_2 + jB_2 = 1$ ,  $Y_A$  must lie on curve  $Y = 1 - k(\tan \theta - j)$ , where  $k$  is a real variable. This curve is circle  $OA'$  with center  $C$ . To locate  $C$ , lines  $OC$  and  $OD$  are drawn as indicated in Fig. 1. Point  $D$  bisects its line. Point  $C$  is located as indicated.

Point  $C$  is inverted to obtain  $C'$  on line  $OC$  so that  $C'O = OC$ . Since  $Y_A$  must lie on circle  $OA'$ ,  $Z_A$  must lie on circle  $OH$  whose center is  $C'$ . To determine  $Z_A$ ,

By H. F. MATHIS

plot curve  $Z = Z_L + p(\tan \theta + j)$ , where  $p$  is a real variable. Point  $A$ , where this curve intersects circle  $OH$ , is the desired value of  $Z_A$ . The value of  $Y_A$  is found by inverting point  $A$  to obtain  $A'$ . Finally,  $R_1 + jX_1 = (Z_A - Z_L)R_o = (0.498 - j0.610) - (0.3 - j1.6)R_o = (0.198 + j0.990)R_o$  and  $G_2 + jB_2 = (1 - Y_A)G_o = 1 - (0.803 + j0.985)G_o = (0.197 - j0.985)G_o$ .

## General Procedure

In general, for L matching networks plot  $Z_L$  or  $Y_L$  first on the Smith chart. Next, plot the impedance or admittance into which  $Z_L$  is to be transformed, and find a suitable path connecting these points.

It is impossible to match all possible values of  $Z_L$  with a given type of L network. For example, if  $Z_L = 0.5R_o$ , the matching network shown in Fig. 1 could not be used. Impedances which may be matched with a given type of L network are shown as areas on Smith charts in Fig. 2. It is assumed that it is desired to transform  $Z_L$  into  $R_o$ , and that  $Z_L$  is normalized with respect to  $R_o$ .

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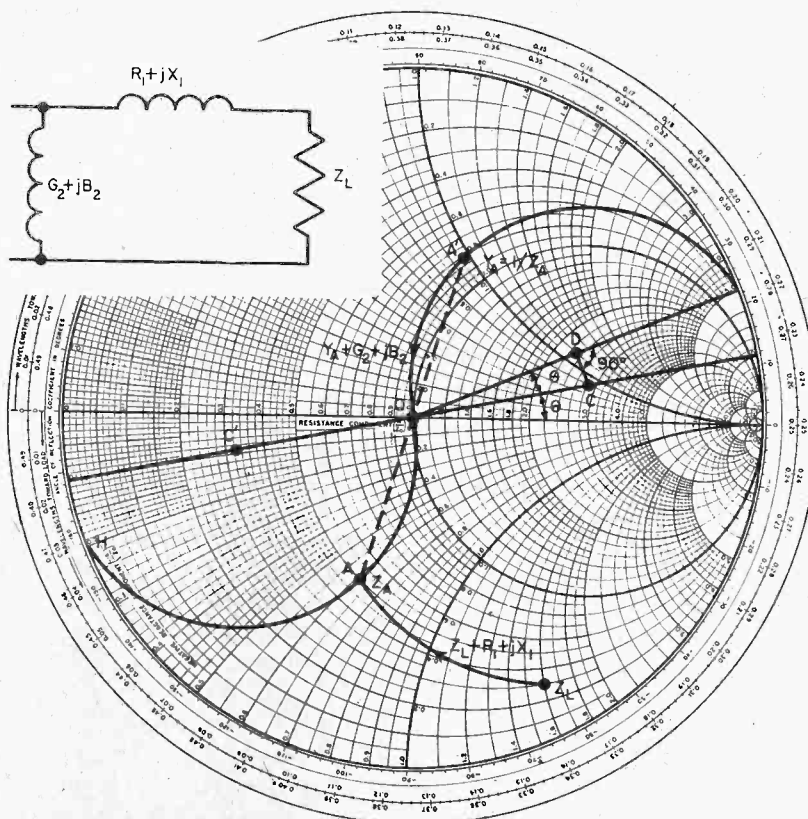


FIG. 1—Smith-chart procedure for determining parameters of L matching network

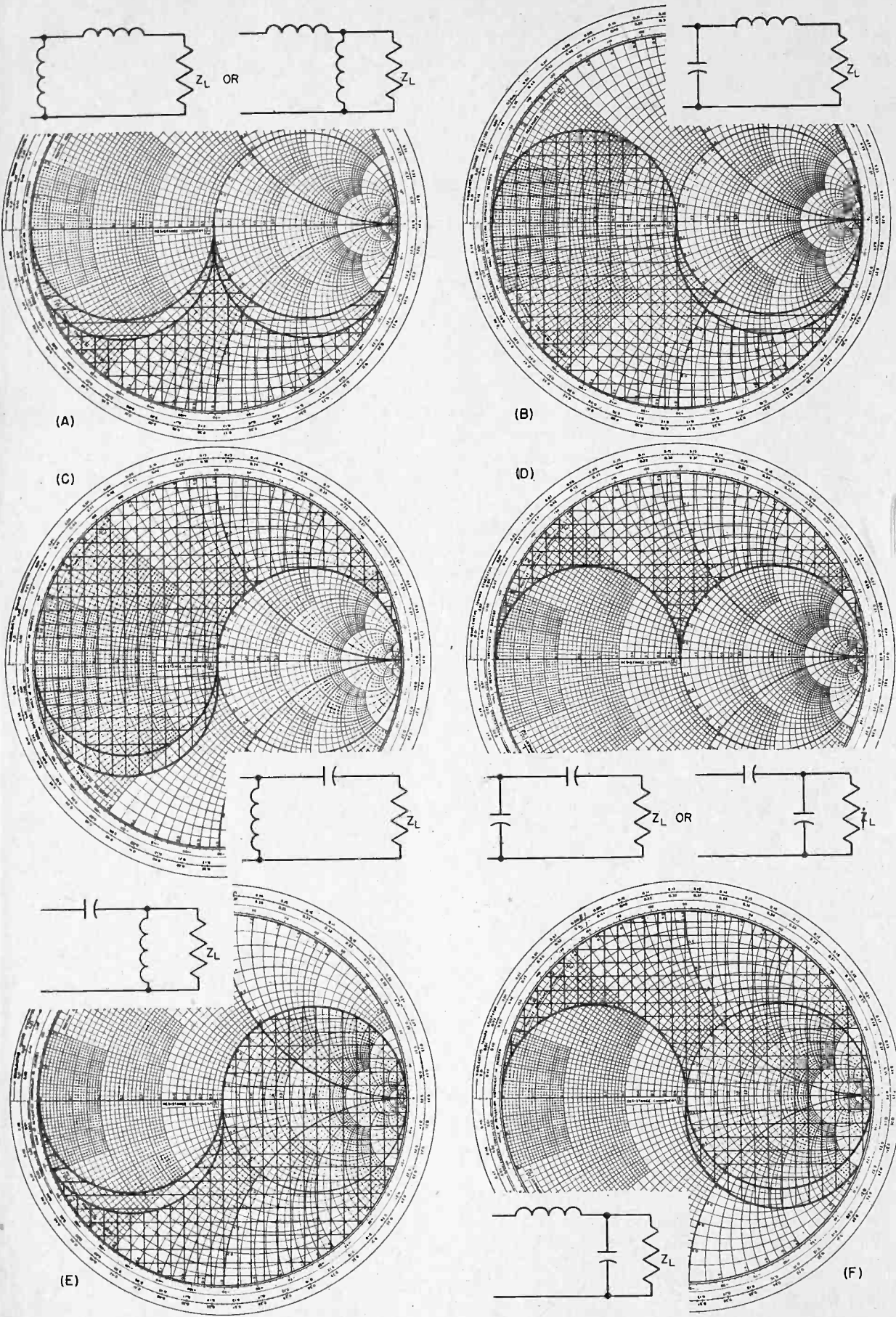


FIG. 2—For each network, horizontally shaded areas on accompanying Smith chart show impedances which may be matched with lossless reactance. Vertically shaded areas may be matched with reactances for which  $\tan \theta = 0.2$

# GAIN CHART FOR TRANSISTOR

**SUMMARY**—Graphical approach gives quick approximation of gain to be expected from grounded-emitter and grounded-collector amplifiers as frequency and transistor parameters are varied

By **GEORGE H. MYERS**

**D**ESIGNING transistor amplifiers involves calculating the gain as both the operating frequency and the transistor parameters vary. Use of a new

design chart that eliminates calculations in most cases is explained separately for grounded-emitter and grounded-collector amplifiers.

For a grounded-emitter amplifier, the chart shown in Fig. 1 uses the approximation that the current gain of such an amplifier

(the ratio of collector current to base current) is given by

$$G = i_c/i_b = \frac{\alpha}{1 - \alpha} \quad (1)$$

The frequency dependence of  $\alpha$  is customarily taken as

$$\alpha = \frac{\alpha_0}{1 + jf/f_0} \quad (2)$$

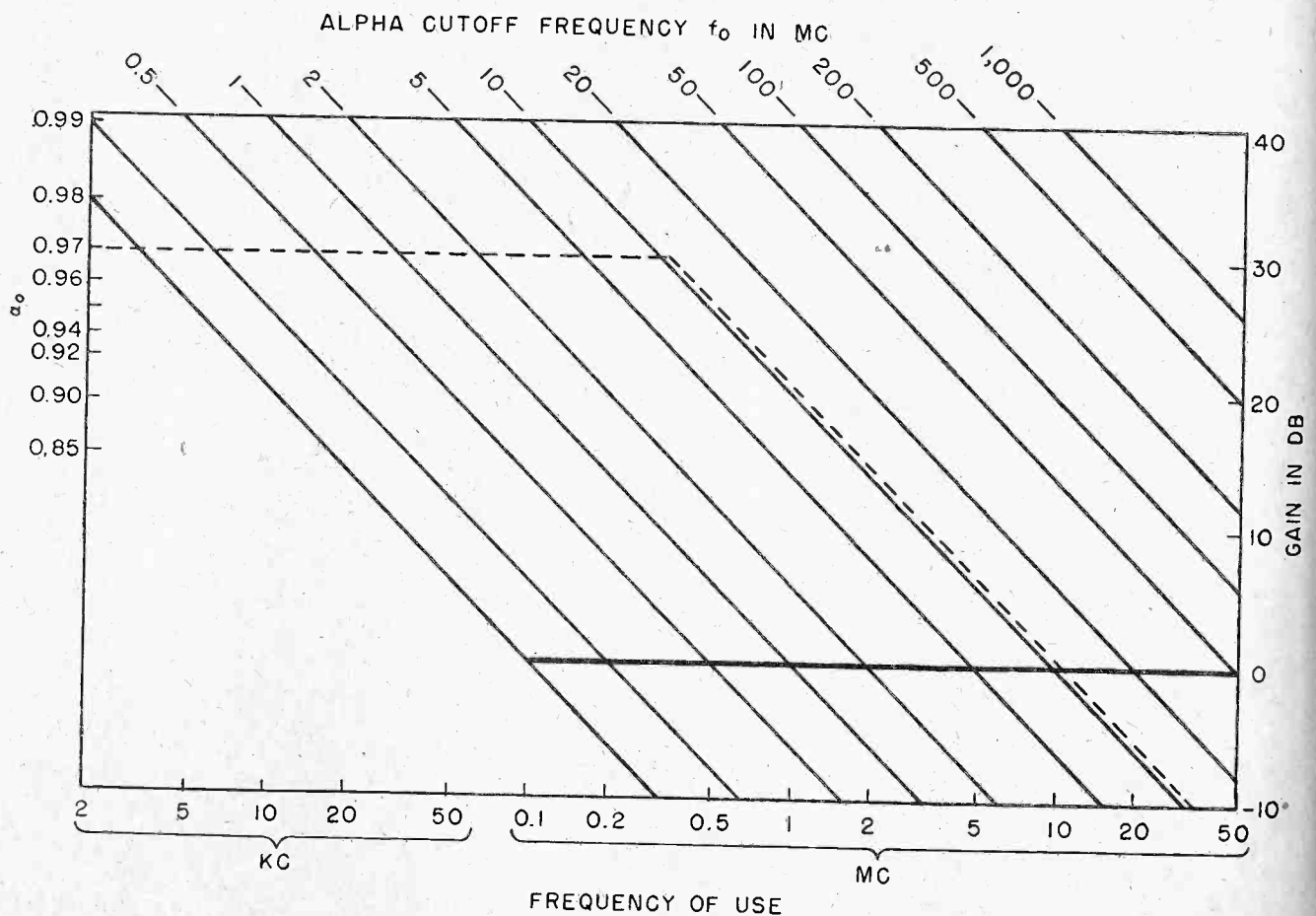


FIG. 1—Values of  $\alpha_0$  and alpha-cutoff frequency determine amplifier gain as a function of operating frequency

# AMPLIFIERS

The low-frequency value of  $\alpha$  is  $\alpha_0$ ;  $f_0$  is the alpha-cutoff frequency. Figure 2A shows a typical grounded-emitter amplifier with the currents indicated.

If Eq. 2 is substituted in Eq. 1, the gain becomes

$$G = \frac{\alpha_0}{(1 - \alpha_0) + jf/f_0} \quad (3)$$

For low frequencies, the gain is substantially independent of frequency and equal to  $\alpha_0/(1 - \alpha_0)$ . For frequencies greater than  $(1 - \alpha_0)f_0$ , the gain tends to fall off with frequency at the rate of 6 db per octave (or inversely proportional to frequency). This is the same frequency dependence as that of a low-pass R-C circuit followed by an amplifier, where the amplifier has a gain of  $\alpha_0/(1 - \alpha_0)$  and the R-C circuit has a cutoff frequency of  $(1 - \alpha_0)f_0$ .

## Gain-Frequency

The design chart gives the asymptotic gain-frequency curve—the gain is assumed to be constant at its low-frequency value up to a frequency of  $(1 - \alpha_0)f_0$  and to decrease at the rate of 6 db per octave of frequency for all higher frequencies. This asymptotic characteristic is the one shown on reactance charts and is usually employed in servomechanism and feedback amplifier design. A simple correction is necessary to make the asymptotic characteristic exact.

For a transistor with an  $\alpha_0$  of 0.97 and an  $f_0$  of 10 mc, a horizontal line is drawn starting at 0.97 on the  $\alpha_0$  scale until the diagonal line corresponding to an alpha-cutoff frequency of 10 megacycles is reached. The diagonal line is then followed downward. On Fig. 1 this example is indicated by the dotted line, which shows the gain-frequency curve for this transistor.

Gain is read in decibels on the scale at the right and frequency is read on the bottom scale. Thus, this transistor has a gain of 30.1 db at 10 kc but at 1 mc

the gain is down to 19.6 db; at 20 mc, the gain is only -6 db. For values of  $\alpha_0$  and  $f_0$  not on the chart, it is necessary to interpolate.

Only a slight modification of this procedure is required to make the chart work for a grounded-collector amplifier (Fig. 2B). The current gain of the grounded-collector amplifier is approximately

$$G = i_c/i_b = \frac{1}{1 - \alpha} \quad (4)$$

Using the Eq. 2 to determine how  $\alpha$  varies with frequency, the gain reduces to

$$G = \frac{1 + jf/f_0}{(1 - \alpha_0) + jf/f_0} \quad (5)$$

The grounded-collector amplifier has a low-frequency gain of  $1/(1 - \alpha_0)$ , which is nearly equal to that of the grounded-emitter amplifier. Between frequencies of  $(1 - \alpha_0)f_0$  and  $f_0$  the gain decreases at 6 db per octave, like the gain of the grounded-emitter amplifier but after the alpha-cutoff frequency is reached the gain is constant at 0 db. The zero-decibel line of the chart has been made heavy and all diagonal lines intersect this line at a frequency equal to their alpha-cutoff frequency.

The gain for the transistor with  $\alpha_0$  equal to 0.97 and an  $f_0$  of 10 mc but connected in the grounded-collector circuit follows the dotted line in Fig. 1 until the dotted line intersects the heavy line and then follows the heavy line. This transistor as a grounded-collector amplifier still has a gain of 30.1 db at 10 kc and a gain of 19.6 db at 1 megacycle but at 20 mc the gain is about 0 db.

A slight error is made in using the chart for the grounded-collector amplifier, since the low-frequency grounded-collector gain is  $1/(1 - \alpha_0)$  not  $\alpha_0/(1 - \alpha_0)$ , but this introduces an error of only 1.4 db when  $\alpha_0$  equals 0.85

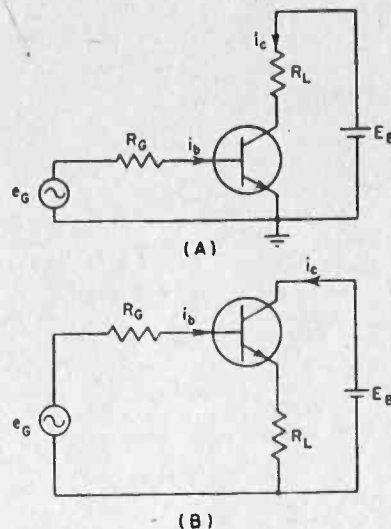


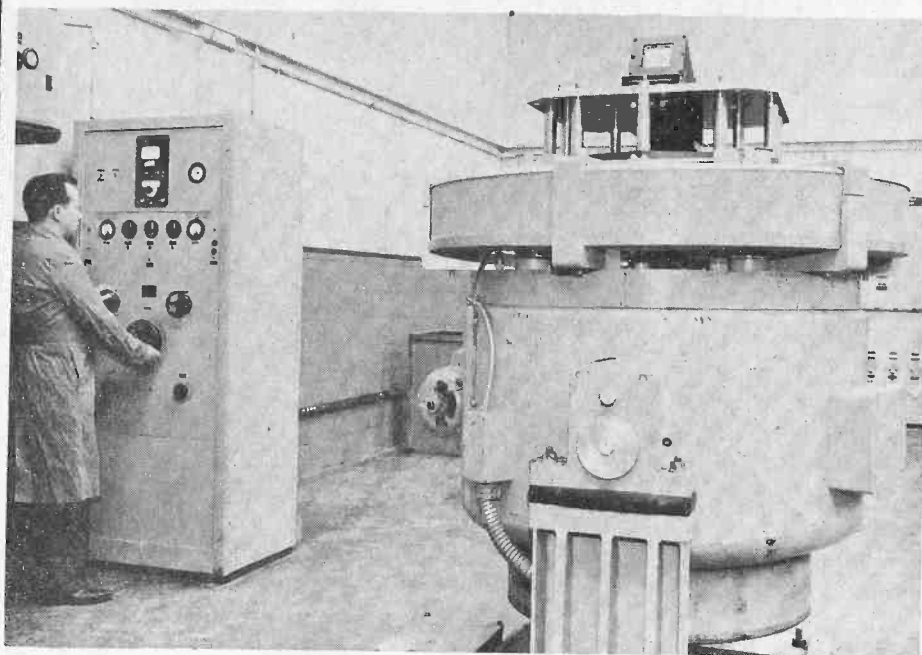
FIG. 2—Connections for transistor grounded-emitter (A) and grounded-collector (B) amplifiers

and is less for all higher values of  $\alpha_0$ .

The chart of Fig. 1 is only approximately correct, even for a grounded-emitter amplifier. A horizontal line corresponding to a value of  $\alpha_0$  should intersect a diagonal line corresponding to a particular value of  $f_0$  at a frequency equal to  $(1 - \alpha_0)f_0$ . For a constant alpha-cutoff frequency, these intersections will not lie on a straight line having a slope of 6 db per octave. If the actual curve is approximated by a straight line that has this slope, however, the error in gain is about 1 db for an  $\alpha_0$  of 0.85 and is almost negligible for transistors with  $\alpha_0$  greater than 0.90.

## Accuracy

Such accuracy is adequate for a chart of this type, since the uncertainty in the values of the transistor parameters will probably introduce more error than the chart. For transistors with values of alpha above 0.95, where alpha may be known to three significant figures, the accuracy of the chart improves. For values of  $\alpha_0$  below 0.85 the error increases so fast that the chart loses its value in this region.



Vibration testing table in vertical position with electronic gear under test mounted on top

## CHECKLIST FOR HIGH VIBRATION

- Chassis—
  - Low center of gravity
  - Rigid construction
  - Ductile material where possible
- Capacitors—
  - Use axial lead types
- Resistors—
  - Ferrule clips for larger sizes
- Transformers—
  - Mounting studs attached to core
- Meters—
  - Rubber grommet mounting
  - Leads slack
- Wires—
  - Flexible mounted components:
    - leads slack
  - Rigid mounted components:
    - leads tight

**SUMMARY**—Techniques of chassis design, component placement and testing methods to help electronic equipment attain maximum reliability in aircraft and missile applications. Proper selection and design of components contributes to reliability under high vibration conditions

ONE most important consideration for airborne electronic equipment is the design of the mechanical chassis or supporting structure. It has to be light in weight, minimum in size, yet able to maintain good mechanical strength.

A good design should have a center of gravity as close to the mounting surface as possible to help reduce vibration amplification caused by coupling modes of vibration.

The chassis must be rigid to maintain the natural frequencies of vibration above the testing frequency range as resonant points subject the structure to high repeated loadings. Supporting members can be made rigid by increasing thickness, flanging the ends, changing the geometry of the

structure or by ribbing the surfaces as shown in one of the photographs. Use of gussets and the proper location of stiffening members also aid in reducing flexibility.

Figure 1 shows an amplification curve obtained on an existing unit. High transmissibility was experienced at the resonant point.

### Component Selection

Capacitors should be mounted to prevent relative motion between the leads and body. As an example, use of a 0.02- $\mu$ f disk type capacitor in one application resulted in broken leads during vibration. By the nature of its design, as shown in Fig. 2A, this capacitor caused a cantilever action. This action was eliminated by changing the leads so they were mounted axially

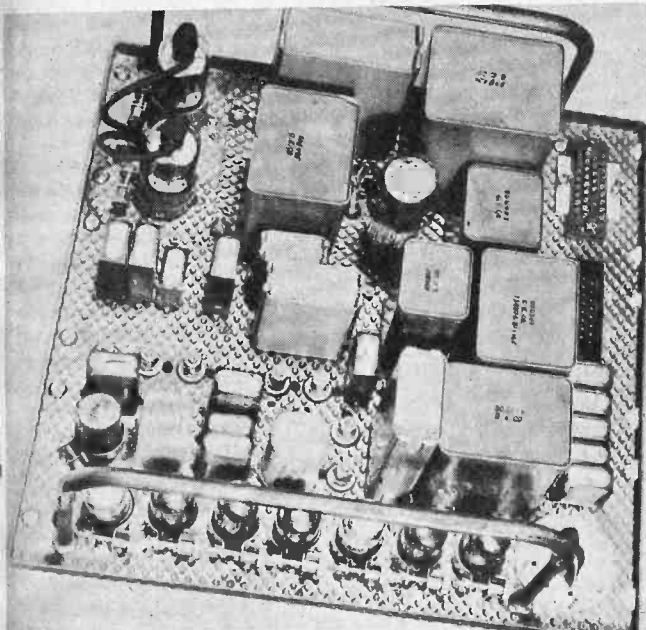
as in Fig. 2B, thus removing the cantilever effect and eliminating the large relative motion that existed during vibration.

Transformers that have mounting studs attached directly to the iron core are generally preferable. Studs mounted to a relatively weak housing can be pulled away by high vibration forces. If the mounting bolts are secured to the core, the large internal forces are removed from the housing.

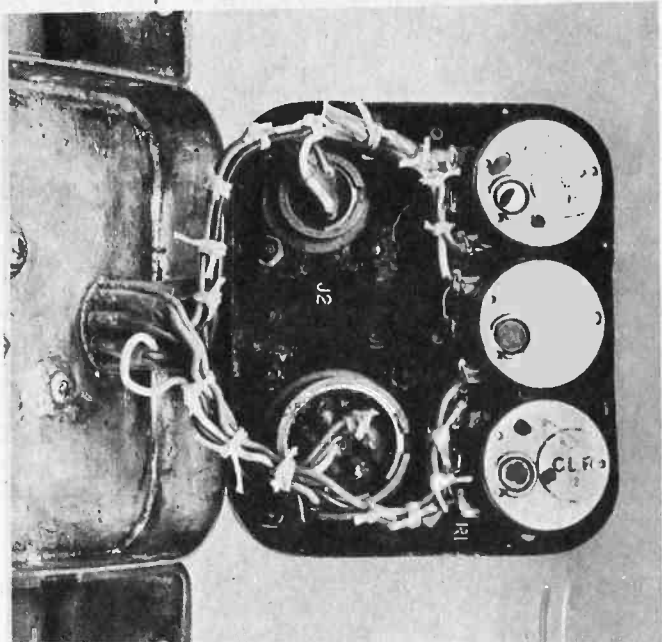
Ruggedized meters are desirable to withstand vibration forces. Use of rubber grommets at the meter mounting studs will result in a low resonant frequency of the meter. Care should be taken to attach leads to the terminals with sufficient slack to avoid wire breakage.

Large resistors mounted in fer-

# EQUIPMENT FOR VIBRATION



Chassis rigidity is increased by use of dimpled surface



Tieing wires prevents build-up of vibrations in any one lead

By SALVATORE P. MERCURIO, Jr. and MICHAEL BELBY

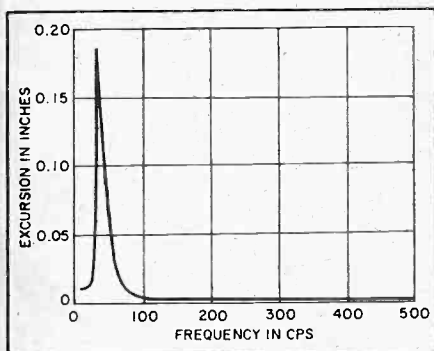


FIG. 1—High transmission of vibration in the 31-cps region as measured on chassis under test on vibration table

rule clips should be provided with spring locks to ensure stability during vibration.

Wire breakage creates a major problem in design. When the component is mounted so motion can take place because of isolation, sufficient wire slack should be provided. One of the photographs shows use of cord to secure a group of wires to prevent build-up of vibration in any one of them. If the component is mounted solidly, so motion cannot take place, leads should not have slack.

Excessive heating of wire during

soldering should be avoided. Heat causes brittleness and produces low fatigue life.

## Crystals

Crystals have been mechanically redesigned to meet vibration requirements.

For example, crystals in the range of 244 to 428 kc were selected at random and subjected to a vibration cycle of five to 500 cps at 2 g maximum. The exterior crystal cans were removed so the internal parts could be examined under vibration with a stroboscope.

All crystals had severe resonant points. The lower rated crystals experienced mechanical failure at the joining point of the crystal quartz leads and the supporting wire mounting.

The failures were remedied by increasing the wire size, for greater support, and eliminating several sharp bends. Figure 3 illustrates the change that was incorporated. The ruggedized crystals had no resonant point within the 500-cycle range.

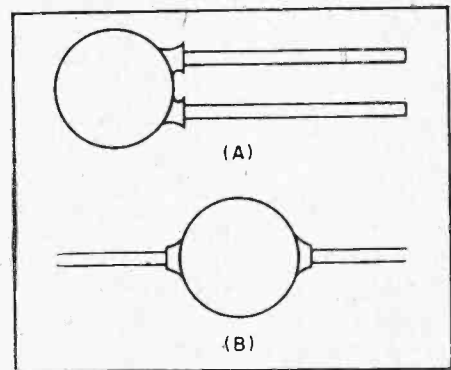


FIG. 2—Side-mounting of disk capacitor (A) permits high vibration. Axial mounting (B) provides more rigid support

Ruggedized tubes are being made that are capable of meeting higher vibration requirements. However, it is of little value to ruggedize a tube based on general vibration requirements if the vibration conditions are not controlled in the structure. A tube may be designed for a maximum excursion of 0.010 inch at five to 500 cps. If this tube is placed on a flexible member, the resulting excursion at resonance may be two to four times as great.

Tube failure seldom occurs be-

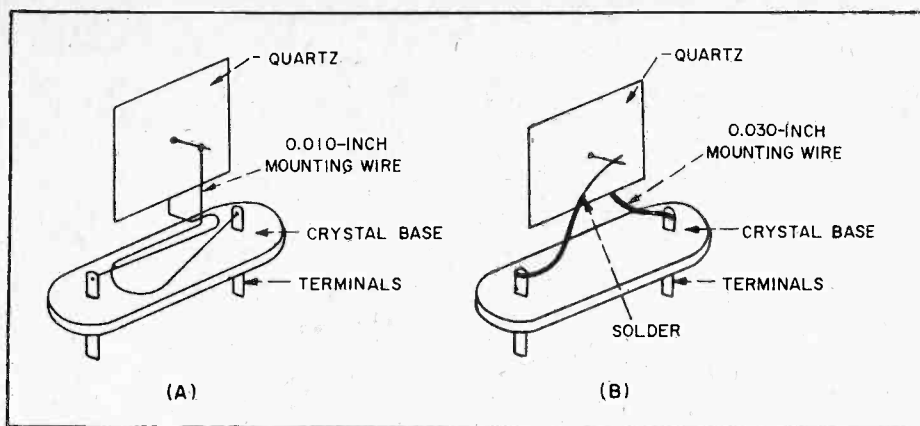


FIG. 3—Conventional crystal mounting (A) has lower tolerance to vibration than more rigid mount (B) designed for vibration up to 500 cps

cause the tube is inadequate. If ruggedized tubes are used with a good choice of tube location, a firm clamping system and a good chassis and supporting structure, failures can be reduced sharply.

### Fastening Devices

Components and subassemblies must be made accessible for ease in repair and maintenance and must be firmly attached to prevent imposing any great amplification of vibration forces.

Proper fasteners must be selected to obtain maximum use. Where subassemblies are attached permanently and removal is not a design requirement, rivets are useful. Rivets fastened by machine provide a more uniform tension than screws or bolts fastened by an individual assembler.

Where assemblies or components are to be mounted so they may be removed, screws are often used. Lock washers should always be used in conjunction with screws. The split ring-lock washer, in particular, was found to be satisfactory because impact loading during vibration does not cause the adjacent soft metal, such as aluminum, to deform washer.

Use of quick disconnects has the advantage that a faulty component can quickly be removed and a new one replaced. However, much care must be taken so the unit does not become overloaded by the use of improper quick-disconnect fasteners.

It is advisable to use ductile materials when possible. When design demands the use of brittle materials proper isolation should be

provided to prevent failures under impact loadings.

### Vibration Evaluation Testing

There are a number of points to be considered when conducting vibration evaluation tests on airborne equipment.

Testing facilities should be checked to determine their accuracy. This includes checking the vibration machine for levelness and resonance in the supporting table and calibrating the velocity pickups, accelerometers and other testing meters. The vibration machine shown in the photograph can be swung through 90 degrees. It has a frequency range from five to 500 cps.

Fixtures used to mount the equipment should have a center of gravity coinciding with the center line of the table. If this is not done, the equipment mounted on the fixture may be subjected to additional forces beyond the original test requirements and invalid data will result.

Weight added underneath the fixture, as in Fig. 4, brings the center of gravity of the supporting fixture and mounted unit in line with the center line of the table. Thick aluminum plates are useful in making fixtures, since aluminum has a great relative damping capacity and little elasticity.

Before making a vibration test, each unit should be inspected for electrical and mechanical accuracy and critical components tested to determine ability to withstand the vibration requirements. Wiring is then attached to the unit being tested and the vibration machine

is set up for initial vibration conditions. The vibration amplitude is checked by a vibrometer as the test proceeds.

Initial vibration of the assembly should be made at reduced amplitude to locate critical resonance points. From this test the transmissibility ratio of the equipment can be determined. In many cases, due to damping in the system, these resonance points may not be objectionable. However, if the transmissibility is excessive, corrective action must be taken. Usually supporting members are made more rigid by ribbing the surfaces, flanging the members or increasing thickness so unwanted resonance is above the testing frequency range.

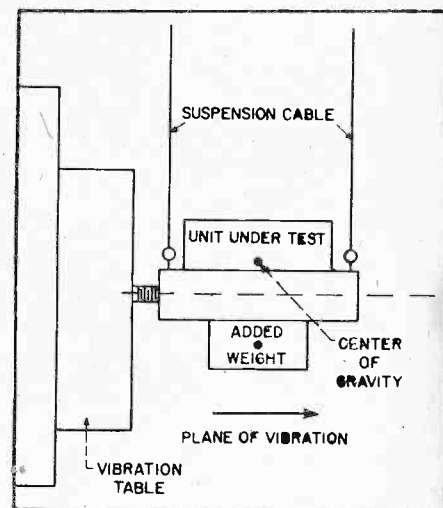


FIG. 4—Adding weight under vibration test mounting will bring center of gravity in line with table center line

A monitoring device which will define the satisfactory electrical operation of the equipment is required. If at all possible, this monitoring device should encompass the complete electrical function on one indicator, such as an oscilloscope.

Recording instruments should be used if adaptable to the particular test. It is also necessary to observe the equipment being tested for any mechanical failures, which might show up in a number of ways. A slight buzzing or an abrupt change in the magnitude or quality of the vibration noise being generated by the equipment in test are common examples of failure symptoms.

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The listings were compiled from information provided by more than 3,000 companies manufacturing electronic or allied products and include all products that will be available in the coming year, insofar as the companies themselves can determine. The completeness and accuracy of the listings are entirely due to the helpful cooperation of these manufacturers.

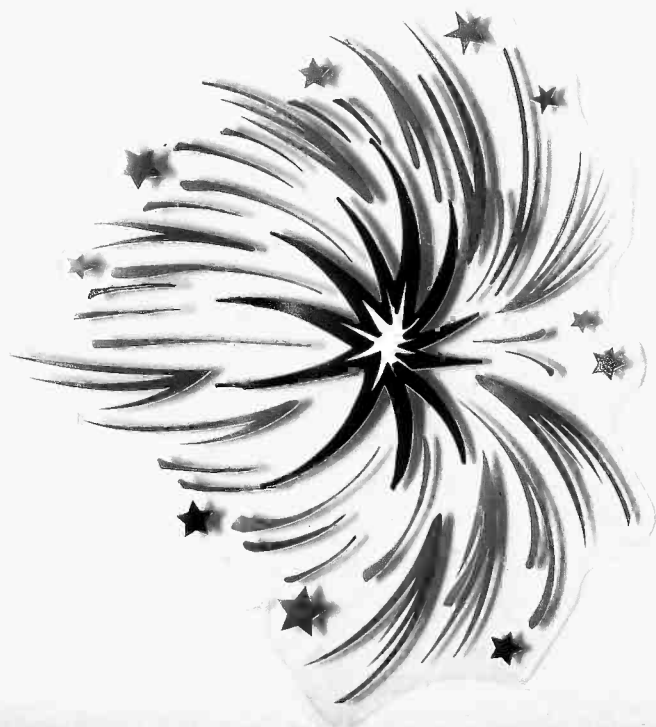
Products are arranged and indexed in a simple, easy-to-find, telephone-book style. Names of Manufacturers who are advertisers in the **BUYERS' GUIDE** are bold-faced in the listings and page numbers of their advertisements are shown. This makes it possible to obtain complete information on products quickly and easily by referring to the advertising pages.

Several new product headings have been added. Due to lack of sufficient information, only manufacturers who were known are included under these new headings. Listings include an index of registered trade names and an alphabetical listing of all companies engaged in the manufacture of electronic components, complete equipment or allied products.

**NOTE:** *This punch-out tab is for your convenience in locating the Product Listings in this issue. Simply push out and fold under. It will then serve as a tab mark to indicate where the listings start.*

**PUSH OUT  
AND FOLD**





# Alphabetical Listings Of All COMPONENTS—COMPLETE UNITS—ALLIED PRODUCTS Used in Electronic Equipment for All Purposes

The complete electronic and allied product lines of more than three thousand manufacturers are arranged and indexed in a simple, easy-to-use, telephone book style in the following listings.

Products are listed alphabetically by generic names followed by descriptive or type names where necessary, as ADAPTERS—Battery.

For example: To find the manufacturers of ionization tubes you would turn to the generic product heading TUBES and listed alphabetically under that you would find TUBES—Ionization.

The only exceptions are INSULATING COMPOUNDS; INSULATION MATERIALS; INSULATION PARTS; METALS; PLASTIC MATERIALS; and TUBE PARTS. Products falling in these classifications are arranged alphabetically under those six headings. A breakdown of electrical measuring

instruments is listed under the generic product heading INSTRUMENTS, ELECTRICAL MEASURING and cross-indexed. The same holds true for MICROWAVE ACCESSORIES.

Cross references are provided wherever necessary to cover names, other than the standard ones, that are sometimes used.

Manufacturers under each product heading are also arranged alphabetically. Those companies who are advertisers in this issue are bold-faced and the page numbers of their advertisements given to permit quick and easy reference for the necessary technical data.

In compiling the listings for this year's ELECTRONICS BUYERS' GUIDE extreme care has been taken to ascertain those products which are in production, or available within a reasonable time and, unrestricted for general industrial use.

## THE ONLY *Completely Verified* LISTING OF MANUFACTURERS OF ELECTRONIC AND ALLIED PRODUCTS

### ABSORBERS—Microwave

Admittance-Namco Corp., Farmingdale, N. Y.  
AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
BUDD-STANLEY CO., INC., 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
DeMORNAY-BONARDI, INC., 780 S. Arroya Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
FILMOHM CORP., 48 W. 25th St., New York 10, N. Y. ADV. PG. 670.  
GOODRICH SPONGE PRODUCTS, B. F., A Div. of The B. F. Goodrich Co., Shelton, Conn. ADV. PG. 147.  
McMILLAN INDUSTRIAL CORP., Brownville Avenue Plant, Ipswich, Mass. ADV. PG. 573.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
Transline Associates, 95 Summit St., Newark 3, N. J.  
J. S. RUBBER CO., 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.  
MacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.

### ACCELERATORS—Particle

Applied Radiation Corp., 1210 Spring Brook Rd., Walnut Creek, Calif.  
BEISLER LABORATORIES, P. O. Box 252, Menlo Park, Calif. ADV. PG. 591.  
High Voltage Engineering Corp., Burlington, Mass.  
Societe Anonyme de Machines Electrostatiques, B. P. 150, Grenoble, France.

### ACCELEROMETERS

B & F Instruments Inc., 4732 N. Broad St., Philadelphia 41, Pa.  
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.  
Bruel & Kjaer, Naerum, Denmark.  
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.  
CALIDYNE CO., THE, 120 Cross St., Winchester, Mass. ADV. PG. 472.  
Cedar Engineering Inc., 5806 W. 36th St., Minneapolis 16, Minn.  
Chesapeake Instrument Corp., Shadyside, Md.  
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
Donner Scientific Co., 888 Galindo St., Concord, Calif.  
Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.  
Endevco Corp., 161 E. California St., Pasadena, Calif.  
Epic, Inc., 154 Nassau St., New York 38, N. Y.  
Erwood Inc., 1770 Berceau Ave., Chicago 13, Ill.  
FAIRCHILD CONTROLS CORP., COMPONENTS DIV., 225 Park Ave., Hicksville, N. Y. ADV. PG. 364.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Genisco, Inc., 2233 Federal Ave., Los Angeles 64, Calif.  
GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
Gray Research & Development Co., Inc., 685 Hilliard St., Manchester, Conn.  
GREENLEAF MFG. CO., THE, 7814 Maplewood Industrial Court, St. Louis 17, Mo. ADV. PG. 219.  
GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
Humphrey, Inc., 2805 Canon St., San Diego 6, Calif.

Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
INSTRUMENT DEVELOPMENT LABORATORIES, INC., 163 Highland Ave., Needham Heights, Mass. ADV. PG. 611.  
KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.  
Kollsman Instrument Corp., Sub. of Standard Coil Products Co., Inc., 80-08 45th Ave., Elmhurst, N. Y.  
Litton Industries, Beverly Hills, Calif.  
Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
Maxson Instruments, Div. of the W. L. Maxson Corp., 47-37 Austel Place, Long Island City 1, N. Y.  
Miller Instrument, Inc., William, 325 N. Halstead Ave., Pasadena 8, Calif.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL, BOSTON DIV., 1400 Soldiers Field Rd., Boston 15, Mass. ADV. PG. 445.  
Norden-Kelay Corp., 58 Commerce Rd., Stamford, Conn.  
North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
Omega Instrument Co., Box 495M, Pasadena, Calif.  
Pacific Scientific Co., P. O. Box No. 22019, Los Angeles 22, Calif.  
PICKERING & CO., 309 Woods Ave., Oceanside, N. Y. ADV. PG. 617.  
Ram Meter Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
SANDERS ASSOCIATES, INC., Nashua, N. H. ADV. PG. 534.  
Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.  
Statham Laboratories, Inc., 12401 W. Olympic Blvd., Los Angeles 64, Calif.  
Summers Gyroscope Co., 2328 Broadway, Santa Monica, Calif.  
U. S. Time Corp., 346 Tejon Place, Palos Verdes Est., Calif.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.

**ACCUMULATORS**

BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
Darco Industries, Inc., Gyro Dynamics Div., 2151 E. Rosecrans Ave., El Segundo, Calif.  
Leclanche S. A., Yverdon, Switzerland.

**ADAPTERS—Battery**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.

**ADAPTERS—Foreign**

KULKA ELECTRIC MFG. CO., 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685.  
Morse Co., Frank W., 1300 Soldiers Field Rd., Boston 35, Mass.

**ADAPTERS—Panoramic**

PANORAMIC RADIO PRODUCTS, INC., 10 South Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.

**ADAPTERS—Phase**

INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
Phaotron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. ADV. PG. 564.

**ADAPTERS—Test**

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
ASSOCIATED ENGINEERING CORP., 65 Kent St., Brookline 46, Mass. ADV. PG. 678, 679.  
BOGART MFG. CO., 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
Decatur Electronics Industries Corp., 203 Ornicco Drive, Brightwater, N. Y.  
Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
POMONA ELECTRONICS CO., INC., 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
SWITCHCRAFT INC., 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
VECTOR ELECTRONIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.

**ADAPTERS—Tube**

ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
POMONA ELECTRONICS CO., INC., 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**ADHESIVES**

Ambroid Co., Weymouth 88, Mass.  
American Cyanamid Co., 38 Rockefeller Plaza, New York 20, N. Y.  
American Products Mfg. Co., Inc., 8127-33 Oleander St., New Orleans 18, La.  
Angier Adhesives Div. of Interchemical Corp., 120 Cambridge 42, Mass.  
Aries Laboratories, Inc., 270 Park Ave., New York 17, N. Y.  
Armstrong Cork Co., Lancaster, Pa.  
Armstrong Products Co., P. O. Box 1-EB, Warsaw, Ind.  
Bakelite Co., A. Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
Borden Co., Chemical Div., 350 Madison Ave., New York 17, N. Y.  
Cox & Co., Inc., 115 E. 23rd St., New York 10, N. Y.  
Dow Corning Corp., Midland, Mich.  
duPont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
Furane Plastics, Inc., 4516 Brazil St., Los Angeles 39, Calif.  
GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., Electronic Div., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
General Electric Co., Silicone Products Dept., Waterford, N. Y.  
Goodrich Aviation Products, B. F., Div. of B. F. Goodrich Co., Akron, Ohio.  
Goodyear Tire & Rubber Co., Chemical Div., 1144 E. Market St., Akron 16, Ohio.  
Houghton Laboratories, Inc., 322 Houghton Ave., Olean N. Y.  
Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
Lord Mfg. Co., 1635 W. 12th St., Erie, Pa.  
Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
Maas & Waldstein Co., 2121 McCarter Highway, Newark 4, N. J.  
Marbon Chemical Div. of Borg-Warner Corp., 1926 W. Tenth Ave., Gary, Ind.  
Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
Moyen Co., C. P., 8157 Monticello Ave., Skokie, Ill.  
Mystik Adhesive Products Co., 2635 N. Kildare, Chicago, Ill.  
Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
Paisley Products, Inc., 630 W. 51st St., New York 19, N. Y.  
Philadelphia Quartz Co., 1146 K Public Ledger Bldg, Philadelphia 6, Pa.  
POLYMER CORPORATION, THE, Reading, Pa. ADV. PG. 502.  
Reichhold Chemicals, Inc., 525 Broadway, White Plains, N. Y.  
Rubber & Asbestos Corp., 225 Belleville Ave., Bloomfield, N. J.  
Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh 15, Pa.  
Terrel Corp., 19 Lane St., Waltham 54, Mass.  
Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
UBS Chemical Corp., 491 Main St., Cambridge 42, Mass.  
U. S. RUBBER CO., 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.  
Vorac Co., 147 Meadow Rd., Rutherford, N. J.  
Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
ZOPHAR MILLS, INC., 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

**ADHESIVES—Waterproof & Corrosion Proof Compounds**

ACME WIRE CO., New Haven 14, Conn. ADV. PG. 611.  
Ambroid Co., Weymouth 88, Mass.  
American Products Mfg. Co., Inc., 8127-33 Oleander St., New Orleans 18, La.  
Aries Laboratories, Inc., 270 Park Ave., New York 17, N. Y.  
Armstrong Cork Co., Lancaster, Pa.  
Armstrong Products Co., P. O. Box 1-EB, Warsaw, Ind.  
Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
Borden Co., The, Chemical Div., 350 Madison Ave., New York 17, N. Y.  
duPont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
Ellanar Chemical Co., 2308 Oakton St., Evanston, Ill.  
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONICS DIV., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y.  
Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
Koppers Co., Inc., Koppers Bldg., Pittsburgh 19, Pa.  
Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
Mystik Adhesive Products Co., 2635 N. Kildare, Chicago, Ill.  
Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
Paisley Products, Inc., 630 W. 51st St., New York 19, N. Y.  
Silicones Div., A. Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
Stevenson Bro. & Co., 110 Race St., Philadelphia 6, Pa.  
Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
U. S. RUBBER CO., 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.  
U. S. Stoneware Co., The, Akron 9, Ohio.  
Vorac Co., 147 Meadow Rd., Rutherford, N. J.

**AGING RACKS**

See RACKS—Aging for Vacuum Tubes & Transistors

**AIR CLEANERS—Electronic**

Air Control Installations Ltd., Ruislip, Middlesex, England.

Lennard Co., Inc., P. M., P. O. Box 56, Village Station, New York 14, N. Y.  
Master Appliance Mfg. Co., Fourth & Ontario Sts., Racine, Wis.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Radex Corp., 2076 N. Elston Ave., Chicago 14, Ill.  
Trion, Inc., 1000 Island Ave., McKees Rocks, Pa.

**ALARM SYSTEMS**

See CONTROLS, Alarm Systems

**ALTERNATORS**

See CONVERTERS and INVERTERS

**ALUMINUM OXIDE**

See INSULATION MATERIALS

**AMMETERS**

**AMMETERS—RF**

See INSTRUMENTS—Electrical Measuring

**AMPLIFIERS—Audio Frequency**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
Acme Teletronic Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
ACTION LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.  
Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
AIRCRAFT RADIO CORP., Boonton, N. J. ADV. PG. 495.  
ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO., Box 125, Westboro, Mass. ADV. PG. 566.  
Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
AMPEX CORP., 934 Charter St., Redwood City, Calif. ADV. PG. 285.  
Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.  
Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
Auviox, Inc., 123 Worcester St., Boston 18, Mass.  
Avionex Electronics Corp., 10855 Vanover, North Hollywood, Calif.  
Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
BALLANTINE LABORATORIES, INC., Boonton, N. J. ADV. PG. 159.  
Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Bellare Electronics, Inc., 62 White St., Red Bank, N. J.  
Berlant Concertone-Audio Div. of American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
Bernot-Bach, Inc., Auricon Div., 6924 Romaine St., Hollywood 38, Calif.  
Bliss Electronic Corp., Box 366, Sussex, N. J.  
Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
Bruel & Kjaer, Naerum, Denmark.  
Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
Collins Radio Co., Cedar Rapids, Iowa.  
COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
Decade Instrument Co., Box 153, Caldwell, N. J.  
Denson Electronics Corp., Ellington, Conn.  
Dukane Corp., St. Charles, Ill.  
Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
Electronic Research Associates, Inc., 67 E. Centre St., Nutley 10, N. J.  
Electronic Systems Engineering Co., 903 Cravens Bldg., Oklahoma City, Okla.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
ENGINEERED ELECTRONICS CO., 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171.  
Fairchild Recording Equipment Co., 10-40 45th Ave., Long Island City 1, N. Y.  
Fidelity Amplifier Co., 703 Willow St., Chicago 14, Ill.  
Fisher Radio Corp., 21-21 Forty-Fourth Drive, Long Island City 1, N. Y.  
Gates Radio Co., Quincy, Ill.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.

General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Gosnet Co., 801 S. Main St., Burbank, Calif.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
 Gotham Audio Development Corp., 2 W. 46th St., New York 36, N. Y.  
 Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 I.D.E.A. Inc., 7900 Pendleton Pike, Indianapolis 26, Ind. Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 Johnson Co., E. F., Waseca, Minn.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
**KROHN-HITE CORP.**, 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
 L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
 Lake Mfg. Co., 2323 Chestnut St., Oakland 7, Calif.  
 Langevin Mfg. Corp., 47-37 Austel Place, Long Island City 1, N. Y.  
 Laurehk Radio Mfg. Co., 3931 S. Wayne Rd., Wayne, Mich.  
 Leonard Electric Products Co., Inc., 67 Thirty-Fourth St., Brooklyn 32, N. Y.  
 Lesa, Via Bergamo 21, Milan, Italy.  
**LING ELECTRONICS, INC.**, 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Lynnmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
**M F ELECTRONICS**, 122 E. 25th St., New York 10, N. Y. ADV. PG. 512.  
 M. P. Engineering Co., Fairfield 3, Conn.  
 McIntosh Laboratory Inc., 2 Chambers St., Binghamton, N. Y.  
 Mack Electronics, A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Magnadyne Co., 84 S. Water St., Port Chester, N. Y.  
 Magnasync Mfg. Co., Ltd., 5546 Satsuma Ave., P. O. Box 707, North Hollywood, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Magnecord, Inc., 1101 S. Kilbourn Ave., Chicago 24, Ill.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Maurer, Inc., J. A., 37-01 31st St., Long Island City 1, N. Y.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41, Ill.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.  
 North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
**NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
 Nortronic Co., Inc., 1015 S. Sixth St., Minneapolis 4, Minn.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
**PARAPLEGIS MFG. CO., INC.**, 10068 Franklin Ave., Franklin Park, Ill. ADV. PG. 416.  
 Pedersen Electronics Co., Mount Diablo Blvd., Lafayette, Calif.  
 Peer, Inc., Benton Harbor, Mich.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Precision Electronics Inc., 9101 King St., Franklin Park, Ill.  
 Precision Radiation Instruments, Inc., 4223 W. Jefferson Blvd., Los Angeles 16, Calif.  
 Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.  
 Q.R.K. Electronic Products, 445 N. Circle Drive, Fresno, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Radio Craftsmen, Inc., 4223 W. Jefferson Blvd., Los Angeles 16, Calif.  
 Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Rumpel, Inc., 15026 Oxnard St., Van Nuys, Calif.

Sargent-Rayment Co., The, 4926-28 E. 12th St., Oakland 1, Calif.  
 Scott, Inc., Herman Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
 Seeburg, J. P., A. Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
**SONEX, INC.**, 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Telethro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
 Transistor Components Co., 301 Oakwood Ave., East Aurora, N. Y.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 Volkens & Schaffer Mfg. Corp., P. O. Box 996, Schenectady, N. Y.  
**WALLSON ASSOCIATES, LTD.**, 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.  
 Webster Electric Co., 1900 Clark St., Racine, Wis.  
 Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wheeler Insulated Wire Co., Inc., The, Div. of the Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
**AMPLIFIERS—Audio Input Systems**  
 Acme Teletronix Div. of NEA Service, Inc., West Third & Lakeside, Cleveland 13, Ohio.  
 Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
**AMPEX CORP.**, 934 Charter St., Redwood City, Calif. ADV. PG. 285.  
 Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Berlant Concertone-Audio Div. of American Electronics Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 Bogen Co., Inc., David, P. O. Box 500 Paramus, N. J.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Dukane Corp., St. Charles, Ill.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Electronic Systems Engineering Co., 903 Cravens Bldg., Oklahoma City, Okla.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Fisher Radio Corp., 21-21 Forty Fourth Drive, Long Island City 1, N. Y.  
 Gates Radio Co., Quincy, Ill.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Holl Audio Inc., 5014 N. Encinta Ave., Temple City, Calif.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
 Langevin Mfg. Corp., 47-37 Austel Place, Long Island City 1, N. Y.  
 McIntosh Laboratory Inc., 2 Chambers St., Binghamton, N. Y.  
 Mack Electronics, A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
 Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.  
 Nortronic Co., Inc., 1015 S. Sixth St., Minneapolis 4, Minn.

O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Pedersen Electronics Co., Mount Diablo Blvd., Lafayette, Calif.  
 Peer, Inc., Benton Harbor, Mich.  
 Pickard & Burns, Inc., Needham, Mass.  
 Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
 Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.  
 Q.R.K. Electronic Products, 445 N. Circle Drive, Fresno, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Rumpel, Inc., 15026 Oxnard St., Van Nuys, Calif.  
 Scott, Inc., Herman Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
**SONEX, INC.**, 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Weingarten Electronic Labs., Inc., 7556 Melrose Ave., Los Angeles 46, Calif.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

## AMPLIFIERS—Audio Subminiature

**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
 Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
 Aurex Corp., 1117 N. Franklin St., Chicago 10, Ill.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
 Buffalo Electronics Corp., 37 Franklin St., Buffalo 2, N. Y.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
 Decade Instrument Co., Box 153, Caldwell, N. J.  
**DOTY ACOUSTICAL ELECTRONIC LABS., INC.**, 431 Broome St., New York 13, N. Y. ADV. PG. 676.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Electro-Mechanical Research Inc., Ridgefield, Conn.  
**EPSCO, INCORPORATED**, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235.  
 General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
 Keystone Products Co., 904-6 23rd St., Union City, N. J.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Langevin Mfg. Corp., 47-37 Austel Place, Long Island City 1, N. Y.  
 Laurehk Radio Mfg. Co., 3931 S. Wayne Rd., Wayne, Mich.  
 Loge Sound Engineers, J. M., 2171 W. Washington Blvd., Los Angeles 18, Calif.  
 Magnasync Mfg. Co., Ltd., 5546 Satsuma Ave., P. O. Box 707, North Hollywood, Calif.  
 Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.  
 National Inter-Communication Systems, Inc., 1130 N. Milwaukee Ave., Chicago 22, Ill.  
 Plastics & Electronics Co., Inc., P. O. Box 38, Station J, Buffalo 8, N. Y.  
 Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
 Production Research Corp., Thornwood, N. Y.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
**RHEEM ELECTRONICS DIVISION**, 7777 Industry Ave., Rivera, Calif. ADV. PG. 654.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Rumpel, Inc., 15026 Oxnard St., Van Nuys, Calif.

Signal Equipment Co., Inc., 2706 Third Ave., Seattle 1, Wash.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
 Transformer Specialty Co., Inc., Bala Cynwyd, Pa.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

**AMPLIFIERS—d-c**

Acme Teletronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
 Alcor Electronics Corp., 180 Lafayette St., New York 13, N. Y.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Belock Instrument Corp., 111-01 14th Ave., College Point, N. Y.  
 Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Dynalysis Development Labs., Inc., 11941 Wilshire Blvd., Los Angeles 25, Calif.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Edin Co., Inc., 207 Main St., Worcester, Mass.  
 Electro-Mechanical Research, Inc., Ridgefield, Conn.  
 Electronic Associates, Inc., Long Branch, N. J.  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
**ELECTRONICS COMPUTER CORP.**, 6191 Ridge Ave., Philadelphia 28, Pa. ADV. PG. 635.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
 Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.  
**EPSCO, INCORPORATED**, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235.  
 Farrand Optical Co., Inc., Bronx Blvd. at 238th St., New York 70, N. Y.  
 Feedback Controls, Inc., 899 Main St., Waltham 54, Mass.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 GPS Instrument Co., Inc., 811 Boylston St., Boston 16, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.  
 Hallamere Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
 Hanover Developments, 401 E. 74th St., New York 21, N. Y.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 Kelvin & Hughes Ltd., New North Rd., Barking, Essex, England.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa-ge Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Kistler Instrument Corp., 15 Webster St., North Tona-wanda, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Haw-thorne, Calif.  
**MAGNETIC RESEARCH CORP.**, 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
 Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Mid-Century Instrument Corp., 611 Broadway, New York 12, N. Y.  
 Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
 Miller Instruments, Inc., William, 325 N. Halstead Ave., Pasadena 8, Calif.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
**MINNEAPOLIS-HONEYWELL, BOSTON DIV.**, 1400 Sol-diers Field Rd., Boston 15, Mass. ADV. PG. 445.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUS-TRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.  
 Moulis Specialties Co., 1007 W. Washington St., Bloom-ington, Ill.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
 Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Pegasus Laboratories, Inc., 3692 Eleven Mile Rd., Berkeley, Mich.  
 Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
 Photon Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 Production Research Corp., Thornwood, N. Y.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
 Research Electronics Laboratories, Roslyn, Pa.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Servo-Tek Products Co., Inc., 1086 Goffie Rd., Haw-thorne, N. J.  
 Southern Instruments Ltd., Computer Div., Frimley Rd., Camberley, Surrey.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas ADV. PG. 294, 295.  
 Spivey, Inc., James S., 4908 Hampden Lane, Wash-ington 14, D. C.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tektronix, Inc., P. O. Box 831, Portland 7, Ore.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
 United Electrodynamics Div. of United Geophysical Corp., 1200 S. Marengo, Pasadena, Calif.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRAN-SISTOR PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
 Volkers & Schaffer Mfg. Corp., P. O. Box 996, Schene-tady, N. Y.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.  
 Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.

**AMPLIFIERS—Decade**

**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
 Alcor Electronics Corp., 180 Lafayette St., New York 13, N. Y.  
**BALLANTINE LABORATORIES, INC.**, Boonton, N. J. ADV. PG. 159.  
 Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz.  
 Endeveco Corp., 161 E. California St., Pasadena, Calif.  
 Fairchild Engine & Airplane Corp., Guided Missiles Div., Wyandanch, N. Y.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cam-bridge 39, Mass.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Westbury Electronics, Inc., 300 Shames Drive, West-bury, N. Y.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

**AMPLIFIERS—Differential**

American Electronic Labs., Inc., 121 N. 7th St., Phila-delphia 6, Pa.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
**BOEHME, INC. H. O.**, 915 Broadway, New York 10, N. Y. ADV. PG. 556.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleve-land 14, Ohio. ADV. PG. 478, 479.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., West-bury, N. Y.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVER-SAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Electronic Associates, Inc., Long Branch, N. J.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
 GPS Instrument Co., Inc., 811 Boylston St., Boston 16, Mass.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Linden-hurst, N. Y. ADV. PG. 510.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
 Otis Elevator Co., Electronics Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
 Tektronix, Inc., P. O. Box 831, Portland 7, Ore.  
 Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Volkers & Schaffer Mfg. Corp., P. O. Box 996, Schene-tady, N. Y.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.

**AMPLIFIERS—f-m & a-m Antenna**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 Community Engineering Corp., Box 824, State College, Pa.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**LEL, INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.  
 Q.R.K. Electronic Products, 445 N. Circle Drive, Fresno 4, Calif.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 Westbury Electronics, Inc., 300 Shames Drive, West-bury, N. Y.

## AMPLIFIERS—Facsimile

Acme Technonix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
 Muirhead Co., Ltd., Beckenham, Kent, England.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.

## AMPLIFIERS—i-f

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
**ANDERSON LABORATORIES, INC.**, 39 Talcott Rd., West Hartford 10, Conn. ADV. PG. 486.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 Denson Electronics Corp., Ellington, Conn.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INSTRUMENTS FOR INDUSTRY, INC.**, 149 Glen Cove Rd., Mineola, N. Y. ADV. PG. 656.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 Jowill Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**LEL INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.  
 Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
 Maxson Instruments Div. of the W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
 Pedersen Electronics Co., Mount Diablo Blvd., Lafayette, Calif.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telecro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.

## AMPLIFIERS—Keying

**BARBER LABS., ALFRED W.**, 32-40 Francis Lewis Blvd., Flushing 58, N. Y. ADV. PG. 660.  
**BOEHME, INC.**, H. O., 915 Broadway, New York 10, N. Y. ADV. PG. 556.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.

## AMPLIFIERS—Klystron AFC

**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**FEDERAL TELEPHONE & RADIO CO.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**VARIAN ASSOCIATES**, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.

## AMPLIFIERS—Linear

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**AMERICAN TRADAIIR CORP., SUB. OF EKCO ELECTRONICS, LTD.**, 34-01 30th St., Long Island City 6, N. Y. ADV. PG. 693.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Beva Laboratory, 1640 Olden Ave., Ext., Trenton 9, N. J.  
 Bruel & Kjaer, Naerum, Denmark.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz.  
 Century Electronics & Instruments, Inc., P. O. Box 6216, Pine Station, Tulsa 10, Okla.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Daystrom Nuclear Div. of Daystrom, Inc., P. O. Box 437, West Caldwell, N. J.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Dynamics Instrumentation Co., Div. of Alberhill Corp., 1118 Mission St., South Pasadena, Calif.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Gosnet Co., 810 S. Main St., Burbank, Calif.  
**HAMNER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. ADV. PG. 671.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Johnson Co., E. F., Waseca, Minn.  
 Maxson Instruments, Div. of the W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Nuclear-Chicago Corp., 223 W. Erie St., Chicago 10, Ill.  
 Nucleonic Company of America, 196 DeGraw St., Brooklyn 31, N. Y.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.  
 Radiation Instrument Development Labs., 2337 W. 67th St., Chicago 36, Ill.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
 Technical Associates, 140 W. Providencia Ave., Burbank, Calif.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.

## AMPLIFIERS—Logarithmic

**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 Audio Instrument Co., Inc., 133E W. 14th St., New York 11, N. Y.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PGS. 478, 479.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Daystrom Nuclear Div. of Daystrom, Inc., P. O. Box 437, West Caldwell, N. J.  
 Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
 Electronic Associates, Inc., Long Branch, N. J.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.

**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
**MOSELEY CO., F. L.**, 409 N. Fair Oaks, Pasadena 3, Calif. ADV. PG. 572.  
 Pickard & Burns, Inc., Needham, Mass.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PGS. 205-216.

## AMPLIFIERS—Magnetic

**ACROMAG CO.**, 22519 Telegraph Rd., Detroit 19, Mich. ADV. PG. 492.  
 Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Aerovox Corp., Pacific Coast Div., 2724 So. Peck Rd., Monrovia, Calif.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PGS. 297-300.  
 American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
**ARNOLD MAGNETICS CORP.**, 4613 W. Jefferson Blvd., Los Angeles 15, Calif. ADV. PG. 553.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Avion Division, ACF Industries, Inc., 11 Park Place, Paramus, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
 Bone Engineering Corp., 701 W. Broadway, Glendale 4, Calif.  
 Burroughs Corp., Electronic Instruments Div., 1209 Vine St., Philadelphia 23, Pa.  
 C. G. S. Laboratories, Inc., 391 Ludlow St., Stamford, Conn.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PGS. 138, 139.  
**CENTRALAB DIV., Globe-Union, Inc.**, 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**CHASE ELECTRONICS INC.**, 82-31 51st Ave., Elmhurst, N. Y. ADV. PG. 601.  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521 Addison St., Chicago, Ill. ADV. PGS. 466, 467.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Clifton Mfg. Co., Inc., 20 N. Springfield Rd., Clifton Heights, Pa.  
 Cline Electric Mfg. Co., 3405 W. 47th St., Chicago, Ill.  
 Coast Coil Co., 5333 W. Washington Blvd., Los Angeles 16, Calif.  
 Coil Company of America, Inc., 207 Washington St., Northvale, N. J.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PGS. 113-118.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
 Daystrom Nuclear Div. of Daystrom, Inc., P. O. Box 437, West Caldwell, N. J.  
 De Coursey Engineering Lab., 11828 W. Jefferson Blvd., Culver City, Calif.  
**DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT**, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Electric Machinery & Equipment Div. of American Electronics, Inc., 2112 N. Chico Ave., El Monte, Calif.  
**ENDICOTT COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 571.  
 Engineered Magnetics Div. of Gulton Mfg. Corp., 11818 Teale St., Culver City, Calif.  
 Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
 Feedback Controls, Inc., 899 Main St., Waltham 54, Mass.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
**FILTER NETWORKS, INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.

FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
 GENERAL MAGNETICS, INC., 135 Bloomfield Ave., Bloomfield, N. J. ADV. PG. 426.  
 Goldak Co., Inc., The, Dept. E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
 GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
 Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif.  
 Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
 Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.  
 HERMETIC SEAL TRANSFORMER CO., 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
 HYOOR DIV. OF INTERNATIONAL RESISTANCE CO., 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
 I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
 INDUSTRIAL CONTROL CO., 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main St., Clifton, N. J. ADV. PG. 181.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.  
 KEPCO LABS., INC., 131-38 Sanford Ave., Flushing 55, N. Y. ADV. PG. 45-48.  
 Keystone Products Co., 904-6 23rd St., Union City, N. J.  
 Kollsman Instrument Corp., Sub. of Standard Coil Products Co., Inc., 80-08 45th Ave., Elmhurst, N. Y.  
 Lee Electric & Mfg. Co., 2806 Clearwater St., Los Angeles 39, Calif.  
 LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Litton Industries of Maryland, Inc., 4910 Calvert Rd., College Park, Md.  
 MCKAY ELECTRIC CO., 19790 Stahelin Ave., Detroit 19, Mich. ADV. PG. 638.  
 MACARR, INC., 2543 Boston Rd., Bronx 67, N. Y. ADV. PG. 640.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 MAGNETIC AMPLIFIERS, INC., 632 Tinton St., New York 55, N. Y. ADV. PG. 389.  
 MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
 MAGNETICS, INC., P. O. Box 391, Butler, Pa. ADV. PG. 161-163.  
 Magnetics Research Co., Cor. Grove St. & E. Post Rd., White Plains, N. Y.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. ADV. PG. 676.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 ORTHO FILTER CORP., 198 Albia Ave., Paterson 2, N. J. ADV. PG. 648.  
 Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 PERKIN ENGINEERING CORP., 345 Kansas St., El Segundo, Calif. ADV. PG. 67.  
 Piezo Products Co., Whitney St., Sherborn, Mass.  
 POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 POUGHKEEPSIE COIL CO., INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 681.  
 Power Supplies, Inc., 1007 Olive St., Highland, Ill.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
 PULSE ENGINEERING, INC., 2657 Spring St., Redwood City, Calif. ADV. PG. 607.  
 Qutronic Transformer Corp., 525 Broadway, New York 12, N. Y.  
 Ransom Research, Box 382, San Pedro, Calif.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif.  
 Regulator Equipment Corp., 100 Pennsylvania Ave., Paterson 3, N. J.  
 RHEEM ELECTRONICS DIVISION, 7777 Industry Ave., Rivera, Calif. ADV. PG. 654.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
 Signal Equipment Co., Inc., 2706 Third Ave., Seattle 1, Wash.

Specialties, Inc., Skunks Misery Rd., Syosset, N. Y.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Thompson Products, Inc., Electronics Div., 2196 Clarkwood Ave., Cleveland 3, Ohio.  
 TOROTEL, INC., 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539.  
 TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405.  
 TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
 United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover  
 VARI-L CO., INC., P. O. Box 1433, Stamford, Conn. ADV. PG. 608.  
 VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

**AMPLIFIERS—Medical Instrument**

American Electronic Labs, Inc., 121 N. 7th St., Philadelphia 6, Pa.  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
 Audivox, Inc., 123 Worcester St., Boston 18, Mass.  
 BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz.  
 Electro-Medical Lab, Inc., South Woodstock 8, Vt.  
 Electrodyne Co., Endicott St., Norwood, Mass.  
 Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.  
 Grass Instrument Co., 101 Old Colony Ave., Quincy, Mass.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 INDUSTRIAL CONTROL CO., 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
 INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 KETHLEY INSTRUMENTS, INC., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 KIN TEL (Kay Lab), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
 Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.  
 Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago 41, Ill.  
 Missouri Research Labs., Inc., 2109 Locust St., St. Louis 3, Mo.  
 Moulic Specialties Co., 1007 W. Washington St., Bloomington, Ill.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
 Photon Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 SANBORN CO., 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tektronix, Inc., P. O. Box 831, Portland 7, Ore.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
 Videon Electronic Corp., 902 E. Michigan St., Indianapolis 2, Ind.  
 Volkens & Schaffer Mfg. Corp., P. O. Box 996, Schenectady, N. Y.  
 WaLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Western Radiation Lab., 1107 W. 24th St., Los Angeles 7, Calif.

**AMPLIFIERS—Microwave**

**AMPLIFIERS—Microwave Radar**

**See MICROWAVE ACCESSORIES**

**AMPLIFIERS—Musical Instrument**

Autocrat Electronics Co., 5024 Elm St., Skokie, Ill.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Magna Electronics Co., 9810 Anza Ave., Inglewood, Calif.

Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
 SONEIX, INC., 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 Valco Mfg. Co., 4700 W. Walton St., Chicago 51, Ill.

**AMPLIFIERS—Narrow Band Audio**

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Antlab, 4950 N. High St., Columbus 14, Ohio.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
 Bruel & Kjaer, Naerum, Denmark.  
 COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 INSTRUMENTS FOR INDUSTRY, INC., 149 Glen Cove Rd., Mineola, N. Y. ADV. PG. 656.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 Johnson Co., E. F., Waseca, Minn.  
 LING ELECTRONICS, INC., 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41, Ill.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 WHITE INSTRUMENT LABORATORIES, Box 9006, Allandale Station, Austin 17, Texas. ADV. PG. 501.

**AMPLIFIERS—Narrow-Band i-f**

APPLIED RESEARCH INC., 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 Babcock Radio Engineering Co., P. O. Box 3097, Van Nuys, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 LEL, INC., 380 Oak St., Copiague, N. Y. ADV. PG. 666.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.

**AMPLIFIERS—Null**

Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 GERTSCH PRODUCTS, INC., 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
 INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.

Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
 Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
 Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PGS. 205-216.

## AMPLIFIERS—Operational

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
 Electronic Associates, Inc., Long Branch, N. J.  
 Electronic Products Corp., 322 State St., Santa Barbara, Calif.  
**ELECTRONICS COMPUTER CORP.**, 6191 Ridge Ave., Philadelphia 28, Pa. ADV. PG. 635.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Mid-Century Instrument Corp., 611 Broadway, New York 12, N. Y.  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Philbrick Researches, Inc., George A., 230 Congress St., Boston 10, Mass.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.

## AMPLIFIERS—Peak Limiting

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby Pa.  
**DORSETT LABORATORIES, INC.**, 401 E. Boyd St., Box 862, Norman, Okla. ADV. PG. 460.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 Electronic Systems Engineering Co., 903 Cravens Bldg., Oklahoma City, Okla.  
 Erco Radio Labs, Inc., 637 Stewart Ave., Garden City, N. Y.  
 Gates Radio Co., Quincy, Ill.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Johnson Co., E. F., Waseca, Minn.  
**LEL, INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.  
**LING ELECTRONICS, INC.**, 5170 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41, Ill.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
 Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Ransom Research, Box 382, San Pedro, Calif.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.

## AMPLIFIERS—Photocell

Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.

Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Deitz Co., S. J., 9 E. Wesley St., South Hackensack, N. J.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Endevo Corp., 161 E. California St., Pasadena, Calif.  
 Erdco Engineering Corp., Addison, Ill.  
 Fidelity Amplifier Co., 703 Willow St., Chicago 14, Ill.  
 General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
**HAMNER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. ADV. PG. 671.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Lektra Laboratories, 154 11th Ave., New York 11, N. Y.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
**MAGNETIC RESEARCH CORP.**, 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
 Moulic Specialties Co., 1007 W. Washington St., Bloomington, Ill.  
 National Inter-Communication Systems, Inc., 1130 N. Milwaukee Ave., Chicago 22, Ill.  
 Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photon Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Simpson Mfg. Co., Inc., Mark, 32-38 49th St., Long Island City 3, N. Y.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
**VECTROL ENGINEERING INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Worner Electronic Devices, Rankin, Illinois.

## AMPLIFIERS—Power

**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
 Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Daystrom Electric Corp., 807 Main St., Poughkeepsie, N. Y.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
 Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.  
 Fidelity Amplifier Co., 703 Willow St., Chicago 14, Ill.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 29, Mass. ADV. PG. 316, 317.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
 Gotham Audio Development Corp., 2 W. 46th St., New York 36, N. Y.  
 Holl Audio Inc., 5014 N. Encinta Ave., Temple City, Calif.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.

**INSTRUMENTS FOR INDUSTRY, INC.**, 149 Glen Cove Rd., Mineola, N. Y. ADV. PG. 656.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Johnson Co., E. F., Waseca, Minn.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**KROHN-HITE CORP.**, 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
 McIntosh Laboratory Inc., 2 Chambers St., Binghamton, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
**MAGNETIC AMPLIFIERS, INC.**, 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
 National Inter-Communication Systems, Inc., 1130 N. Milwaukee Ave., Chicago 22, Ill.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41, Ill.  
 Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Pedersen Electronics Co., Mount Diablo Blvd., Lafayette, Calif.  
 Pegasus Laboratories, Inc., 3692 Eleven Mile Rd., Berkeley, Mich.  
 Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.  
 Power Supplies, Inc., 1007 Olive St., Highland, Ill.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
 Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
**RHEEM ELECTRONICS DIVISION**, 7777 Industry Ave., Rivera, Calif. ADV. PG. 654.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
 Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.  
**SONEX, INC.**, 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Transistor Components Co., 301 Oakwood Ave., East Aurora, N. Y.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSDUCER PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Webster Electric Co., 1900 Clark St., Racine, Wis.  
 Western Electro-Acoustic Lab., 11789 San Vincente Blvd., Los Angeles 49, Calif.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

## AMPLIFIERS—Printed Circuit

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Ansley Mfg. Co., Arthur, New Hope, Pa.  
 Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PGS. 478, 479.  
 Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz.  
 Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.



**ERIE RESISTOR CORP.**, Erie 6, Pa. ADV. PG. 170, 171. Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.

Fisher Radio Corp., 21-21 Forty Fourth Drive, Long Island City 1, N. Y.

Gates Radio Co., Quincy, Ill.

General Electric Co., Broadcast Equipment Dept., Electronics Park, Syracuse, N. Y.

Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.

Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.

Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.

**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.

International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.

Jowll Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.

**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.

**LEL, INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.

Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.

Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.

Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.

**PHOTOCIRCUITS CORP.**, Glen Cove, N. Y. ADV. PG. 396.

Plastics & Electronics Co., Inc., P. O. Box 38, Station J, Buffalo 8, N. Y.

Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.

Production Research Corp., Thornwood, N. Y.

**RS Electronics Corp.**, 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.

Ransom Research, Box 382, San Pedro, Calif.

**RHEEM ELECTRONICS DIVISION**, 7777 Industry Ave., Rivera, Calif. ADV. PG. 654.

Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.

**SONEX, INC.**, 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.

Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.

Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.

Sprague Electric Co., 125 Marshall St., North Adams, Mass.

Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.

Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

Telephonics Corp., Park Ave., Huntington, N. Y.

Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.

United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.

**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

**AMPLIFIERS—Pulse**

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.

**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.

**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.

**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.

Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.

Devtron Engineering, 1 Winslow St., Redwood City, Calif.

Eberline Instrument Division, P. O. Box 279, Santa Fe, N. M.

Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.

**ELECTRO-PULSE, INC.**, 11861 Teale St., Culver City, Calif. ADV. PG. 651.

Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.

**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.

Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.

Foto Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.

Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.

**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.

**HAMNER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. ADV. PG. 671.

**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.

Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.

**INSTRUMENTS FOR INDUSTRY, INC.**, 149 Glen Cove Rd., Mineola, N. Y. ADV. PG. 656.

**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.

**LEL, INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.

Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.

**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.

Mt. Sopris Instrument Corp., 1320 Pearl St., Boulder, Colo.

Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.

Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.

Radiation Instrument Development Labs., 2337 W. 67th St., Chicago 36, Ill.

Ransom Research, Box 382, San Pedro, Calif.

Rese Engineering Corp., 731 Arch St., Philadelphia 6, Pa.

**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.

Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

Technical Measurement Corp., 140-142 State St., New Haven 11, Conn.

**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSISTOR PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.

**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.

Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

**AMPLIFIERS—Recording**

Acme Teletronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.

**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.

**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.

Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.

Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.

**DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO.**, 10721 Hanna St., Beltsville, Md. ADV. PG. 446.

Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.

Dynamics Instrumentation Co., Div. of Alberhill Corp., 1118 Mission St. South Pasadena, Calif.

**ELECTROMATION CO.**, 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.

Electronic Systems Engineering Co., 903 Cravens Bldg., Oklahoma City, Okla.

**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.

Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.

Gotham Audio Development Corp., 2 W. 46th St., New York 36, N. Y.

**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.

Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.

Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.

Holl Audio Inc., 5014 N. Encinta Ave., Temple City, Calif.

Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.

**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.

International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.

**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.

**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.

Magnasyn Mfg. Co., Ltd., 5546 Satsuma Ave., P. O. Box 707, North Hollywood, Calif.

Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.

Maurer, Inc., J. A., 37-01 31st St., Long Island City 1, N. Y.

Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.

Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.

Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis 4, Minn.

Parsons Co., Ralph M., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.

Photron Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.

Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.

Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.

Presto Recording Corp., P. O. Box 500, Paramus, N. J.

**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J., ADV. PG. 453, Third & Fourth Covert.

Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.

Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.

Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.

Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.

**SONEX, INC.**, 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.

Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.

Webster Electric Co., 1900 Clark St., Racine, Wis.

Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**AMPLIFIERS—r-f**

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.

Ampl-Vision Div. of The International Telemeter Corp., 2000 Stoner Ave., Los Angeles 25, Calif.

**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.

Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.

**BARBER LABS., ALFRED W.**, 32-40 Francis Lewis Blvd., Flushing 58, N. Y. ADV. PG. 660.

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.

Blonder-Tongue Laboratories, Inc., 9-25 Ailing St., Newark 2, N. J.

Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.

**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.

Community Engineering Corp., Box 824, State College, Pa.

Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas 27, Texas.

Denson Electronics Corp., Ellington, Conn.

Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.

Entron, Inc., 4902 Lawrence St., Bladensburg, Md.

Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.

Erdo Engineering Corp., Addison, Ill.

Gates Radio Co., Quincy, Ill.

General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.

**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.

Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.

Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.

**INSTRUMENTS FOR INDUSTRY, INC.**, 149 Glen Cove Rd., Mineola, N. Y. ADV. PG. 656.

**JERROLD ELECTRONICS CORP.**, 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.

**LEL, INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.

Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.

McKenna Laboratories, Santa Monica 6, Calif.

Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.

Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.

Mohawk Electronic Research Labs., Inc., Box 126-A, RD-4, Amsterdam, N. Y.

National Electronics Laboratories, Inc., 1713 Kalorama Rd., N. W., Washington 9, D. C.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.

Pedersen Electronics Co., Mount Diablo Blvd., Lafayette, Calif.

Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.

Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.

Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.

**RS Electronics Corp.**, 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.

Servonics, Inc., 822 N. Henry St., Alexandria, Va.

Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.

Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.

Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.

Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.

Sturupp, Inc., 50 Silver St., Middletown, Conn.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia, Pa.

Telephonics Corp., Park Ave., Huntington, N. Y.

**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.

Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.  
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**AMPLIFIERS—Servo**

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
Advance Instrument Corp., 1709 F. St., Belmar, N. J.  
Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
Askania Regulator Co., 240 E. Ontario St., Chicago 11, Ill.  
Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.  
Avion Division, ACF Industries, Inc., 11 Park Place, Paramus, N. J.  
Belock Instrument Corp., 111-01 14th Ave., College Point, N. Y.  
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.

CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP., 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.

Electronic Associates, Inc., Long Beach, N. J.  
FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.

FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.

GENERAL MAGNETICS, INC., 135 Bloomfield Ave., Bloomfield, N. J. ADV. PG. 426.  
Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.

Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
INDUSTRIAL CONTROL CO., 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.

Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.

INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.

KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
Keystone Products Co., 904-6 23rd St., Union City, N. J.

L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.

Link Aviation, Inc., Binghamton, N. Y.  
MCKAY ELECTRIC CO., 19790 Stahelin Ave., Detroit 19, Mich. ADV. PG. 638.

Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.

MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.

Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
Maxson Instruments, Div. of the W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.

Mid-Century Instrument Corp., 611 Broadway, New York 12, N. Y.  
Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL REGULATORY CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.

Missouri Research Labs., Inc., 2019 Locust St., St. Louis 3, Mo.  
Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.

Muirhead & Co., Ltd., Beckenham, Kent, England.  
Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
Pegasus Laboratories, Inc., 3692 Eleven Mile Rd., Berkley, Mich.

Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.  
Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif.

REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
Robinette Co., W. C., 802 Fair Oaks Ave., South Pasadena, Calif.

Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
Scully Machine Co., 62 Walter St., Bridgeport, Conn.  
Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.

SERVOMECHANISMS, INC., MECHATROL DIV., 625 Main St., Westbury, N. Y. ADV. PG. 25.  
Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
Servo-Tek Products Co., Inc., 1086 Goffle Rd., Hawthorne, N. J.

SONEX, INC., 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
Sperry Gyroscopic Co., Div. of Sperry Rand Corp., Great Neck, N. Y.

Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.

Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.

TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
Ten Bosch, Inc., M., 80 Wheeler Ave., Pleasantville, N. Y.

Thompson Products, Inc., Electronics Div., 2196 Clarkwood Ave., Cleveland 3, Ohio.  
Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.

Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.

TOROTEL, INC., 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539.  
TORVICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405.

Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.  
TRANSICOLL CORP., Worcester, Penna. ADV. PG. 324.

United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
VECTROL ENGINEERING INC., P. O. Box 1089, Stamford, Conn. ADV. PG. 632.

Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

**AMPLIFIERS—Strain Gage**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
American Electronic Labs, Inc., 121 N. 7th St., Philadelphia 6, Pa.

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

Bruel & Kjaer, Naerum, Denmark.  
BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.

Century Electronics & Instruments Inc., P. O. Box 6216, Pine Station, Tulsa 10, Okla.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.

Consolidated Electrodynamic Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.

Daytron Corp., 216 S. Main St., Dayton, Ohio.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.

DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP., 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
Edin Co., Inc., 207 Main St., Worcester, Mass.

Electro-Mechanical Research Inc., Ridgefield, Conn.  
Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.

Ellis Associates, Box 77, Pelham, N. Y.  
Endevco Corp., 161 E. California St., Pasadena, Calif.  
EPSCO, INCORPORATED, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235.

GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Hanover Developments, 401 E. 74th St., New York 21, N. Y.

Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.

INDUSTRIAL CONTROL CO., 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.

INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.

International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.

KEITHLEY INSTRUMENTS, INC., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.

Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.

MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.

Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
Miller Instruments, Inc., William, 325 N. Halstead Ave., Pasadena 8, Calif.  
Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.

Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
Photon Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.

POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
SANBORN CO., 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.

Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.

United Electrodynamic Div. of United Geophysical Co., Inc., 1200 S. Marengo, Pasadena, Calif.  
Volkers & Schaffer Mfg. Corp., P. O. Box 996, Schenectady, N. Y.

Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

**AMPLIFIERS—Sweep**

Decade Instrument Co., Box 153, Caldwell, N. J.  
Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.

Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
HARRISON LABORATORIES, INC., 45 Industrial Rd., Berkeley Heights, N. J. ADV. PG. 26, 27.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
Standard Coil Products Co., 2085 N. Hawthorne St., Park, Ill.

SYNTRONIC INSTRUMENTS, INC., 100 Industrial Rd., Addison, Ill. ADV. PG. 570.  
Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.

TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

**AMPLIFIERS—Television**

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
Admiral Corp., 3800 Cortland St., Chicago 47, Ill.

Ampli-Vision Div. of The International Telemeter Corp., 2000 Stoner Ave., Los Angeles 25, Calif.  
APPLIED RESEARCH INC., 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.

Blonder-Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J.  
Community Engineering Corp., Box 824, State College, Pa.

ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
Entron, Inc., 4902 Lawrence St., Bladensburg, Md.

Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.

Gates Radio Co., Quincy, Ill.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.

General Precision Laboratory, Inc., 63 Bedford Rd., Pleasantville, N. Y.  
HARRISON LABORATORIES, INC., 45 Industrial Rd., Berkeley Heights, N. J. ADV. PG. 26, 27.

JERROLD ELECTRONICS CORP., 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
Philo Corp., Government & Industrial Div., 4700 Wisahickon Ave., Philadelphia 44, Pa.

RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
SPENCER-KENNEDY LABS., INC., 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.

Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.

Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.

TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
Videon Electronic Corp., 902 E Michigan St., Indianapolis 2, Ind.  
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.

**AMPLIFIERS—Transistor**

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.  
Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz.  
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
DOTY ACOUSTICAL ELECTRONIC LABS., INC., 431 Broome St., New York 13, N. Y. ADV. PG. 676.  
Electro Instruments, Inc., 3794 Rosecrans, San Diego, Calif.  
Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
Electronic Research Associates, Inc., 67 E. Centre St., Nutley 10, N. J.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
Ellis Associates, Box 77, Pelham, N. Y.  
Engineered Magnetics Div. of Gulton Mfg. Corp., 11818 Teale St., Culver City, Calif.  
Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.  
Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
Fidelity Amplifier Co., 703 Willow St., Chicago 14, Ill.  
General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.  
HARRISON LABORATORIES, INC., 45 Industrial Rd., Berkeley Heights, N. J. ADV. PG. 26, 27.  
HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
HUGHES PRODUCTS DIVISION, HUGHES AIRCRAFT CO., Los Angeles 45, Calif. ADV. PG. 340-343.  
INDUSTRIAL CONTROL CO., 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main St., Clifton, N. J. ADV. PG. 181.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
LEL, INC., 380 Oak St., Copeague, N. Y. ADV. PG. 666.  
LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
M F ELECTRONICS, 122 E. 25th St., New York 10, N. Y. ADV. PG. 512.  
Machinery Electrification, Inc., Northboro, Mass.  
Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.  
Maxson Instruments Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
Metronix, Inc., Mill Lane, Waterford, Conn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.  
National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
OSTER MFG. CO., JOHN, AVIONICS DIV., 1 N. Main St., Racine, Wis. ADV. PG. 130.  
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
Paravox, Inc., 2056 E. Fourth St., Cleveland 15, Ohio.  
PHOTOCIRCUITS CORP., Glen Cove, N. Y. ADV. PG. 396.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
Plastics & Electronics Co., Inc., P. O. Box 38, Station J, Buffalo 8, N. Y.  
Production Research Corp., Thornwood, N. Y.

Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
Ransom Research, Box 382, San Pedro, Calif.  
Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
Signal Equipment Co., Inc., 2706 Third Ave., Seattle 1, Wash.  
SONEX, INC., 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
Telephonics Corp., Lark Ave., Huntington, N. Y.  
Ten Bosch, Inc., M., 80 Wheeler Ave., Pleasantville, N. Y.  
Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 11, Ill.  
Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.  
Transistor Components Co., 301 Oakwood Ave., East Aurora, N. Y.  
Tripl-T Co., Electronics, Box 5352, Pasadena, Calif.  
Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
United Electrodynamics Div. of United Geophysical Co., Int., 1200 S. Marengo, Pasadena, Calif.  
UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRAN-SISTOR PRODUCTS CORP., 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
Volkers & Schaffer Mfg. Corp., P. O. Box 996, Schemectady, N. Y.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Eurora St., Waterbury 91, Conn.

**AMPLIFIERS—Ultrasonic**

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
ARENBERG ULTRASONIC LABORATORY, INC., 94 Green St., Jamaica Plain 30, Mass. ADV. PG. 672.  
Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz.  
Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
KEITHLEY INSTRUMENTS, INC., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
M F ELECTRONICS, 122 E. 25th St., New York 10, N. Y. ADV. PG. 512.  
McKenna Laboratories, Santa Monica 6, Calif.  
Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
SPELLMAN TELEVISION CO., INC., 3029 Webster Ave., New York 67, N. Y. ADV. PG. 230, 231.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Telephonics Corp., Park Ave., Huntington, N. Y.  
Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
TOROTEL, INC., 11505 Bellmont Ave., Hickman Mills, Mo. ADV. PG. 539.

**AMPLIFIERS—Vibration Pickup**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.

Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
Bruel & Kjaer, Naerum, Denmark.  
BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
Dynamics Instrumentation Co., Div. of Alberhill Corp., 1118 Mission St., South Pasadena, Calif.  
Electro-Mechanical Research, Inc., Ridgefield, Conn.  
ELECTRO PRODUCTS LABS., 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
Electronics Manufacturing Div. of Sid Stone Radio Labs, 739 Tremont St., Boston, Mass.  
Endevco Corp., 161 E. California St., Pasadena, Calif.  
Erwood, Inc., 1770 Berteau Ave., Chicago 13, Ill.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
International Research & Development Corp., 769 Thomas-Lane P. O. Box 1707, Columbus 16, Ohio.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
MB MFG. CO., A DIV. OF TEXTRON AMERICAN, INC., 1060 State St., New Haven 11, Conn. ADV. PG. 552.  
Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
Miller Instruments, Inc., William, 325 N. Halstead Ave., Pasadena 8, Calif.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
United Electrodynamics Div. of United Geophysical Co., Inc., 1200 S. Marengo, Pasadena, Calif.  
Western Radiation Lab., 1107 W. 24th St., Los Angeles 7, Calif.

**AMPLIFIERS—Wideband**

ACTON LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.  
Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
Airmec Ltd., High Wycombe, Buckinghamshire, England.  
Alfred Electronics, 897 Commercial St., Palo Alto, Calif.  
Alpha Instrument Co., 43 Hempstead St., New London, Conn.  
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
Ampli-Vision Div. of The International Telemeter Corp., 2000 Stoner Ave., Los Angeles 25, Calif.  
Applegate & Co., C. J., 1840 24th St., Boulder, Colo.  
APPLIED RESEARCH INC., 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
ARENBERG ULTRASONIC LABORATORY, INC., 94 Green St., Jamaica Plain 30, Mass. ADV. PG. 672.  
Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.  
Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Blonder Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J.  
Bruel & Kjaer, Naerum, Denmark.  
Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz.  
Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
Community Engineering Corp., Box 824, State College, Pa.  
Donner Scientific Co., 888 Galindo St., Concord, Calif.  
Dynamics Instrumentation Co., Div. of Alberhill Corp., 1118 Mission St., South Pasadena, Calif.  
Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio  
Gotham Audio Development Corp., 2 W. 46th St., New York 36, N. Y.  
HAMNER ELECTRONICS CO., INC., Box 531, Princeton, N. J. ADV. PG. 671.  
Hanover Developments, 401 E. 71st St., New York 21, N. Y.

Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.

**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.

**INSTRUMENTS FOR INDUSTRY, INC.**, 149 Glen Cove Rd., Mineola, N. Y. ADV. PG. 656.

**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York, 58, N. Y. ADV. PG. 613.

**JERROLD ELECTRONICS CORP.**, 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.

Jowil Electronics, Inc., Beifield & Wister, Philadelphia 44, Pa.

**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.

**LEL, INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.

Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.

Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass. Neutronics Research Co., 165 Lake St., Waltham, Mass. New London Instrument Co., P. O. Box 189, New London, Conn.

Omega Instrument Co., Box 495M, Pasadena, Calif. Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.

**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.

Photron Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.

**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.

RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.

Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.

Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.

Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.

Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.

**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.

Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.

Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.

Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.

Technical Measurement Corp., 140-142 State St., New Haven 11, Conn.

Tektronix, Inc., P. O. Box 831, Portland 7, Ore.

**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.

Tesla Electric Co., 2871 N. Lincoln Ave., Chicago, 13, Ill.

Volkers & Schaffer Mfg. Corp., P. D. Box 996, Schenectady, N. Y.

**WAVE-PARTICLE CO.**, P. O. Box 252, Menlo Park, Calif. ADV. PG. 591.

Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.

**ANALOGS**  
See **COMPUTERS—Analog**

**ANALYZERS—Audio Amplifier**  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Bruel & Kjaer, Naerum, Denmark.  
**HEATH CO. A SUB OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.

**ANALYZERS—Capacitor**  
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield N. J. ADV. PG. 111.  
Dubrow Development Co., 2358 Penn St., Burlington, N. J.  
**HEATH CO. A SUB OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind. Parameters, Inc., 195 Herricks Rd., New Hyde Park, N. Y.  
**PYRAMID ELECTRIC CO.**, 1455 Hudson Blvd., North Bergen, N. J. ADV. PG. 463.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**ANALYZERS—Circuit**  
Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
Instrument Laboratories, 315 W. Walton Place, Chicago 10, Ill.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
**OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
Phaostrom Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
Seco Mfg. Co., 5015 Penn Ave., S., Minneapolis, Minn.  
Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
Wickes Engineering & Construction Co., P. O. Box 590, Camden 1, N. J.

**ANALYZERS—Coincidence**  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
Pacific Electro-Nuclear Co., 11818 Teale St., Culver City, Calif.  
Radiation Instrument Development Labs., 2337 W. 67th St., Chicago 36, Ill.  
Technical Measurement Corp., 140-142 State St., New Haven 11, Conn.

**ANALYZERS—Digital**  
Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles 64, Calif.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
Electronic Control Systems, Inc., 2136-38 Westwood Blvd., Los Angeles 25, Calif.  
Litton Industries, Beverly Hills, Calif.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Ransom Research, Box 382, San Pedro, Calif.  
Southern Instruments Ltd., Computer Div., Frimley Rd., Camberley, Surrey.  
Stelma, Inc., 190 Henry St., Stamford, Conn.  
Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.

**ANALYZERS—Distortion**  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Bruel & Kjaer, Naerum, Denmark.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**EMPIRE DEVICES PRODUCTS CORP.**, 38-15 Bell Blvd., Bayside 61, N. Y. ADV. PG. 388.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**ANALYZERS—Frequency**  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.

**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond, Calif. ADV. PG. 73-80.  
Bruel & Kjaer, Naerum, Denmark.  
Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
**DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO.**, 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
Edin Co., Inc., 207 Main St., Worcester, Mass. Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
International Research & Development Corp., 769 Thomas Lane, P. O. Box 1707, Columbus 16, Ohio.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
Ransom Research, Box 382, San Pedro, Calif.  
Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.  
Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**ANALYZERS—Gas**  
Applied Physics Corp., 362 W. Colorado St., Pasadena 1, Calif.  
Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
Beckman Inc., Arnold O., 1020 Mission St., South Pasadena, Calif.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
Devco Engineering Inc., P. O. Box 387, Caldwell, N. J.  
Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
Foxboro Co., The, Foxboro, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Gov-Mac Instrument Co., 100 Kings Rd., Madison, N. J.  
Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
Johnson-Williams, Inc., 2526 Park Blvd., Palo Alto 14, Calif.  
Kelvin & Hughes Ltd., New North Rd., Barking, Essex, England.  
King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio.  
Kruger Instruments, Harold, Box 164, San Gabriel, Calif.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Manufacturers Engineering & Equipment Corp., York & Sunset Lane, Hatboro, Pa.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
Perkin-Elmer Corp., The, Main Ave., Norwalk, Conn.  
Rubicon Co., Ridge Ave., at 35th St., Philadelphia 29, Pa.  
Taller & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
Victory Engineering Corp., 101 Springfield Rd., Union, N. J.

**ANALYZERS—Harmonic**  
Airmec Ltd., High Wycombe, Buckinghamshire, England  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Donner Scientific Co., 888 Galindo St., Concord, Calif.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
Reeder & Co., Charles M., 173 Victor Ave., Detroit 3, Mich.

**ANALYZERS—Intermodulation**  
Audio Instrument Co., Inc., 133E W. 14th St., New York 11, N. Y.

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Fairchild Engine & Airplane Corp. Guided Missiles Div., Wyandanch, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEATH CO.**, A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
**RADIO ENGINEERING LABS., INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**ANALYZERS—Magnetic**

**DYNA-EMPIRE, INC.**, 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
**HAMNER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. ADV. PG. 671.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
 Rese Engineering Corp., 731 Arch St., Philadelphia 6, Pa.

**ANALYZERS—Microwave Radar**  
See MICROWAVE ACCESSORIES**ANALYZERS—Noise**

**APPLIED RESEARCH, INC.**, 163-07 Depot Rd., Flushings, N. Y. ADV. PG. 672.  
 Bruel & Kjaer, Naerum, Denmark.  
**EMPIRE DEVICES PRODUCTS CORP.**, 38-15 Bell Blvd., Bayside 61, N. Y. ADV. PG. 388.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
 Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

**ANALYZERS—Servo**

**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Solatron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.

**ANALYZERS—Spectrum**

Airborne Electronics Co., 6813 Troost Ave., North Hollywood, Calif.  
**APPLIED RESEARCH, INC.**, 163-07 Depot Rd., Flushings, N. Y. ADV. PG. 672.  
 Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Beva Laboratory, 1640 Olden Ave., Ext., Trenton 9, N. J.  
 Bruel & Kjaer, Naerum, Denmark.  
 C.G.S. Laboratories, Inc., 391 Ludlow St., Stamford, Conn.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
 Edin Co., Inc., 207 Main St., Worcester, Mass.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
**HAMNER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. ADV. PG. 671.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP.**, INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
**NORTHEASTERN ENGINEERING, INC.**, Manchester, N. H. ADV. PG. 518, 519.  
 Pacific Electro-Nuclear Co., 11818 Teale St., Culver City, Calif.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.

**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Polytechnic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
 Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.  
 Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.  
**VECTRON, INC.**, 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.

**ANALYZERS—Surface Analyzers & Comparators**

Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bruel & Kjaer, Naerum, Denmark.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Menlo Research Laboratory, 538 Phelan Ave., San Jose, Calif.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.

**ANALYZERS—Thyratron or Phatron**

Alectric Mfg. Co., 7842 39th Ave., Kenosha, Wis.

**ANALYZERS—Ultrasonic**

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.

**ANALYZERS—Vibration**

Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
 Bruel & Kjaer, Naerum, Denmark.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Dubrow Development Co., 235 B. Penn St., Burlington, N. J.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
 Epic, Inc., 154 Nassau St., New York 38, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Inco Co., Div. of Barry Controls, Inc., Hollis St., Groton, Mass.  
 International Research & Development Corp., 769 Thomas-Lane, P. O. Box 1707, Columbus 16, Ohio.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Litton Industries, Beverly Hills, Calif.  
 Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
 Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
**WINKLER LABORATORIES**, 5225 N. 20th St., Phoenix, Ariz. ADV. PG. 477.

**ANALYZERS—Video**

Decade Instrument Co., Box 153, Caldwell, N. J.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.

**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
 Wickes Engineering & Construction Co., P. O. Box 590, Camden 1, N. J.

**ANALYZERS—Wave**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Bruel & Kjaer, Naerum, Denmark.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
**GENERAL RADIO CORP.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**HYCOR DIV. OF INTERNATIONAL RESISTANCE CO.**, 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP.**, INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
**STODDART AIRCRAFT RADIO CO.**, 6644 Santa Monica Blvd., Hollywood 38, Calif. ADV. PG. 498, 499.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
 Technical Products Co., Instrument Div., 6670 Lexington Ave., Los Angeles 38, Calif.  
 Wickes Engineering & Construction Co., P. O. Box 590, Camden 1, N. J.

**ANNEALERS—Glass**

Forter-Teichmann Co., Clark Bldg., Pittsburgh 22, Pa.  
 Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
 New England Oven & Furnace Co., Post Rd., Orange, Conn.  
 Steiner-Ives Co., Springfield Rd., Union, N. J.  
 Torrance Glass & Color Works, Torrance, Calif.

**ANTENNA FAIRLEADS**

Fretco, Inc., 406 N. Craig St., Pittsburgh 13, Pa.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Roffan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Taylor Fibre Co., Norristown, Pa.

**ANTENNA FEED SYSTEMS**

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass. ADV. PG. 589.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.  
 DeFrance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Fretco, Inc., 406 N. Craig St., Pittsburgh 13, Pa.  
 Gar Precision Parts, Inc., 703 Pacific St., Stamford, Conn.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Gosnet Co., 801 S. Main St., Burbank, Calif.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**KENNEDY & CO.**, D. S., Cohasset, Mass. ADV. PG. 43.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.

Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port  
 Chester, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder,  
 Northport, N. Y. ADV. PG. 598.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y.  
 ADV. PG. 641.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck,  
 N. Y.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Water-  
 bury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18,  
 N. Y. ADV. PG. 632.  
 Tennalab, Quincy, Ill.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wake-  
 field, Mass.  
 Wind Turbine Co., E. Market St. & Penna. R.R., West  
 Chester, Pa.  
 Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe,  
 Ohio.

## ANTENNA PEDESTALS—Gear Driven Radar

**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass.  
 ADV. PG. 589.  
 Alpar Manufacturing Corp., 2910 Spring St., Redwood  
 City, Calif.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE  
 PRODUCTS GROUP**, 1101 N. Royal St., Alexandria,  
 Va. ADV. PG. 491.  
 Brach Div. Electronic Research, General Bronze Corp.,  
 711 Stewart Ave., Garden City, N. Y.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1,  
 N. Y.  
 Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial  
 Way, Belmont, Calif.  
 Defiance Engineering & Microwave Corp., Box 488,  
 Beverly Airport, Beverly, Mass.  
**ECLIPSE PIONEER DIV. BENDIX AVIATION CORP.**,  
 Teterboro, N. J. ADV. PG. 333-336.  
 Electronics & Avionics Div. of the Emerson Electric Mfg.  
 Co., 8100 Florissant Ave., St. Louis 21, Mo.  
 General Bronze Corp., 711 Stewart Ave., Garden City,  
 N. Y.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15,  
 Ohio.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS  
 DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV.  
 PG. 474, 475.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside,  
 Essex, England.  
**KENNEDY & CO.**, D. S., Cohasset, Mass. ADV. PG. 43.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston,  
 Mass.  
 Pitometer Log Corp., 237 Lafayette St., New York 12,  
 N. Y.  
 Press Wireless Laboratories, Inc., 25 Prospect Place,  
 West Newton 65, Mass.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New  
 York 28, N. Y. ADV. PG. 437.  
 Rostan Corp., 5660 59th St., Maspeth 78, N. Y.  
 Smith Mfg. Co., J. & H., Little Britain Rd., New-  
 burgh, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, North-  
 port, N. Y. ADV. PG. 598.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons,  
 Park Ave., Huntington Station, N. Y.  
 Western Gear Corp., Electro Products Div., 132 W.  
 Colorado St., Pasadena 1, Calif.

## ANTENNA REFLECTORS—Radar Parabolic

Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle,  
 N. Y.  
**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass.  
 ADV. PG. 589.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J.  
 ADV. PG. 532.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19,  
 Pa.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE  
 PRODUCTS GROUP**, 1101 N. Royal St., Alexandria,  
 Va. ADV. PG. 491.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV.  
 PG. 112.  
 Brach Div. Electronic Research, General Bronze Corp.,  
 711 Stewart Ave., Garden City, N. Y.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1,  
 N. Y.  
 Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial  
 Way, Belmont, Calif.  
 Defiance Engineering & Microwave Corp., Box 488,  
 Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North  
 Ave., Wakefield, Mass. ADV. PG. 337.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Federal Telecommunication Labs., A Div. of IT&T, 500  
 Washington Ave., Nutley 10, N. J.  
**GABRIEL ELECTRONICS DIV., THE GABRIEL CO.**, 135  
 Crescent Rd., Needham Heights 94, Mass. ADV. PG.  
 382.  
 General Bronze Corp., 711 Stewart Ave., Garden City,  
 N. Y.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15,  
 Ohio.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS  
 DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV.  
 PG. 474, 475.  
 Keller Products Inc., 41 Union St., Manchester, N. H.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside,  
 Essex, England.

**KENNEDY & CO.**, D. S., Cohasset, Mass. ADV. PG. 43.  
 Kling Metal Spinning Co., 247 Centre St., New York,  
 N. Y.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54,  
 Mass.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great  
 Neck, N. Y.  
 Stainless, Inc., Third St., North Wales, Pa.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV.  
 PG. 641.  
 Teiner Co., Inc., Roland, 134 Tremont St., Everett 49,  
 Mass.  
 Teiner Engineering Corp., 116 Madison St., Malden,  
 Mass.  
 Terpening Co., L. H., 16 W. 61st St., New York, N. Y.  
**TORNGREN CO., INC.**, C. W., 236 Pearl St., Somerville  
 45, Mass. ADV. PG. 587.  
 Tower Construction Co., 2700 Hawkeye Drive, Sioux  
 City, Iowa.  
 White Aircraft Corp., Palmer, Mass.  
 Zenith Aircraft Div. of Zenith Plastics Co., P. O. Box  
 91, Gardena, Calif.

## ANTENNA ROTATORS

**AINSLIE CORP.**, 312 Quincy Ave., Quincy, Mass. ADV.  
 PG. 589.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J.  
 ADV. PG. 532.  
 Alliance Mfg. Co., Lake Park Blvd., Alliance, Ohio.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE  
 PRODUCTS GROUP**, 1101 N. Royal St., Alexandria,  
 Va. ADV. PG. 491.  
 Antlab, 4950 N. High St., Columbus 14, Ohio.  
**BOGART MFG. CORP.**, 315 Siegel St., Brooklyn 6, N. Y.  
 ADV. PG. 415.  
 Brach Div. Electronic Research, General Bronze Corp.,  
 711 Stewart Ave., Garden City, N. Y.  
 Channel Master Co., Ellenville, N. Y.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield,  
 N. J. ADV. PG. 111.  
 Defiance Engineering & Microwave Corp., Box 488,  
 Beverly Airport, Beverly, Mass.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los  
 Angeles 39, Calif.  
 General Bronze Corp., 711 Stewart Ave., Garden City,  
 N. Y.  
 Haller, Raymond & Brown, Inc., State College, Pa.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS  
 DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV.  
 PG. 474, 475.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave.,  
 Brooklyn 4, N. Y. ADV. PG. 53.  
 Johnson Co., E. F., Waseca, Minn.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside,  
 Essex, England.  
 P. M. Industries, Inc., Stamford, Conn.  
 Radiart Corp., The, 3455 Vega Ave., Cleveland 13, Ohio.  
 Radio Merchandise Sales, Inc., 2016 Bronxdale Ave.,  
 New York 62, N. Y.  
 Scientific Associates, Inc., 2162 Piedmont Rd., N.E.,  
 Atlanta 9, Ga.  
**TELREX, INC.**, Asbury Park, N. J. ADV. PG. 661.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons,  
 Park Ave., Huntington Station, N. Y.  
 Wind Turbine Co., E. Market St. & Penna. R.R., West  
 Chester, Pa.

## ANTENNA TOWERS & SUPPORTS

**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass.  
 ADV. PG. 589.  
 Alpar Manufacturing Corp., 2910 Spring St., Redwood  
 City, Calif.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19,  
 Pa.  
 Antlab, 4950 N. High St., Columbus 14, Ohio.  
 Bergen Wire Rope Co., 456 Gregg St., Lodi, N. J.  
 Blaw-Knox Co., Blaw-Knox Bldg., 300 Sixth Ave.,  
 Pittsburgh 22, Pa.  
 Brach Div. Electronic Research, General Bronze Corp.,  
 711 Stewart Ave., Garden City, N. Y.  
 Channel Master Co., Ellenville, N. Y.  
 Clear Beam Television Antenna Co., 21341 Roscoe Blvd.,  
 Canoga Park, Calif.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**CRAIG SYSTEMS, INC.**, Danvers, Mass. ADV. PG. 387.  
 Dresser-Ideco Co., 875 Michigan Ave., Columbus 8, Ohio.  
 General Bronze Corp., 711 Stewart Ave., Garden City,  
 N. Y.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC.,  
 ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill.  
 ADV. PG. 543.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15,  
 Ohio.  
 I.E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS  
 DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV.  
 PG. 474, 475.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside,  
 Essex, England.  
 Lehigh Structural Steel Co., 17 Battery Place, New York  
 4, N. Y.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver  
 St., New York 4, N. Y.  
**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton  
 Grove, Ill. ADV. PG. 574.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston,  
 Mass.  
 Pradelin, Inc., 307 Bergen Ave., Kearny, N. J.  
**ROHN MFG. CO.**, 116 Limestone, Bellevue, Peoria, Ill.  
 ADV. PG. 525.  
 Rostan Corp., 5660 59th St., Maspeth 78, N. Y.

Scientific Associates, Inc., 2162 Piedmont Rd., N.E.,  
 Atlanta 9, Ga.  
 Smith Mfg. Co., J. & H., Little Britain Rd., New-  
 burgh, N. Y.  
 South River Metal Products Co., 377-379 Turnpike,  
 South River, N. J.  
 Stainless, Inc., Third St., North Wales, Pa.  
 Thomas Mold & Die Co., Wooster, Ohio.  
 Tower Construction Co., 2700 Hawkeye Drive, Sioux  
 City, Iowa.  
 Truscon Steel Division of Republic Steel Corp., Youngs-  
 town, Ohio.  
 Vesto Co., Inc., 20th & Clay, North Kansas City, Mo.  
 Walnut Machine Co., 1529 S. Walnut St., South Bend  
 14, Ind.  
 Wincharger Corp., E. 7th & Division Sts., Sioux City,  
 Iowa.  
 Wind Turbine Co., E. Market St. & Penna. R. R., West  
 Chester, Pa.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

## ANTENNA TUNING UNITS

Aeronautical Communications Equipment, Inc., 3090  
 S. W. 37th Ave., Miami 33, Fla.  
 Alto Scientific Co., 855 Commercial St., Palo Alto,  
 Calif.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV.  
 PG. 112.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby,  
 Pa.  
 Brach Div. Electronic Research, General Bronze Corp.,  
 711 Stewart Ave., Garden City, N. Y.  
 Continental Electronics Mfg. Co., 4212-20 S. Buckner  
 Blvd., Dallas 27, Texas.  
 Defiance Engineering & Microwave Corp., Box 488,  
 Beverly Airport, Beverly, Mass.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los  
 Angeles 39, Calif.  
 Erco Radio Labs., Inc., 637 Steuart Ave., Garden City,  
 N. Y.  
 General Bronze Corp., 711 Stewart Ave., Garden City,  
 N. Y.  
 Harvey-Wells Electronics, Inc., North St., Southbridge,  
 Mass.  
 Hoffman Laboratories, Inc., 3761 S. Hill St., Los  
 Angeles 7, Calif.  
 Johnson Co., E. F., Waseca, Minn.  
**MICROPHASE CORP.**, P. O. Box 1166X, Greenwich,  
 Conn. ADV. PG. 528.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port  
 Chester, N. Y.  
 Press Wireless Laboratories, Inc., 25 Prospect Place,  
 West Newton 65, Mass.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washing-  
 ton 14, D. C.  
 Standard Coil Products Co., 2085 N. Hawthorne St.,  
 Melrose Park, Ill.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck,  
 N. Y.  
 Telebro Industries Corp., 35-16 37th St., Long Island  
 City 1, N. Y.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wake-  
 field, Mass.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City,  
 Mo.

## ANTENNAS—Airborne Radar Spinner

**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass.  
 ADV. PG. 589.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE  
 PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va.  
 ADV. PG. 491.  
 Brach Div. Electronic Research, General Bronze Corp.,  
 711 Stewart Ave., Garden City, N. Y.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
 Dalmo Victor Co., Div. of Textron, Inc., 1515 Indus-  
 trial Way, Belmont, Calif.  
 Defiance Engineering & Microwave Corp., Box 488,  
 Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North  
 Ave., Wakefield, Mass. ADV. PG. 337.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los  
 Angeles 39, Calif.  
 General Bronze Corp., 711 Stewart Ave., Garden City,  
 N. Y.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15,  
 Ohio.  
**LAVOIE LABORATORIES, INC.**, Morgantown, N. J.  
 ADV. PG. 485.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New  
 York 28, N. Y. ADV. PG. 437.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great  
 Neck, N. Y.  
 Stewart-Warner Electronics Div. of Stewart-Warner  
 Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder,  
 Northport, N. Y. ADV. PG. 598.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon  
 Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**TORNGREN CO., INC.**, C. W., 236 Pearl St., Somerville  
 45, Mass. ADV. PG. 587.

## ANTENNAS—Aircraft Type

Aeronautical Electronics, Inc., Raleigh-Durham Airport,  
 P. D. Box 6527, Raleigh, N. C.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country  
 Rd., Mineola, N. Y. ADV. PG. 253.

AIRCRAFT RADIO CORP., Boonton, N. J. ADV. PG. 495.  
 BOGART MFG. CORP., 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
 COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Dorne & Margolin, Inc., 30 Sylvester St., Westbury, N. Y.  
 ECLIPSE PIONEER DIV., BENDIX AVIATION CORP., Teterboro, N. J. ADV. PG. 333-336.  
 Electro Craft Industries Inc., 68 Jackson St., Stamford, Conn.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Electronics & Avionics Div. of The Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo.  
 FEDERAL TELEPHONE & RADIO CO., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Fretco Inc., 406 N. Craig St., Pittsburgh 13, Pa.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Goodyear Aircraft Corp., 1210 Masillon Rd., Akron 15, Ohio.  
 Haller, Raymond & Brown, Inc., State College, Pa.  
 KINGS ELECTRONICS CO., 40 Marbledale Rd., Tucka-hoe, N. Y. ADV. PG. 448.  
 LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Leitch Engineering Corp., 326 Lincoln St., Manchester, N. H.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 MARK PRODUCTS CO., 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
 Mitchell Industries, Inc., P. O. Box 17, Mineral Wells, Texas.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 National Aeronautical Corp., Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.  
 Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Premax Products Div., Chisholm-Ryder Co., Inc., Highland & College Aves, Niagara Falls 2, N. Y.  
 Production Research Corp., Thornwood, N. Y.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 SUFFOLK PRODUCTS CORP., Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 TECHNICAL APPLIANCE CORP., Sherburne, N. Y. ADV. PG. 641.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Transco Products, Inc., 12210 Nebraska Ave., Los Angeles 25, Calif.  
 Victor R.F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
 Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio.

**ANTENNAS—All Wave Receiving**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
 Clear Beam Antenna Corp., 21341 Roscoe Blvd, Canoga Park, Calif.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. ADV. PG. 111.  
 Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd., Burbank, Calif.  
 Fretco Inc., 406 N. Craig St., Pittsburgh 13, Pa.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Illumitronic Engineering, 680 E. Taylor, Sunnvale, Calif.  
 JFD MANUFACTURING CO., INC., 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 Oaktron Electric Co., Tinley Park, Ill.  
 Radion Corp., 1130 Wisconsin Ave., Chicago 14, Ill.  
 Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
 SPECIFIC PRODUCTS, 14515 Dickens St., Sherman Oaks 13, Calif. ADV. PG. 500.  
 TECHNICAL APPLIANCE CORP., Shelburne, N. Y. ADV. PG. 641.  
 TELREX, INC., Asbury Park, N. J. ADV. PG. 661.  
 Wind Turbine Co., E. Market St. & Penna R. R., West Chester, Pa.

**ANTENNAS—Auto**

Bassett, Inc., Rex, 1314 N. E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.  
 Communication Products Co., Inc., Marlboro, N. J.  
 CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. ADV. PG. 111.  
 DANBURY-KNUDSEN, INC., P. O. Box 170, Danbury, Conn. ADV. PG. 631.  
 Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd., Burbank, Calif.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
 G-C ELECTRONICS MFG. CO., DIV. OF G-C TEXTRON, INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, NC., ELECTRONIC DIV., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 JFD MANUFACTURING CO., INC., 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 MARK PRODUCTS CO., 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
 Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles 15, Calif.  
 Miller Electronics, 2840 Naomi St., Burbank, Calif.  
 Philson Mfg. Co., Inc., 60-66 Sackett St., Brooklyn 31, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Radiart Corp., The, 3455 Vega Ave., Cleveland 13, Ohio.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland 25, Ohio.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.

**ANTENNAS—Broadcast Station Radiators**

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Alpar Manufacturing Corp., 2910 Spring St., Redwood City, Calif.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 MARK PRODUCTS CO., 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Stainless, Inc., Third St., North Wales, Pa.  
 Tower Construction Co., 2700 Hawkeye Drive, Sioux City, Iowa.  
 Wind Turbine Co., E. Market St. & Penna. R. R., West Chester, Pa.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**ANTENNAS—Directional Antenna Coupling & Phasing Units**

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 BOGART MFG. CORP., 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
 BUDD-STANLEY CO., INC., 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 C.G.S. Laboratories, Inc., 391 Ludlow St., Stamford, Conn.  
 Clear Beam Television Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.  
 COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas 27, Texas.  
 Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd., Burbank, Calif.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DEMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Gates Radio Co., Quincy, Ill.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Johnson Co., E. F., Waseca, Minn.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 MARK PRODUCTS CO., 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.

Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Stainless, Inc., Third St., North Wales, Pa.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 SUFFOLK PRODUCTS CORP., Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 TECHNICAL APPLIANCE CORP., Sherburne, N. Y. ADV. PG. 641.  
 Transco Products, Inc., 12210 Nebraska Ave., Los Angeles 25, Calif.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**ANTENNAS—Dummy Loads**

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aeronautical Communications Equipment, Inc., 3090 S. W. 37th Ave., Miami 33, Fla.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.

BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.

BOGART MFG. CORP., 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.

BUDD-STANLEY CO., INC., 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.

Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.

COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.

Collins Radio Co., Cedar Rapids, Iowa.  
 Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas 27, Tex.

CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.

CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.  
 Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd., Burbank, Calif.

Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.

DeMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.

DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.

DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.

Federal Telecommunications Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.

General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.

General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.

GENERAL RF FITTINGS, INC., 702 Beacon St., Boston 15, Mass. ADV. PG. 596.

HOULIHAN CO., T. J., 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.

I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.

J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.

JONES ELECTRONICS CO., INC., M. C., 185 N. Main St., Bristol, Conn. ADV. PG. 376.

KINGS ELECTRONICS CO., 40 Marbledale Rd., Tucka-hoe, N. Y. ADV. PG. 448.

LIECO, INC., 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.

MERIDIAN METALCRAFT, INC., 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.

MICROLAB, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.

NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.

National Co., Inc., 61 Sherman St., Malden 48, Mass.

OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.

PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.

Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.

Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.

Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.

Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.

SIERRA ELECTRONIC CORP., 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.

**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
**Victor RF. & Microwave Co.**, 36 W. Water St., Wakefield, Mass.  
**WacLine, Inc.**, 35 S. St. Claire St., Dayton 2, Ohio.  
**Waveline, Inc.**, Box 470, Caldwell, N. J.  
**Wind Turbine Co.**, E. Market S. & Penna. R. R., West Chester, Pa.  
**Wunderlich Radio Co.**, 2 Fifth Ave., New York 11, N. Y.

### ANTENNAS—Fixed Station Antenna Systems

**Aeronautical Electronics, Inc.**, Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
**Alpar Manufacturing Corp.**, 2910 Spring St., Redwood City, Calif.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**Avionex Electronics Corp.**, 10855 Vanowen, North Hollywood, Calif.  
**Brach Div. Electronic Research, General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**Canadian Marconi Co.**, 2442 Trenton Ave., Montreal 16, Quebec.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**Communication Products Co., Inc.**, Marlboro, N. J.  
**Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd.**, Burbank, Calif.  
**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**Dielectric Products Engineering Co., Inc.**, Raymond, Maine.  
**Erco Radio Labs., Inc.**, 637 Stewart Ave., Garden City, N. Y.  
**GABRIEL ELECTRONICS DIV., THE GABRIEL CO.**, 135 Crescent Rd., Needham Heights 94, Mass. ADV. PG. 382.  
**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**Gonsset Co.**, 801 S. Main St., Burbank, Calif.  
**Goodyear Aircraft Corp.**, 1210 Massillon Rd., Akron 15, Ohio.

**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**Johnson Co.**, E. F., Waseca, Minn.  
**Kreckman Co.**, Herb, Kresco Antennas, Cresco, Pa.  
**Leitch Engineering Corp.**, 326 Lincoln St., Manchester, N. H.  
**Marconi's Wireless Telegraph Co., Ltd.**, 23-25 Beaver St., New York 4, N. Y.

**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
**Premax Products Div., Chisholm-Ryder Co., Inc.**, Highland & College Aves., Niagara Falls 2, N. Y.  
**Prodelin Inc.**, 307 Bergen Ave., Kearny, N. J.  
**Pruyn-Moore, Inc.**, 1338 Cota Ave., Long Beach 13, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Cover  
**Scala Radio Co.**, 2814 19th St., San Francisco 10, Calif.  
**Smith Mfg. Co., J. & H.**, Little Britain Rd., Newburgh, N. Y.  
**Stainless, Inc.**, Third St., North Wales, Pa.  
**Taffet Radio & Television Co.**, 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.

**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**Technical Materiel Corp.**, P. O. Box 142, Mamaroneck, N. Y.  
**Wind Turbine Co.**, E. Market St. & Penna. R. R., West Chester, Pa.  
**Wunderlich Radio Co.**, 2 Fifth Ave., New York 11, N. Y.

### ANTENNAS—f-m Receiver

**Aerocoil, Inc.**, 24 Cliff St., Jersey City, N. J.  
**American Electronics Co.**, 1203-05 Bryant Ave., New York 59, N. Y.  
**American Elite, Inc. (Telefunken)**, 7 Park Ave., New York 16, N. Y.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
**CBC Electronics Co., Inc.**, 2601 N. Howard St., Philadelphia, Pa.  
**Clear Beam Antenna Corp.**, 21341 Roscoe Blvd., Canoga Park, Calif.  
**Consolidated Wire & Associated Companies**, 1635 S. Clinton St., Chicago 16, Ill.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
**Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd.**, Burbank, Calif.  
**Finney Co., The**, 34 W. Interstate, Bedford, Ohio.  
**Fretco Inc.**, 406 N. Craig St., Pittsburgh 13, Pa.

**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**Gonsset Co.**, 801 S. Main St., Burbank, Calif.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
**Lab-Tronics, Inc.**, 3656 N. Lincoln Ave., Chicago 13, Ill.  
**Lynmar Engineers, Inc.**, 1432 N. Carlisle St., Philadelphia 21, Pa.  
**Miller Electronics**, 2840 Naomi St., Burbank, Calif.  
**Peerless Products Industries**, 812 N. Pulaski St., Chicago 51, Ill.

**Philson Mfg. Co., Inc.**, 60-66 Sackett St., Brooklyn 31, N. Y.  
**Pruyn-Moore, Inc.**, 1338 Cota Ave., Long Beach 13, Calif.

**Scala Radio Co.**, 2814 19th St., San Francisco 10, Calif.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.

**Tele Dynamics Inc.**, 32nd & Walnut Sts., Philadelphia 4, Pa.

**TELREX, INC.**, Asbury Park, N. J. ADV. PG. 661.

**Tennalab, Quincy, Ill.**

**Tricraft Products Corp.**, 1124 W. Newport Ave., Chicago 13, Ill.

**Video Industries Co.**, 242 Madison Ave., Port Chester, N. Y.

**Walco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.

**Wind Turbine Co.**, E. Market St. & Penna. R. R., West Chester, Pa.

### ANTENNAS—f-m Transmitter

**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.

**Collins Radio Co.**, Cedar Rapids, Iowa.

**Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd.**, Burbank, Calif.

**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.

**Gates Radio Co.**, Quincy, Ill.

**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.

**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.

**Pruyn-Moore, Inc.**, 1338 Cota Ave., Long Beach 13, Calif.

**Scala Radio Co.**, 2814 19th St., San Francisco 10, Calif.

**Stainless, Inc.**, Third St., North Wales, Pa.

**Tele Dynamics Inc.**, 32nd & Walnut Sts., Philadelphia 4, Pa.

**TELREX, INC.**, Asbury Park, N. J. ADV. PG. 661.

**Tennalab, Quincy, Ill.**

### ANTENNAS—Ground Plane

**Aeronautical Electronics, Inc.**, Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.

**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass. ADV. PG. 589.

**American Electronic Labs., Inc.**, 121 N. 7th St., Philadelphia 6, Pa.

**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.

**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.

**Babcock Radio Engineering Co.**, P. O. Box 3097, Van Nuys, Calif.

**Communication Products Co., Inc.**, Marlboro, N. J.

**Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd.**, Burbank, Calif.

**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.

**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.

**Dielectric Products Engineering Co., Inc.**, Raymond, Maine.

**Dollar Co., Robert, Communications Equipment Div.**, 50 Drumm St., San Francisco 11, Calif.

**FEDERAL TELEPHONE & RADIO CO.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

**Fretco Inc.**, 406 N. Craig St., Pittsburgh 13, Pa.

**Gonsset Co.**, 801 S. Main St., Burbank, Calif.

**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.

**Industrial Products Co., Div. of Danbury-Knudsen, Inc.**, Danbury, Conn.

**Kreckman Co.**, Herb, Kresco Antennas, Cresco, Pa.

**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.

**Master Mobile Mounts, Inc.**, 1306 Bond St., Los Angeles 15, Calif.

**Measurement Engineering, Ltd.**, Arnprior, Ontario, Canada.

**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.

**Taffet Radio & Television Co.**, 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.

**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.

**Video Industries Co.**, 242 Madison Ave., Port Chester, N. Y.

**Western Gear Corp., Electro Products Div.**, 132 W. Colorado St., Pasadena 1, Calif.

**Z & W Mfg. Corp.**, 30240 Lakeland Blvd., Wickliffe, Ohio.

### ANTENNAS—Indoor

**American Electronics Co.**, 1203-05 Bryant Ave., New York 59, N. Y.

**Brach Div., Electronic Research, General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.

**Cass Machine Co.**, 691 Antoinette St., Detroit 2, Mich.

**Channel Master Co.**, Ellenville, N. Y.

**Clear Beam Antenna Corp.**, 21341 Roscoe Blvd., Canoga Park, Calif.

**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.

**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.

**Fretco, Inc.**, 406 N. Craig St., Pittsburgh 13, Pa.  
**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.

**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.

**I. E. Manufacturing**, 325 N. Hoyle Ave., Chicago 12, Ill.

**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.

**Medal Mfg. Co., Inc.**, 194 E. Silver St., Sharon, Pa.

**Miller Electronics**, 2840 Naomi St., Burbank, Calif.

**Peerless Products Industries**, 812 N. Pulaski St., Chicago 51, Ill.

**Premax Products Div., Chisholm-Ryder Co., Inc.**, Highland & College Aves., Niagara Falls 2, N. Y.

**Radian Corp.**, 1130 Wisconsin Ave., Chicago 14, Ill.

**Rego Insulated Wire Co.**, 830 Monroe St., Hoboken, N. J.

**Superex Electronics Corp.**, 4-6 Radford Place, Yonkers, N. Y.

**Tenna Mfg. Co.**, 7580 Garfield Blvd., Cleveland 25, Ohio.

**Tricraft Products Corp.**, 1124 W. Newport Ave., Chicago 13, Ill.

**Trio Mfg. Co.**, Griggsville, Ill.

### ANTENNAS—Loop

**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.

**AUTOMATIC COIL CO.**, 415 Bedford Ave., Brooklyn, N. Y. ADV. PG. 675.

**Bendix Radio Division, Bendix Aviation Corp.**, Baltimore 4, Md.

**Bludworth Marine Div., Kearfott Co., Inc.**, 92 Gold St., New York 38, N. Y.

**Calbest Electronics Co.**, 4801 Exposition Blvd., Los Angeles 16, Calif.

**Coilcraft, Inc.**, Cary, Ill.

**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa., ADV. PG. 589.

**Conrad & Moser**, 2 Borden Ave., Long Island City 1, N. Y.

**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.

**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.

**Guthman Div. of Essex Wire Corp.**, 15 S. Throop St., Chicago 7, Ill.

**HOULIHAN CO., T. J.**, 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.

**I. E. Manufacturing**, 325 N. Hoyle Ave., Chicago 12, Ill.

**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main St., Clifton, N. J. ADV. PG. 181.

**Lear, Inc.**, 3171 S. Bundy Drive, Los Angeles 34, Calif.

**Leonard Electric Products Co., Inc.**, 67 Thirty Fourth St., Brooklyn 32, N. Y.

**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.

**Miller Co., J. W.**, 5917 S. Main St., Los Angeles 3, Calif.

**Oaktron Electric Co.**, Tinley Park, Ill.

**Penn Tran Corp.**, Bellefonte, Pa.

**Rego Insulated Wire Co.**, 830 Monroe St., Hoboken, N. J.

**Rollan Electric Co.**, 8233 S. Princeton Ave., Chicago 20, Ill.

**Sickles, F. W., Div., General Instrument Corp.**, 165 Front St., Wicopee, Mass.

**Standard Coil Products Co.**, 2085 N. Hawthorne St., Melrose, Park, Ill.

**Stanwyck Winding Co.**, 137 Walsh Ave., Newburgh, N. Y.

**Vidaire Electronics Mfg. Corp.**, 576 W. Merrick Rd., Lynbrook, N. Y.

**Wilcox Electric Co.**, 1400 Chestnut St., Kansas City, Mo.

### ANTENNAS—Marine

**Bassett, Inc., Rex**, 1314 N. E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.

**Brach Div., Electronic Research, General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.

**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.

**Conrad & Moser**, 2 Borden Ave., Long Island City 1, N. Y.

**Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd.**, Burbank, Calif.

**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.

**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.

**Ed-Berl Products, Inc.**, 87 Merrick Rd., Baldwin, N. Y.

**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.

**Hudson American Corp.**, 25 W. 43rd St., New York 36, N. Y.

**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.

**Jefferson Inc., Ray**, 40 E. Merrick Rd., Freeport, N. Y.

**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main St., Clifton, N. J. ADV. PG. 181.

**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.

**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.

**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.

**Pearce-Simpson, Inc.**, 3023 Coral Way, Miami 34, Fla.

**Premax Products Div., Chisholm-Ryder Co., Inc.**, Highland & College Ave., Niagara Falls 2, N. Y.



**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**Scala Radio Co.**, 2814 19th St., San Francisco 10, Calif.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.

**ANTENNAS—Microwave**  
 See **MICROWAVE ACCESSORIES**

**ANTENNAS—Radar Receiving & Transmitting**

**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass. ADV. PG. 589.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**American Electronic Labs., Inc.**, 121 N. 7th St., Philadelphia 6, Pa.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
**BOGART MFG. CO.**, 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
**Canoga Corp.**, 5955 Sepulveda Blvd., Van Nuys, Calif.  
**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**Dorne & Margolin, Inc.**, 30 Sylvester St., Westbury, N. Y.  
**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.  
**Electronics & Avionics Div. of the Emerson Electric Mfg. Co.**, 8100 Florissant Ave., St. Louis 21, Mo.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
**Federal Telecommunication Labs., A Div. of IT&T**, 500 Washington Ave., Nutley 10, N. J.  
**GABRIEL ELECTRONICS DIV., THE GABRIEL CO.**, 135 Crescent Rd., Needham Heights 94, Mass. ADV. PG. 382.  
**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**Goodyear Aircraft Corp.**, 1210 Massillon Rd., Akron 15, Ohio.  
**Haller, Raymond & Brown, Inc.**, State College, Pa.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**Kelvin & Hughes Ltd.**, New North Rd., Barkingside, Essex, England.  
**KENNEDY & CO., D. S.**, Cohasset, Mass. ADV. PG. 43.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.  
**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
**Maryland Electronic Mfg. Corp.**, College Park, Md.  
**Nevada Air Products Co., P. O. Box 2472**, Reno, Nev.  
**Pitometer Log Corp.**, 237 Lafayette St., New York 12, N. Y.  
**Production Research Corp.**, Thornwood, N. Y.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
**Sage Laboratories, Inc.**, 30 Guinan St., Waltham 54, Mass.  
**Smith Mfg. Co., J. & H.**, Little Britain Rd., Newburgh, N. Y.  
**Sperry Gyroscope Co., Div. of Sperry Rand Corp.**, Great Neck, N. Y.  
**Stainless, Inc.**, Third St., North Wales, Pa.  
**Stewart-Warner Electronics Div. of Stewart-Warner Corp.**, 1300 N. Kostner Ave., Chicago 51, Ill.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**TELREX, INC.**, Asbury Park, N. J. ADV. PG. 661.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
**White Aircraft Corp.**, Palmer, Mass.  
**Wilcox Electric Co.**, 1400 Chestnut St., Kansas City, Mo.

**ANTENNAS—Railroad**

**Bendix Radio Division**, Bendix Aviation Corp., Baltimore 4, Md.  
**Davis Electronics, P. O. Box 1247**, 4002 Burbank Blvd., Burbank, Calif.  
**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**Dielectric Products Engineering Co., Inc.**, Raymond, Maine.

**Fretco, Inc.**, 406 N. Craig St., Pittsburgh 13, Pa.  
**Kreckman Co., Herb, Kreco Antennas, Cresco, Pa.**  
**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.

**ANTENNAS—Rotary Beam**

**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**Johnson Co., E. F., Waseca, Minn.**  
**Mosley Electronics, Inc.**, 8622 S. Charles Rock Rd., St. Louis 14, Mo.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**TELREX, INC.**, Asbury Park, N. J. ADV. PG. 661.  
**Tennalab, Quincy, Ill.**  
**Wind Turbine Co., E. Market St. & Penna. R. R.**, West Chester, Pa.

**ANTENNAS—Telescopic**

**Alpar Manufacturing Corp.**, 2910 Spring St., Redwood City, Calif.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**K-W Engineering Works**, 3145-A N. 48th St., Milwaukee 16, Wis.  
**Kreckman Co., Herb, Kreco Antennas, Cresco, Pa.**  
**Peerless Products Industries**, 812 N. Pulaski St., Chicago 51, Ill.  
**Philson Mfg. Co., Inc.**, 60-66 Sackett St., Brooklyn 31, N. Y.  
**Premax Products Div., Chisholm-Ryder Co., Inc.**, Highland & Colledge Aves., Niagara Falls 2, N. Y.  
**Radiart Corp., The**, 3455 Vega Ave., Cleveland 13, Ohio.  
**Radion Corp.**, 1130 Wisconsin Ave., Chicago 14, Ill.  
**Telephonics Corp., Park Ave.**, Huntington, N. Y.  
**Tricraft Products Corp.**, 1124 W. Newport Ave., Chicago 13, Ill.

**ANTENNAS—Television**

**Acme Tool & Specialties Co.**, 224 N. Loomis St., Chicago 7, Ill.  
**Adler Electronics, Inc.**, 1 Le Fevre Lane, New Rochelle, N. Y.  
**ALFORD MFG. CO., INC.**, 299 Atlantic Ave., Boston, Mass. ADV. PG. 398.  
**Antennex Co.**, 4060 Ocean Park Ave., Venice, Calif.  
**Cass Machine Co.**, 691 Antoinette St., Detroit 2, Mich.  
**Channel Master Co., Ellenville, N. Y.**  
**Clear Beam Antenna Co.**, 21341 Roscoe Blvd., Canoga Park, Calif.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
**Davis Electronics, P. O. Box 1247**, 4002 Burbank Blvd., Burbank, Calif.  
**Federal Telecommunication Labs., A Div. of IT&T**, 500 Washington Ave., Nutley 10, N. J.  
**Finney Co., The**, 34 W. Interstate, Bedford, Ohio.  
**Gates Radio Co., Quincy, Ill.**  
**General Bronze Corp.**, 711 Stewart Av., Garden City, N. Y.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**General Electric Co., Technical Products Dept., Electronics Park**, Syracuse, N. Y.  
**Gonset Co.**, 801 S. Main St., Burbank, Calif.  
**I. E. Manufacturing**, 325 N. Hoyle Ave., Chicago 12, Ill.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
**Lynmar Engineers, Inc.**, 1432 N. Carlisle St., Philadelphia 21, Pa.  
**Medal Mfg. Co., Inc.**, 194 E. Silver St., Sharon, Pa.  
**Miller Electronics**, 2840 Naomi St., Burbank, Calif.  
**National Electric Products Co.**, 140 Stanwix St., Pittsburgh 22, Pa.  
**Peerless Products Industries**, 812 N. Pulaski St., Chicago 51, Ill.  
**Philson Mfg. Co.**, 60-66 Sackett St., Brooklyn 31, N. Y.  
**Radiart Corp., The**, 3455 Vega Ave., Cleveland 13, Ohio.  
**Radio Merchandise Sales, Inc.**, 2016 Bronxdale Ave., New York 62, N. Y.  
**Radion Corp.**, 1130 Wisconsin Ave., Chicago 14, Ill.  
**Rego Insulated Wire Co.**, 830 Monroe St., Hoboken, N. J.  
**Stainless, Inc.**, Third St., North Wales, Pa.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**TELREX, INC.**, Asbury Park, N. J. ADV. PG. 661.  
**Tenna Mfg. Co.**, 7580 Garfield Blvd., Cleveland 25, Ohio.  
**Tennalab, Quincy, Ill.**  
**Titchener & Co., E. H.**, 67 Clinton St., Binghamton, N. Y.

**Tricraft Products Corp.**, 1124 W. Newport Ave., Chicago 13, Ill.  
**Trio Mfg. Co.**, Griggsville, Ill.  
**Video Industries Co.**, 242 Madison Ave., Port Chester, N. Y.  
**Walnut Machine Co.**, 1529 S. Walnut St., South Bend 14, Ind.  
**Wells & Winegard**, 3000 Scotten Blvd., Burlington, Iowa.

**ANTENNAS—Television Built-in**

**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
**Fretco, Inc.**, 406 N. Craig St., Pittsburgh 13, Pa.  
**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**Guthman Div. of Essex Corp.**, 15 S. Throop St., Chicago 7, Ill.  
**Radion Corp.**, 1130 Wisconsin Ave., Chicago 14, Ill.  
**Rego Insulated Wire Co.**, 830 Monroe St., Hoboken, N. J.  
**Television Laboratories, Inc.**, Mill St., Wauconda, Ill.

**ANTENNAS—Television Multiple Set**

**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**JERROLD ELECTRONICS CORP.**, 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
**Lynmar Engineers, Inc.**, 1432 N. Carlisle St., Philadelphia 21, Pa.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**Rego Insulated Wire Co.**, 830 Monroe St., Hoboken, N. J.  
**Scala Radio Co.**, 2814 19th St., San Francisco 10, Calif.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**Video Industries Co.**, 242 Madison Ave., Port Chester, N. Y.

**ANTENNAS—uhf & vhf**

**ACF Electronics**, 800 N. Pitt St., Alexandria, Va.  
**Acme Tool & Specialties Co.**, 224 N. Loomis St., Chicago 7, Ill.  
**Adler Electronics, Inc.**, 1 Le Fevre Lane, New Rochelle, N. Y.  
**Aero Instrument Co.**, 11423 Vanowen St., North Hollywood, Calif.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
**American Electronic Labs., Inc.**, 121 N. 7th St., Philadelphia 6, Pa.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**Antennex Co.**, 4060 Ocean Park Ave., Venice, Calif.  
**Bendix Radio Division**, Bendix Aviation Corp., Baltimore 4, Md.  
**Brach Div. Electronic Research, General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**Budelman Radio Corp.**, 376 Fairfield Ave., Stamford, Conn.  
**Canoga Corp.**, 5955 Sepulveda Blvd., Van Nuys, Calif.  
**Cass Machine Co.**, 691 Antoinette St., Detroit 2, Mich.  
**Channel Master Co., Ellenville, N. Y.**  
**Clear Beam Antenna Co.**, 21341 Roscoe Blvd., Canoga Park, Calif.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
**Davis Electronics, P. O. Box 1247**, 4002 Burbank Blvd., Burbank, Calif.  
**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**Dielectric Products Engineering Co., Inc.**, Raymond, Maine.  
**Dorne and Margolin, Inc.**, 30 Sylvester St., Westbury, N. Y.  
**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.  
**Erco Radio Labs., Inc.**, 637 Stewart Ave., Garden City, N. Y.  
**Federal Telecommunication Labs., A Div. of IT&T**, 500 Washington Ave., Nutley 10, N. J.  
**Finney Co., The**, 34 W. Interstate, Bedford, Ohio.  
**Fretco, Inc.**, 406 N. Craig St., Pittsburgh 13, Pa.  
**GABRIEL ELECTRONICS DIV., THE GABRIEL CO.**, 135 Crescent Rd., Needham Heights 94, Mass. ADV. PG. 382.  
**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**General Electric Co., Technical Products Dept., Electronics Park**, Syracuse, N. Y.  
**Gonset Co.**, 801 S. Main St., Burbank, Calif.  
**Haller, Raymond & Brown, Inc.**, State College, Pa.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.

**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.

**Kreckman Co.**, Herb, Kresco Antennas, Cresco, Pa. Lear, Inc., 3171 S. Bundy Drive, Los Angeles 34, Calif. Leitch Engineering Corp., 326 Lincoln St., Manchester, N. H.

**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.

**Master Mobile Mounts, Inc.**, 1306 Bond St., Los Angeles 15, Calif.

**Miller Electronics**, 2840 Naomi St., Burbank, Calif. **National Electric Products Co.**, 140 Stanwix St., Pittsburgh 22, Pa.

**Peerless Products Industries**, 812 N. Pulaski St., Chicago 51, Ill.

**Pitometer Log Corp.**, 237 Lafayette St., New York 12, N. Y.

**Prodelin, Inc.**, 307 Bergen Ave., Kearny, N. J.

**Pruyn-Moore, Inc.**, 1338 Cota Ave., Long Beach 13, Calif. **Radiart Corp.**, 3455 Vega Ave., Cleveland 13, Ohio.

**Radio Merchandise Sales, Inc.**, 2016 Bronxdale Ave., New York 62, N. Y.

**Radion Corp.**, 1130 Wisconsin Ave., Chicago 14, Ill. **Roflan Co.**, Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.

**Sage Laboratories, Inc.**, 30 Guinan St., Waltham 54, Mass.

**Scala Radio Co.**, 2814 19th St., San Francisco 10, Calif.

**Smith Mfg. Co., J. & H.**, Little Britain Rd., Newburgh, N. Y.

**Sperry Gyroscope Co.**, Div. of Sperry Rand Corp., Great Neck, N. Y.

**Standard Telephones & Cables, Ltd.**, Connaught House, Aldwych, London, W. C. 2, England.

**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.

**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.

**Telectro Industries Corp.**, 35-16 37th St., Long Island City 1, N. Y.

**TELREX INC.**, Asbury Park, N. J. ADV. PG. 661.

**Tranco Products, Inc.**, 12210 Nebraska Ave., Los Angeles 25, Calif.

**Tricraft Products Corp.**, 1124 W. Newport Ave., Chicago 13, Ill.

**Trio Mfg. Co.**, Griggsville, Ill.

**Video Industries Co.**, 242 Madison Ave., Port Chester, N. Y.

**Walnut Machine Co.**, 1529 S. Walnut St., South Bend 14, Ind.

**Walsco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.

**Western Gear Corp.**, Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

**Wind Turbine Co.**, E. Market St. & Penna. R. R., West Chester, Pa.

**Wunderlich Radio Co.**, 2 Fifth Ave., New York 11, N. Y.

## ANTENNAS—vht Omnidirectional Radio Range

**Air Associates, Inc.**, Research & Development Div., 511 Joyce St., Orange, N. J.

**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.

**ALFORD MFG. CO., INC.**, 299 Atlantic Ave., Boston, Mass. ADV. PG. 398.

**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.

**Bendix Radio Division**, Bendix Aviation Corp., Baltimore 4, Md.

**Davis Electronics**, P. O. Box 1247, 4002 Burbank Blvd., Burbank, Calif.

**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.

**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.

**Federal Telecommunication Labs.**, A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.

**General Bronze Corp.**, 711 Stewart Ave., Garden City, N. Y.

**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.

**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.

**Lear, Inc.**, 3171 S. Bundy Drive, Santa Monica, Calif. **Leitch Engineering Corp.**, 326 Lincoln St., Manchester, N. H.

**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.

**Maryland Electronic Mfg. Corp.**, College Park, Md. **National Aeronautical Corp.**, Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.

**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.

**TELREX, INC.**, Asbury Park, N. J. ADV. PG. 661.

**Wilcox Electric Co.**, 1400 Chestnut St., Kansas City, Mo.

## ATTENUATORS—Audio

**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass. **Aerovox Corp.**, Pacific Coast Div., 2724 So. Peck Rd., Monrovia, Calif.

**Antlab**, 4950 N. High St., Columbus 14, Ohio.

**CINEMA ENGINEERING DIV., AERVOX CORP.**, 1100 Chestnut St., Burbank, Calif. ADV. PG. 688.

**Cinema-Television, Ltd.**, Worsley Bridge Rd., London, S.E. 26, England.

**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.

**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.

**HYCOR DIV. OF INTERNATIONAL RESISTANCE CO.**, 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.

**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.

**Lab-Tronics, Inc.**, 3656 N. Lincoln Ave., Chicago 13, Ill. **Langevin Mfg. Corp.**, 47-37 Austell Place, Long Island City 1, N. Y.

**Lesia, Via Bergamo 21**, Milan, Italy.

**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.

**Muirhead & Co., Ltd.**, Beckenham, Kent, England.

**NYT Electronics, Inc.**, 2979 N. Ontario St., Burbank, Calif.

**New London Instrument Co.**, P. O. Box 189, New London, Conn.

**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.

**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.

**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.

**Solartron, Inc.**, Western Div., 10761 Burbank Blvd., North Hollywood, Calif.

**Sullivan Ltd.**, H. W., 80 Shore Rd., Port Washington, N. Y.

**Tech Laboratories, Inc.**, Bergen & Edsall Blvds., Palisades Park, N. J.

**Teletronics Laboratory, Inc.**, Kinkel St., Westbury, N. Y.

**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.

**Wunderlich Radio Co.**, 2 Fifth Ave., New York 11, N. Y.

## ATTENUATORS—Microwave, Adjusted & Calibrated

### ATTENUATORS—Microwave Coaxial Fixed

### ATTENUATORS—Microwave Step

### SEE MICROWAVE ACCESSORIES

## ATTENUATORS—r-f & i-f

**Admittance-Namco Corp.**, Farmingdale, N. Y.

**Aerovox Corp.**, Pacific Coast Div., 2724 So. Peck Rd., Monrovia, Calif.

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.

**APPLIED RESEARCH, INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.

**ARENBERG ULTRASONIC LABORATORY, INC.**, 94 Green St., Jamaica Plain 30, Mass. ADV. PG. 672.

**Blonder-Tongue Laboratories, Inc.**, 9-25 Alling St., Newark 2, N. J.

**Cinema-Television, Ltd.**, Worsley Bridge Rd., London, S. E. 26, England.

**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.

**Crowley Div. of Aerovox Corp.**, 1 Central Ave., West Orange, N. J.

**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.

**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.

**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.

**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.

**Electrical & Physical Instrument Corp.**, 42-49 27th St., Long Island City 1, N. Y.

**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.

**Entron Inc.**, 4902 Lawrence St., Bladensburg, Md.

**FILMOHM CORP.**, 48 W. 25th St., New York 10, N. Y. ADV. PG. 670.

**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.

**Holland Electronics**, 40 Great Jones St., New York 12, N. Y.

**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.

**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.

**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.

**Maxson Instruments, Div. of The W. L. Maxson Corp.**, 47-37 Austell Place, Long Island City 1, N. Y.

**MEASUREMENTS CORP.**, Boonton, N. J. ADV. PG. 94.

**Metavac, Inc.**, 45-68 162nd St., Flushing 58, N. Y.

**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.

**Muirhead & Co., Ltd.**, Beckenham, Kent, England.

**NYT Electronics, Inc.**, 2979 N. Ontario St., Burbank, Calif.

**New London Instrument Co.**, P. O. Box 189, New London, Mass.

**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.

**Pitometer Log Corp.**, 237 Lafayette St., New York 12, N. Y.

**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.

**Tech Laboratories, Inc.**, Bergen & Edsall Blvds., Palisades Park, N. J.

**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**Teletronics Laboratory, Inc.**, Kinkel St., Westbury, N. Y.

**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.

**TRAD ELECTRONICS CORP.**, 1001 First Ave., Asbury Park, N. J. ADV. PG. 522.

**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.

**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.

**WEINSCHEL ENGINEERING CO., INC.**, 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.

**Westbury Electronics, Inc.**, 300 Shames Drive, Westbury, N. Y.

**Wunderlich Radio Co.**, 2 Fifth Ave., New York 11, N. Y.

## AUDIOMETERS

See INSTRUMENTS—Electrical Measuring

## AUTOPILOTS

See PILOTS—Automatic

## AUTO RADIO CONTROLS

See CONTROLS—Radio Remote

## AUTOMATIC ASSEMBLY EQUIPMENT

**Acme Tool & Specialties Co.**, 224 N. Loomis St., Chicago 7, Ill.

**Alden Systems, Inc.**, Aldfen Research Center, Westboro, Mass.

**Automation Management, Inc.**, Westboro, Mass.

**Berg Mfg. Corp.**, 142 Reno Ave., New Cumberland, Pa.

**BRIGGS ASSOCIATES, INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.

**Bristol Co.**, The, P. O. Box 1790 EBG, Waterbury 20, Conn.

**ConRay Corp.**, 29 W. Apple St., Dayton 2, Ohio.

**COOK CO., FRANK R.**, 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.

**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.

**Electro Craft Industries, Inc.**, 68 Jackson St., Stamford, Conn.

**Eyelet Tool Co., Inc.**, 236A Broadway, Cambridge 42, Mass.

**General Mills, Inc.**, Mechanical Div., 1620 Central Ave., Minneapolis 13, Minn.

**Halm Instrument Co., Inc.**, Glen Head Rd., Glen Head, N. Y.

**Industrial Electronic Engineers**, 3973 Lankersheim Blvd., North Hollywood, Calif.

**KAHLE ENGINEERING CO.**, 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.

**Microtronics, Inc.**, Porete Ave., North Arlington, N. J.

**Standard Tool & Mfg. Co.**, Arlington, N. J.

**Summit Electronics, Inc.**, 7 Industrial Place, Summit, N. J.

**United Shoe Machinery Corp.**, 140 Federal St., Boston 7, Mass.

## BAFFLES—Speaker

**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.

**Bozak Mfg. Co., R. T.**, The, Box 966, Darien, Conn.

**Bud Radio, Inc.**, 2118 E. 55th St., Cleveland 3, Ohio.

**Cleveland Electronics, Inc.**, 1974 E. 61st St., Cleveland 3, Ohio.

**Cortland Industries, Inc.**, 4545 Cortland St., Chicago 39, Ill.

**Croname, Inc.**, 1747 Grace St., Chicago 13, Ill.

**Dukane Corp.**, St. Charles, Ill.

**Electro Voice Mfg. Co., Inc.**, Buchanan, Mich.

**Electron Enterprises**, 6917-19-21 Stanley Ave., Berwyn, Ill.

**Hartley Products Co.**, 521 E. 162nd St., New York 51, N. Y.

**Lansing Sound, Inc.**, James B., 2439 Fletcher Drive, Los Angeles 26, Calif.

**Magnavox Co.**, The, 2131 Beuter Rd., Fort Wayne, Ind.

**Oleson Co., Otto K.**, 1534 Cahuenga, Hollywood 28, Calif.

**Powers Co., J. J.**, 1317 S. Fifth Ave., Maywood, Ill.

**Precision Electronics, Inc.**, 9101 King St., Franklin Park, Ill.

**PREMIER METAL PRODUCTS CO.**, 337 Manida St., Bronx 59, N. Y. ADV. PG. 646.

**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.

**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers

**Rauland-Borg Corp.**, 3515 W. Addison St., Chicago 18, Ill.

**Remler Company**, 2101 Bryant St., San Francisco 10, Calif.

**Setchell Carlson, Inc.**, 330 Fifth Ave., New Brighton, Minn.

**Sieler Design Products**, 10460 San Pablo Ave., El Cerrito, Calif.

**Stromberg-Carlson Co.**, Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.

**Westrex Corp.**, 111 Eighth Ave., New York 11, N. Y.

## BARRETTERS

**MEASUREMENTS CORP.**, Boonton, N. J. ADV. PG. 94.

**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.

NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.

**BASES—Diode**

ELECTRICAL INDUSTRIES DIV., PHILIPS ELECTRONICS, INC., 691 Central Ave., Murray Hill, N. J. ADV. PG. 315.  
GRAYHILL, INC., 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
HERMETIC SEAL CORP., 29-37 S. Sixth St., Newark 7, N. J. ADV. PG. 325.  
Hermetite Corp., 702 Beacon St., Boston 15, Mass.  
KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.

**BASES—Relay****See also MOUNTINGS**

Armel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y.  
Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
HART MFG. CO., 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
HERMETIC SEAL CORP., 29-37 S. Sixth St., Newark 7, N. J. ADV. PG. 325.  
Hermetite Corp., 702 Beacon St., Boston 15, Mass.  
Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.

**BASES—Transistor**

Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
DURO SPECIALTY CO., INC., 811 Boston St., Lynn, Mass. ADV. PG. 284.  
ELECTRICAL INDUSTRIES DIV., PHILIPS ELECTRONICS, INC., 691 Central Ave., Murray Hill, N. J. ADV. PG. 315.  
HERMETIC SEAL CORP., 29-37 S. Sixth St., Newark 7, N. J. ADV. PG. 325.  
Hermetite Corp., 702 Beacon St., Boston 15, Mass.

**BATTERIES—Dry**

Acme Battery Co., 200 Henry St., Stamford, Conn.  
Bright Star Industries, 600 Getty Ave., Clifton, N. J.  
BURGESS BATTERY CO., Freeport, Ill. ADV. PG. 699.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
Leclanche S. A., Yverdon, Switzerland.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
Mallory Battery Co., 13000 Athens Ave., Cleveland 7, Ohio.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Marathon Battery Co., P. O. Box 298, Wausau, Wis.  
National Carbon Co., Division of Union Carbide & Carbon Corp., 30 E. 42 St., New York 17, N. Y.  
Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers  
Ray-O-Vac Co., 212 E. Washington Ave., Madison, Wis.

**BATTERIES—Mercury**

INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
Mallory Battery Co., 13000 Athens Ave., Cleveland 7, Ohio.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
National Carbon Co., Division of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
Ray-O-Vac Co., 212 E. Washington Ave., Madison, Wis.

**BATTERIES—Standard Cell**

Bright Star Industries, 600 Getty Ave., Clifton, N. J.  
BURGESS BATTERY CO., Freeport, Ill. ADV. PG. 699.  
Leclanche S. A., Yverdon, Switzerland.

**BATTERIES—Storage**

Bowers Battery & Spark Plug Co., Box 1262, Reading, Pa.  
COOK CO., FRANK R., 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.  
Electric Auto-Lite Co., The, Champlain St., Toledo 1, Ohio.  
Electric Storage Battery Co., Exide Industrial Div., 42 S. 15th St., Philadelphia 2, Pa.  
Gould-National Batteries Inc., 35 Neoga St., Depew, N. Y.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
Leclanche S. A., Yverdon, Switzerland.  
Nickel Cadmium Battery Corp., Easthampton, Mass.  
Saft Corp. of America, 2 Gregg St., Lodi, N. J.

STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
Willard Storage Battery Div., The Electric Storage Battery Co., 246-286 E. 131st St., Cleveland 1, Ohio.  
YARDNEY ELECTRIC CORP., 40 Leonard St., New York 13, N. Y. ADV. PG. 365.

**BATTERIES—Storage Nonspill**

Bowers Battery & Spark Plug Co., Box 1262, Reading, Pa.  
COOK CO., FRANK R., 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.  
Electric Storage Battery Co., Exide Industrial Div., 42 S. 15th St., Philadelphia 2, Pa.  
Electro-Science Industries, Box 10066 International Airport, Los Angeles 45, Calif.  
Electronic Batteries, Inc., Bush Terminal Bldg., No. 4, 28-34 35th St., Brooklyn 32, N. Y.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
Nickel Cadmium Battery Corp., Easthampton, Mass.  
Saft Corp. of America, 2 Gregg St., Lodi, N. J.  
STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
Willard Storage Battery Div., The Electric Storage Battery Co., 246-286 E. 131st St., Cleveland 1, Ohio.  
YARDNEY ELECTRIC CORP., 40 Leonard St., New York 13, N. Y. ADV. PG. 365.

**BATTERY CHARGERS**

1. Electron Tube
2. Engine Driven
3. Metallic Oxide
4. Motor Generator
5. Portable
6. Selenium

ACME ELECTRIC CORP., 31 Water St., Cuba, N. Y. 1-6. ADV. PG. 378.  
Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y. 6.  
AMERICAN TELEVISION & RADIO CO., 300 E. Fourth St., St. Paul 1, Minn. 5-6. ADV. PG. 222.  
Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J. 6.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y. 4-6.  
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J. 4-6.  
Bone Engineering Corp., 701 W. Broadway, Glendale 4, Calif. 1-2-3-4-5-6.  
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va. 6.  
CHRISTIE ELECTRIC CORP., 3410 W. 67th St., Los Angeles 43, Calif. 1-5-6. ADV. PG. 528.  
Cline Electric Mfg. Co., 3405 W. 47th St., Chicago, Ill. 6.  
Dormitzer Electric & Mfg. Co., Inc., 5 Hadley St., Cambridge, Mass. 3-5-6.  
Dresser Electric Co., 942 E. Larned St., Detroit 7, Mich. 5-6.  
Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass. 1.  
Electro Engineering Products Co., 609 W. Lake St., Chicago, Ill. 4.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y. 3.  
ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. 1. ADV. PG. 556.  
Fansteel Metallurgical Corp., 2200 Sheridan Road, North Chicago, Ill. 6.  
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa. 3-6.  
Fox Products Co., 4720 N. 18th St., Philadelphia 41, Pa. 1-3-5-6.  
GATES ELECTRONIC CO., 2090 Barnes Ave., Bronx 62, N. Y. 6. ADV. PG. 678.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. 1-3-4-5-6. ADV. PG. 1-12.  
General Nuclear Corp., 550 Fifth Ave., New York 28, N. Y. 3-5-6.  
Georator Corp., Manassas, Va. 2-4-5.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J. 1-3-5-6.  
Gyro Electronics Co., 325 Canal St., New York, N. Y. 6.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. 3. ADV. PG. 575.  
HOMELITE DIV. OF TEXTRON INC., Port Chester, N. Y. 2. ADV. PG. 645.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. 6. ADV. PG. 355-357.  
King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio. 1-3-5.  
Knopp Inc., 4224 Holden St., Oakland 8, Calif. 6.  
Lee Electric & Mfg. Co., 2806 Clearwater St., Los Angeles 39, Calif. 5-6.  
MACARR, INC., 2543 Boston Rd., Bronx 67, N. Y. 5-6. ADV. PG. 640.  
Mag-Electric Products Inc., 12822 Yukon Ave., Hawthorne, Calif. 2-3-5-6.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind. 3-5.  
Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y. 6.  
MODEL RECTIFIER CORP., 1065 Ufca Ave., Brooklyn 3, N. Y. 5-6. ADV. PG. 665, 667.

Motoresearch Co., 1600 Junction Ave., Racine, Wis. 2-4-6.

NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. 1-3-5-6. ADV. PG. 369, 370.

North Electric Co., 553 S. Market St., Galion, Ohio. 5.  
NORTHEASTERN ENGINEERING, INC., Manchester, N. H. 5-6. ADV. PG. 518, 519.

Onan & Sons, Inc., D. W., University Ave. at 25th St., S.E., Minneapolis 14, Minn. 2.

OPAD ELECTRIC CO., 69-5 Murray St., New York 7, N. Y. 1-3-5-6. ADV. PG. 650.

Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash. 3-6.

PERKIN ENGINEERING CORP., 345 Kansas St., El Segundo, Calif. 6. ADV. PG. 67.

Pioneer Gen-E-Motor Co., 5841 W. Dickens, Chicago 39, Ill. 2-5.

Power Equipment Co., 5740 Nevada East, Detroit 34, Mich. 1-6.

Power Supplies, Inc., 1007 Olive St., Highland, Ill. 5-6.

Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J. 6.

Precise Development Corp., 2 Neil Court, Oceanside, N. Y. 3-5-6.

RAYTHEON MFG. CO. EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. 6. ADV. PG. 250, 251.

Schauer Mfg. Corp., 4521 Alpine Ave., Cincinnati 36, Ohio. 3-5-6.

Sei-Rex Corp., Rectifier Div., 155 Manchester Place, Newark 4, N. J. 5-6.

STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. 6. ADV. PG. 143.

Standard Telephones & Cables, Ltd., Connaught House, Aldwych London, W. C. 2, England. 6.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J. 1-3-5.

Syntron Co., 243 Lexington, Homer City, Pa. 6.

TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. 1-3-5-6. ADV. PG. 549.

Ther Electric & Machine Works, 17 S. Jefferson St., Chicago 6, Ill. 1-3-6.

United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass. 1-5.

VEC TROL ENGINEERING INC., P. O. Box 1089, Stamford, Conn. 1. ADV. PG. 632.

Willard Storage Battery Div., The Electric Storage Battery Co., 246-286 E. 131st St., Cleveland 1, Ohio. 1-5-6.

YARDNEY ELECTRIC CORP., 40 Leonard St., New York 13, N. Y. 6. ADV. PG. 365.

**BEACONS—Radar**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
American Machine & Foundry Co., Electronics Div., 1085 Commonwealth Ave., Boston 15, Mass.  
Avion Division, ACF Industries, Inc., 11 Park Place, Paramus, N. J.  
Bendix Aviation Corp Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
Maryland Electronic Mfg. Corp., College Park, Md.  
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
PACKARD-BELL CO., 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena 1, Calif.  
Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
TELERAD MFG. CORP., 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.  
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

**BEACONS—Radio Navigation**

Aeronautical Communications Equipment, Inc., 3090 S. W. 37th Ave., Miami 33, Fla.  
Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.

FEDERAL TELEPHONE & RADIO CO., 99 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
Maryland Electronic Mfg. Corp., College Park, Md.  
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

## BEARINGS

**1. Jewel**  
**2. Miniature Ball**  
**3. Miniature Needle**  
American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y. 1.  
Barden Corp., E. Franklin St., Danbury, Conn. 2.  
BIRD CO., RICHARD H., 1 Spurge St., Waltham, Mass. 1. ADV. PG. 424.  
Fafnir Bearing Co., The, New Britain, Conn. 2.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. 1. ADV. PG. 1-12.  
Landis & Gyr, Inc., 45 W. 45th St., New York 36, N. Y. 2.  
Marlin-Rockwell Corp., Jamestown, N. Y. 2.  
Miniature Precision Bearings, Inc., Precision Park Keene, N. H. 2.  
Moser Jewel Co., Perth Amboy, N. J. 1.  
New Departure Div., General Motors Corp., Bristol, Conn. 2.  
NEW HAMPSHIRE BALL BEARINGS, INC., Peterborough, New Hampshire. 2. ADV. PG. 93.  
RAWAY BEARING CO., 4-8 Forsyth St., New York 2, N. Y. 2. ADV. PG. 699.  
Swiss Jewel Co., Lafayette Bldg., Philadelphia 6, Pa. 1.  
Torrington Co., 59 Field St., Torrington, Conn. 2.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass. 1.

## BEARINGS—Ball or Roller, Radar Antenna

Barden Corp., E. Franklin St., Danbury, Conn.  
Fafnir Bearing Co., The, New Britain, Conn.  
Halax Corp., P. O. Box 425, Los Gatos, Calif.  
Industrial Tectonics, Inc., 2100 Jackson Rd., Ann Arbor, Mich.  
Kaydon Engineering Corp., The, Muskegon, Mich.  
New Departure Div., General Motors Corp., Bristol, Conn.  
P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
RAWAY BEARING CO., 4-8 Forsyth St., New York 2, N. Y. ADV. PG. 699.  
Timken Roller Bearing Co., Canton 6, Ohio.

## BELLOWS

Arrowhead Products, 2300 Curry St., Long Beach 5, Calif.  
Breeze Corps., Inc., 700 Liberty Ave., Union, N. J.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Clifford Mfg. Co., Grove St., Waltham, Mass.  
Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
Flexonics Corp., 1315 S. Third Ave., Maywood, Ill.  
Fulton Syphon Div., Robertshaw-Fulton Controls Co., Knoxville 1, Tenn.  
P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
RESISTOFLEX CORP., Roseland, N. J. ADV. PG. 694.  
Titeflex, Inc., Hendee St., Springfield 4, Mass.  
U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

## BELTS—Dial Drive

BEAD CHAIN MANUFACTURING CO., THE, 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
JFD MANUFACTURING CO., INC., 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
White Dental Mfg. Co., S. S. Industrial Div., 10 E. 40th St., New York 16, N. Y.

## BENCH TEST SET-UPS

Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO., Box 125, Westboro, Mass. ADV. PG. 566.  
Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
BOGART MFG. CORP., 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
ConRay Corp., 29 W. Apple St., Dayton 2, Ohio.

DeMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
FORMICA METAL PRODUCTS CO., Corporation Way, Medford, Mass. ADV. PG. 284.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
Hunter-Bristol Corp., Bristol, Pa.  
Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
OPAD ELECTRIC CO., 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.

## BENDS—Microwave See MICROWAVE ACCESSORIES

## BI-METALS—Thermostatic

American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
BAKER & CO., INC., 113 Astor St., Newark 5, N. J. ADV. PG. 313.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.  
WILSON CO., H. A., THE, 2655 U. S. Hwy. 22 Union, N. J. ADV. PG. 257.

## BLOCKS—Fuse Blocks & Holders

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
BUSSMANN MFG. CO., St. Louis 7, Mo. ADV. PG. 60.  
CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
JONES DIV., HOWARD B. CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
Koltan Electric Mfg. Co., 123 New Jersey Railroad Ave., Newark 5, N. J.  
KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mt. Vernon, N. Y. ADV. PG. 685.  
LITTELFUSE, INC., Des Plaines, Ill. ADV. PG. 459.  
Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

## BLOWERS—Small

Air Control Installation, Ltd., Ruslip, Middlesex, England.  
AIR-MARINE MOTORS, INC., 365 Bayview Ave., Amityville, N. Y. ADV. PG. 569.  
AMERICAN BLOWER DIV. of AMERICAN STANDARD, Detroit 32, Mich. ADV. PG. 352, 353.  
Ashland Electric Products, Inc., 32-02 Queens Blvd., Long Island City 1, N. Y.  
Borg-Warner Corp., PESCO Products Div., 24700 N. Miles Rd., Bedford, Ohio.  
DYNAMIC AIR ENGINEERING INC., 7412 Maie Ave., Los Angeles 1, Calif. ADV. PG. 686.  
EASTERN AIR DEVICES, INC., 385 Central Ave., Dover, N. H. ADV. PG. 312.  
Electric Trading Co., 313 Canal St., New York, N. Y.  
ELECTRO-AIRE DIV. of HYDRO AIRE, INC., 6909 Farmdale Ave., North Hollywood, Calif. ADV. PG. 510.  
El Ray Motor Co., Inc., 11747 Vose St., North Hollywood, Calif.  
Fairchild Camera & Instrument Corp., Electrical Products Div., 110 Main St., Burlington, Vt.  
Fasco Industries, Inc., Rochester 2, N. Y.  
Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
HEINZE ELECTRIC CO. 685 Lawrence St., Lowell, Mass. ADV. PG. 657.  
Hertner Electric Co., 12690 Elmwood Ave., Cleveland 11, Ohio.  
Holub Industries, Inc., 414 DeKalb Ave., Sycamore, Ill.  
Hupp Electronics Co., A Div. of Hupp Corp., 743 Circle Ave., Forest Park, Ill.  
Ilg Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago 41, Ill.  
JOY MFG. CO., Dept. 39, Oliver Bldg., Pittsburgh 22, Pa. ADV. PG. 362.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.

Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
McLEAN ENGINEERING, Box 228, Princeton, N. J. ADV. PG. 414.  
Master Appliance Mfg. Co., Fourth & Ontario Sts., Ontario, Wis.  
OSTER MFG. CO., JOHN, AVIONICS DIV., 1 N Main St., Racine, Wis. ADV. PG. 130.  
Redmond Co., Inc., Owosso, Mich.  
Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
RIPLEY CO., INC., Middletown, Conn. ADV. PG. 458.  
Rotating Components, Inc., 269 Green St., Brooklyn 22, N. Y.  
ROTRON MFG. CO., INC., 7-9 Schoonmaker Lane, Woodstock, N. Y. ADV. PG. 256.  
SANDERS ASSOCIATES, INC., Nashua, N. H. ADV. PG. 534.  
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.  
Servo-Tek Products Co., Inc., 1086 Goffe Rd., Hawthorne, N. J.  
Small Motors, Inc., 2076 Elston Ave., Chicago 14, Ill.  
Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia.  
Torit Mfg. Co., Walnut & Exchange Sts., St. Paul 2, Minn.  
Ventrak Corp., 11 W. 42nd St., New York, N. Y.  
Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

## BOARDS—Capacitor or Resistor

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
EASTERN PRECISION RESISTOR CORP., 675 Barby St., Brooklyn, N. Y. ADV. PG. 451.  
Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.  
INDUSTRIAL HARDWARE MFG. CO., INC., 109 Prince St., New York, N. Y. ADV. PG. 693.  
Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
LABORATORY FOR ELECTRONICS, INC., 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
Sheffco Mfg. Corp., Grand & Ruby Aves., Palsades Park, N. J.  
Stone City Machine & Tool Co., Inc., P.O. Box 351 1206 Seventh St., Bedford, Ind.  
Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
SUFFOLK PRODUCTS CORP., Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.  
Warren Plastics Corp., Warren, Pa.  
West Virginia Pulp & Paper Co., 230 Park Ave., New York 17, N. Y.

## BOARDS—Plotting

Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
RS Electronics Corp., 435 Portage Ave., P.O. Box 368, Station A, Palo Alto, Calif.  
Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
Telex, Inc., Telex Park, St. Paul 1, Minn.

## BOARDS—Plug

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.  
Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass.

Pfeffer Products, 3901 W. 54th St., Los Angeles 43, Calif.  
**POMONA ELECTRONICS CO., INC.**, 1126, W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.

**BOARDS—Strip Type**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Arnel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y.  
 British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
**GENERAL COMPONENTS INC.**, 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
**INDUSTRIAL HARDWARE MFG. CO., INC.**, 109 Prince St., New York, N. Y. ADV. PG. 693.  
 Johnson Co., E. F., Waseca, Minn.  
**JONES DIV., HOWARD B., CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
**KEYSTONE ELECTRONICS CORP.**, 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
**KULKA ELECTRIC MFG. CO., INC.**, 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685.  
 Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 Molded Insulation Co., 355 E. Price St., Philadelphia 44, Pa.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
 Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 Pfeffer Products, 3901 W. 54th St., Los Angeles 43, Calif.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford Ind.  
 Tri-Dex Co., P. O., P. O. Box 1207, Lindsay, Calif.  
**VECTOR ELECTRONIC CO.**, 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.

**BOBBINS—Coil Winding**

**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
**AMERICAN MOLDED PRODUCTS CO.**, 2727 W. Chicago Ave., Chicago 22, Ill. ADV. PG. 580.  
 Buckeye Bobbin Co., 12200 Sprecher Ave., Cleveland 11, Ohio.  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
 Electro Devices Inc., 580 Main St., Wilmington, Mass.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
**ENDICOTT COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 571.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
**ERA ELECTRIC CORP.**, 314 Valley Brook Ave., Lyndhurst, N. J. ADV. PG. 665.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
 Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
**GRIES REPRODUCER CORP.**, 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
**HYDRO MOLDING CO., INC.**, Plattsburgh, N. Y. ADV. PG. 397.  
 Isolantite Manufacturing Corp., Stirling, N. J.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 Milman Engineering Co., 1831 Pontius, West Los Angeles, Calif.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Molding Corp. of America, 40 Church St., Pawtucket, R. I.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
 Oaktron Electric Co., Tintley Park, Ill.  
 Orange Products Inc., 554 Mitchell St., Orange, N. J.  
**POUGHKEEPSIE COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 681.

**PRECISION PAPER TUBE CO.**, 2041 W. Charleston St., Chicago 47, Ill. ADV. PG. 673.  
 Resinite Corp. Sub. of Precision Paper Tube Co., 6981 N. Central Park Ave., Chicago 45, (Lincolnwood) Ill.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 201, Ill.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 Stevens Products, Inc., 86-88 Main St., East Orange, N. J.  
**STUPAKOFF DIV. OF THE CARBORUNDUM CO.**, Latrobe, Pa. ADV. PG. 108, 109.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

**BOBBINS—Transformer Winding**

**ACCURATE PAPER TUBE CO.**, 801 N. Peoria St., Chicago 22, Ill. ADV. PG. 416.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
**AMERICAN MOLDED PRODUCTS CO.**, 2727 W. Chicago Ave., Chicago 22, Ill. ADV. PG. 580.  
 Buckeye Bobbin Co., 12200 Sprecher Ave., Cleveland 11, Ohio.  
**ENDICOTT COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 571.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
**ERA ELECTRIC CORP.**, 314 Valley Brook Ave., Lyndhurst, N. J. ADV. PG. 665.  
 Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
 Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
**HYDRO MOLDING CO., INC.**, Plattsburgh, N. Y. ADV. PG. 397.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 Molding Corp. of America, 40 Church St., Pawtucket, R. I.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
 Oaktron Electric Co., Tintley Park, Ill.  
**POUGHKEEPSIE COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 681.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
**PRECISION PAPER TUBE CO.**, 2041 W. Charleston St., Chicago 47, Ill. ADV. PG. 673.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
 Stevens Products, Inc., 86-88 Main St., East Orange, N. J.  
 Synthane Corp., Oaks, Pa.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

**BOLOMETER MOUNTS**

See **MICROWAVE ACCESSORIES**  
**Crystal Mounts & Mixers**

**BOLOMETERS**

See **TUBES—Bolometer**

**BOLTS—Spade**

Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
 Atlas Screw & Specialty Co., Inc., 450 Broome St., New York 13, N. Y.  
 Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
 Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 26, Mass.  
**FEDERAL SCREW PRODUCTS, INC.**, 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 National Screw & Mfg. Co., Cleveland 4, Ohio.  
 Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.  
 Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
 Titchener & Co., E. H., 67 Clinton St., Binghamton, N. Y.  
 United Screw & Bolt Corp., 2513 W. Cullerton St., Chicago 8, Ill.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**BOLTS—Toggle or Expansion**

**E-Expansion . . . T-Toggle**

Ackerman-Joffin Co., 625 W. Jackson Blvd., Chicago 6, Ill. E-T.  
 Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles 23, Calif. E-T.  
 Arro Expansion Bolt Co., 1522 Boone Ave., Marion, Ohio. E-T.  
 Atlas Screw & Specialty Co., Inc., 450 Broome St., New York 13, N. Y. E-T.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn. E.  
 Chicago Expansion Bolt Co., 1338 W. Concord Place, Chicago 22, Ill. E-T.  
**FEDERAL SCREW PRODUCTS, INC.**, 3917 N. Kedzie Ave., Chicago 18, Ill. T. ADV. PG. 558.  
 Harper Co., H. M., The, 8200 Lehigh Ave., Morton Grove, Ill. E.  
 Holub Industries, Inc., 414 DeKalb Ave., Sycamore, Ill. E-T.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill. E.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**KEYSTONE BOLT & NUT CORP.**, 127 Church St., New York 7, N. Y. E-T. ADV. PG. 683.  
 National Lead Co., 111 Broadway, New York 6, N. Y. E.  
 National Screw & Mfg. Co., The, Cleveland 4, Ohio. E-T.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio. E-T.  
**STAR EXPANSION PRODUCTS CO., INC.**, 142 Liberty St., New York 6, N. Y. E-T. ADV. PG. 588.  
 Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill. E-T.

**BOOKS**

See **TECHNICAL BOOKS—Publishers**

**BOOMS—Microphone**

Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 Bruel & Kjaer, Naerum, Denmark.  
 Camera Mark Inc., 1845 Broadway, New York 23, N. Y.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
**ELGIN NATIONAL WATCH CO., ELECTRONICS DIV.**, 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Olesen Co., Otto K., 1534 Cahuenga, Hollywood 28, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.

**BOOSTERS—Television**

Ampli-Vision Div. of The International Telemeter Corp., 2000 Stoner Ave., Los Angeles 25, Calif.  
 Astatic Corp., The, Conneaut, Ohio.  
 Blonder-Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 C B C Electronics Co., Inc., 2601 Howard St., Philadelphia 33, Pa.  
 Community Engineering Corp., Box 824, State College, Pa.  
 I.D.E.A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind.  
 Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 Radiart Corp., The, 3455 Vega Ave., Cleveland 13, Ohio.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
 Videon Electronic Corp., 902 E. Michigan St., Indianapolis 2, Ind.  
 Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.

**BOXES—Metal, Plastic or Waterproof**

A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.  
**ABALON PRECISION MFG. CORP.**, 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
 Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
**ALGO, INC.**, 251 West St., South Hackensack, N. J. ADV. PG. 554.  
 Althor Products, 2301 Benson Ave., Brooklyn 14, N. Y.  
**AMERICAN ALUMINUM CO.**, Sheffield St., C, Mountaintside, N. J. ADV. PG. 604.  
 American Plastics Corp., 342 Madison Ave., New York, N. Y.  
 Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.  
 Art-Lloyd Metal Products Corp., 2973 Cropsey Ave., Brooklyn 14, N. Y.  
 Auburn Button Works, Inc., Auburn, N. Y.  
**BALTIC METAL PRODUCTS CO.**, 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501.  
 Bennett Mfg. Co., Alden, N. Y.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.

**BRADLEY INDUSTRIES**, 1650-58 N. Damen Ave., Chicago 47, Ill. ADV. PG. 566.  
**Bud Radio, Inc.**, 2118 E. 55th St., Cleveland 3, Ohio.  
**Calresin Corp.**, 4543 Brazil St., Los Angeles 39, Calif.  
**CHURCHILL LIGHTING CORP.**, 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
**Columbia Metal Box Co.**, 260 E. 143rd St., New York, N. Y.  
**Conrad & Moser**, 2 Borden Ave., Long Island City 1, N. Y.  
**Controlled Atmosphere Enclosures Corp.**, 230-11 141st Ave., Springfield Gardens 13, N. Y.  
**Croname, Inc.**, 1747 Grace St., Chicago 13, Ill.  
**Cutler Metal Products Co.**, 1025 Line St., Camden, N. J.  
**Dahlstrom Metallic Door Co.**, Jamestown, N. Y.  
**Doepke Mfg. Co., Inc.**, Chas. Wm., 1956 Emerald Ave., Rossmoyn, Ohio.  
**Dura Plastics of New York, Inc.**, 303 Fifth Ave., New York 16, N. Y.  
**Elm Laboratories**, 18 S. Broadway, Dobbs Ferry, N. Y.  
**Elzee Metal Products Co., Inc.**, 775 39th St., Brooklyn 32, N. Y.  
**Enfo Corp.**, Route 38 at Airport Circle, Pensauken, N. J.  
**Eugene Engineering Co., Inc.**, 1217 Hyde Park Ave., Hyde Park 36, Mass.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
**General Metal Products Co.**, 1010-14 Centre St., Easton, Pa.  
**GREAT EASTERN METAL PRODUCTS CO.**, 22 Woodworth Ave., Yonkers, N. Y. ADV. PG. 696.  
**Hallett Mfg. Co.**, 1601 W. Florence Ave., Inglewood, Calif.  
**Hoffman Engineering Corp.**, Anoka, Minn.  
**HUGHEY & PHILLIPS, INC.**, 3300 N. San Fernando Blvd., Burbank, Calif. ADV. PG. 685.  
**I. E. Manufacturing**, 325 N. Hoyne Ave., Chicago 12, Ill.  
**Jan Hardware Mfg. Co., Inc.**, 75 N. 11th St., Brooklyn 11, N. Y.  
**Jodee Plastics Co.**, 213 Shepherd Ave., Brooklyn 8, N. Y.  
**Koch & Sons, H., Corte Madera, Calif.**  
**Lennard Co., Inc.**, P. M. P. O. Box 56, Village Station, New York 14, N. Y.  
**Minute Man Products, Inc.**, 430 E. 102nd St., New York, N. Y.  
**Mobil Electronics Mfg. Co.**, 1111 State Rd., 67 E. Anderson, Ind.  
**Molded Fibreglas Co.**, 4401 Benefit Ave., Ashtabula, Ohio.  
**Molded Insulation Co.**, 335 E. Price St., Philadelphia 44, Pa.  
**Muckle Mfg. Co.**, Owatonna 55, Minn.  
**Peterson & Neville, Inc.**, 365 Dorchester Ave., Boston, Mass.  
**Porcelain Products, Inc.**, Findlay, Ohio.  
**REF Mfg. Corp.**, Jericho Turnpike, Mineola, N. Y.  
**Reiner Electronics Co., Inc.**, Centre & Glendale Sts., Easton, Pa.  
**Riester & Thesmacher Co.**, 1510 W. 25th St., Cleveland 13, Ohio.  
**Romar Plastics, Inc.**, 1309 E. Main St., St. Charles, Ill.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
**Scovill Manufacturing Co.**, Waterbury 20, Conn.  
**Sierra Electric Corp.**, 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
**Spaulding Fibre Co., Inc.**, 310 Wheeler St., Tonawanda, N. Y.  
**Stevens-Walden, Inc.**, 475 Shrewsbury St., Worcester 4, Mass.  
**Stone City Machine & Tool Co., Inc.**, P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**Swedlow Plastics Co.**, 6986 Bandini Blvd., Los Angeles 22, Calif.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Trimm Mfg. Co., W. H.**, 1811 Johnston St., Los Angeles 31, Calif.  
**VECTOR ELECTRONIC CO.**, 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.  
**Waldom Electronics, Inc.**, 4625 W. 53rd St., Chicago 32, Ill.  
**Warren Plastics Corp.**, Warren, Pa.  
**Watson Mfg. Co., Inc.**, 4700 Taylor St., Jamestown, N. Y.  
**White Aircraft Corp.**, Palmer, Mass.  
**ZERO MFG. CO.**, 1121 Chestnut St., Burbank 71, Calif. ADV. PG. 634.

## BRACKETS—f-m & Television Antenna

**ABALON PRECISION MFG. CORP.**, 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
**Acme Tool & Specialties Co.**, 224 N. Loomis St., Chicago 7, Ill.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC.**, Electronic Div., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**Goat Co., Inc.**, Fred, 308 Dean St., Brooklyn 17, N. Y.  
**I. E. Manufacturing**, 325 N. Hoyne Ave., Chicago 12, Ill.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**Kenwood Engineering Co., Inc.**, 265 Colfax Ave., Kenilworth, N. J.  
**Mandex Mfg. Co., Inc.**, 2608 W. 16th St., Chicago 8, Ill.

**Minute Man Products, Inc.**, 430 E. 102nd St., New York, N. Y.  
**ROHN MFG. CO.**, 116 Limestone, Bellevue, Peoria, Ill. ADV. PG. 525.  
**South River Metal Products Co.**, 377-379 Turnpike, South River, N. J.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**Transformer Metal Products Corp.**, 36 York St., Brooklyn 1, N. Y.  
**Tricraft Products Corp.**, 1124 W. Newport Ave., Chicago 13, Ill.  
**Trimm Mfg. Co., W. H.**, 1811 Johnston St., Los Angeles 31, Calif.  
**Wind Turbine Co., E. Market St. & Penna. R. R.**, West Chester, Pa.

## BREADBOARD KITS—Electronic

**Aerolite Electronics Corp.**, 507 26th St., Union City, N. J.  
**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass. ADV. PG. 589.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**American Scientific Development Co.**, 334 S. Main St., Atkinson, Wis.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**BOGART MFG. CO.**, 315 Siegel St., Brooklyn 6, N.Y. ADV. PG. 415.  
**DuMont Laboratories, Inc.**, Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC.**, ELECTRONIC DIV., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**Helipot Corp.**, Newport Beach, Calif.  
**Philmore Mfg. Co., Inc.**, 113 University Place, New York 3, N. Y.  
**POMONA ELECTRONICS CO., INC.**, 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
**Servo Corp. of America**, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
**SERVOMECHANISMS, INC., MECHATROL DIV.**, 625 Main St., Westbury, N. Y. ADV. PG. 25.  
**SPECIFIC PRODUCTS**, 14515 Dickens St., Sherman Oaks 13, Calif. ADV. PG. 500.  
**Spivey, Inc.**, James S., 4908 Hampden Lane, Washington 14, D. C.  
**Sterling Precision Corp.**, Instrument Div., 34-17 Lawrence St., Flushing 54, N. Y.  
**VECTOR ELECTRONIC CO.**, 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.  
**Walisco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.

## BREAKERS—Circuit

**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
**Allard Instrument Corp.**, 146 E. Second St., Mineola, N. Y.  
**American Research & Mfg. Corp.**, 920 Halpine Ave., Rockville, Md.  
**Cutler-Hammer, Inc.**, 411 N. 12th St., Milwaukee 1, Wis.  
**Federal Pacific Electric Co.**, 50 Paris St., Newark 5, N. J.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**Heinemann Electric Co.**, 150 Plum St., Trenton 2, N. J.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**Jack & Heintz, Inc.**, Cleveland 1, Ohio.  
**LITTELFUSE, INC.**, Des Plaines, Ill. ADV. PG. 459.  
**Murray Mfg. Corp.**, 1250 Atlantic Ave., Brooklyn 16, N. Y.  
**Roller Smith Corp.**, 1825 W. Market St., Bethlehem, Pa.  
**Spencer Thermostat Div., Metals & Controls Corp.**, 31 Forest St., Attleboro, Mass.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Trumbull Components Dept.**, General Electric Co., 41 Woodford Ave., Plainville, Conn.

## BRIDGES—Capacitance

**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**Alpha Instrument Co.**, 43 Hempstead St., New London, Conn.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
**Bristol Co., The**, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**Cambridge Instrument Co., Inc.**, 3633 Grand Central Terminal, New York 17, N. Y.  
**Cinema-Television Ltd.**, Worsley Bridge Rd., London, S.E. 26, England.  
**Clough-Brengle Co.**, 6014 N. Broadway, Chicago, Ill.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
**Daystrom Instrument**, Archbald, Pa.  
**Electro-Measurements, Inc.**, 7524 S. W. Macadam, Portland 1, Ore.  
**Electronic Instrument Co., Inc.**, 84 Withers St., Brooklyn Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

**Glenco Corp.**, A Sub. of Gulton Industries, Metuchen, N. J.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**Industrial Development Labs., Inc.**, 17 Pollock Ave., Jersey City 5, N. J.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**Leeds & Northrup Co.**, 4970 Stenton Ave., Philadelphia 44, Pa.  
**Macleod & Hanopol, Inc.**, 10 Roland St., Charlestown 29, Mass.  
**Magnavox Co., The**, 2131 Beuter Rd., Fort Wayne, Ind.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
**Metronix, Inc.**, Mill Lane Waterford, Conn.  
**Minneapolis-Honeywell Regulator Co.**, Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**Muirhead & Co., Ltd.**, Beckenham, Kent, England.  
**New England Scientific Instruments Co.**, Box 408, Cambridge 39, Mass.  
**Pennsylvania Testing Lab., Inc.**, Doylestown, Pa.  
**Simmonds Aerocessories, Inc.**, Tarrytown, N. Y.  
**Sullivan Ltd.**, H. W., 80 Shore Rd., Port Washington, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

## BRIDGES—Cathode Interface Impedance

**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
**Pennsylvania Testing Lab., Inc.**, Doylestown, Pa.

## BRIDGES—Electrical

### BRIDGES—Impedance

### BRIDGES—Inductance

See INSTRUMENTS—Electrical Measuring

## BRIDGES—Megohm

**Bendix Aviation Corp.**, Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
**Bristol Co., The**, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**Cinema-Television, Ltd.**, Worsley Bridge Rd., London, S. E. 26, England.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**Industrial Instruments, Inc.**, 89 Commerce Rd., Cedar Grove, N. J.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**Kuljian Corp.**, The Electronics Div., 1200 N. Broad St., Philadelphia 21, Pa.  
**Leeds & Northrup Co.**, 4970 Stenton Ave., Philadelphia 44, Pa.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
**New England Scientific Instruments Co.**, Box 408, Cambridge 39, Mass.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
**PRECISE MEASUREMENTS CO., R. D. #1**, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
**Rubicon Co.**, Ridge Ave. at 35th St., Philadelphia 29, Pa.  
**Telectro Industries Corp.**, 35-16 37th St., Long Island City 1, N. Y.

## BRIDGES—Resistance

**Electro-Measurements, Inc.**, 7524 S. W. Macadam, Portland 1, Ore.  
**Shasta Div. of Beckman Instruments, Inc.**, P. O. Box 296, Station A, Richmond, Calif.

## BRIDGES—Temperature

**Arnoux Corp.**, Box 34628, Los Angeles, Calif.  
**Bristol Co., The**, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**Eppley Lab., Inc.**, The, Newport, R. I.  
**Foxboro Co., The**, Foxboro, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
**HOWELL INSTRUMENT CO.**, 3101 Trinity, Fort Worth 7, Texas. ADV. PG. 524.  
**Leeds & Northrup Co.**, 4970 Stenton Ave., Philadelphia 44, Pa.  
**New England Scientific Instruments Co.**, Box 408, Cambridge 39, Mass.  
**Non-Linear Systems, Inc.**, Del Mar Airport, Del Mar, Calif.  
**Rubicon Co.**, Ridge Ave. at 35th St., Philadelphia 29, Pa.  
**Summit Electronics, Inc.**, 7 Industrial Place, Summit, N. J.  
**Tech Laboratories, Inc.**, Bergen & Edsall Blvds., Palisades Park, N. J.  
**Yellow Springs Instrument Co., Inc.**, P. O. Box 106, 11, N. Y.  
**Yellow Springs, Ohio.**

**BRIDGES—Thermistor**

ASSEMBLY PRODUCTS, INC., Chesterland 6, Ohio. ADV. PG. 504, 505.  
 Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.  
**BRUNO-NEW YORK INDUSTRIES CORP.**, 460 W. 34th St., New York 34, N. Y. ADV. PG. 236.  
**GENERAL ELECTRIC CO., MAGNETIC MATERIALS SECTION**, 7780 Neff Rd., Edmore, Mich. ADV. PG. 16, 17.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
 Industrial Development Labs., Inc., 17 Pollock Ave., Jersey City 5, N. J.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
**WEINSCHEL ENGINEERING CO., INC.**, 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.  
 Yellow Springs Instrument Co., Inc., P. O. Box 106, Yellow Springs, Ohio.

**BRIDGES—vhf**See **INSTRUMENTS—Electrical Measuring****BRIDGES—Wheatstone**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
 Eppley Lab., Inc., The, Newport, R. I.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3 N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
**PHYSICS RESEARCH LABS, INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Pimex Inc., 18 E. 60th St., New York 22, N. Y.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
 Thwing-Albert Instrument Co., 5351 Putaski Ave., Philadelphia 44, Pa.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

**BROADCAST INPUT CONTROL EQUIPMENT**

**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
**Q.R.K. Electronic Products**, 445 N. Circle Drive, Fresno 4, Calif.

**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

**BRUSHES—Carbon & Graphite**

Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza S., Long Island City, N. Y.  
 Electro Development Co., 14701 Keswick St., Van Nuys, Calif.  
**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 Helwig Co., 2544 N. 30th St., Milwaukee 10, Wis.  
 Keystone Carbon Co., Inc., Saint Marys, Pa.  
 National Carbon Co., Division of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio.  
 St. Marys Carbon Company, State Rd., St. Marys, Pa.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Superior Carbon Products Co., 9115 George Ave., Cleveland 5, Ohio.  
 U. S. Graphite Co., Div. of The Wickes Corp., Saginaw 32, Mich.

**BRUSHES—Metal-Graphite**

**AIRFLYTE ELECTRONICS CO.**, 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
 Electro Development Co., 14701 Keswick St., Van Nuys, Calif.  
 Gibson Electric Co., The, Box J527, Delmont, Pa.  
**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 Helwig Co., 2544 N. 30th St., Milwaukee 10, Wis.  
 Keystone Carbon Co., Inc., St. Marys, Pa.  
 National Carbon Co., Division of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio.  
 St. Marys Carbon Company, State Rd. St. Marys, Pa.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Superior Carbon Products Co., 9115 George Ave., Cleveland 5, Ohio.  
 U. S. Graphite Co., Div. of The Wickes Corp., Saginaw 32, Mich.

**BULBS—Miniature Lamp**See **LIGHTS—Dial, Panel & Pilot****BUILDING BLOCKS**See **CIRCUITS—Computer Packaged****BURNERS—Gas Fired**

American Gas Furnace Co., 130 Spring St., Elizabeth, N. J.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.

**BUS BAR SYSTEMS**

Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
 Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J.  
 General Electric Co., Distribution Assemblies Dept., 41 Woodford Ave., Plainville, Conn.  
**HART MFG. CO.**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif.  
**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
**WESTINGHOUSE ELECTRIC CORP.**, P.O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**BUSHINGS—Hermetically Sealed**

Advanced Vacuum Products, Inc., Div. of General Ceramics Corp., 122 Liberty St., Stamford, Conn.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Autel Electronics Co., P.O. Box 225, Linden, N. J.  
 BG Corp., The, 321 Broad Ave., Ridgefield, N. J.  
 Ceramaseal, Inc., Box 25, New Lebanon Center, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne Valley Stream, N. Y. ADV. PG. 679.  
 Helder Mfg. Corp., 238 Lewis St., Paterson, N. J.  
 Hermaseal Co., Inc., 1101 Lafayette St., Elkhart, Ind.  
 Hermetite Corp., 702 Beacon St., Boston 15, Mass.  
 Lundy Associates, Inc., 694 Main St., Waltham 54, Mass.  
 Mitronics, Inc., 1290 Central Ave., Hillside, N. J.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
**SCIENTIFIC ELECTRONIC LABS., INC.**, 866 Bergen St., Newark 8, N. J. ADV. PG. 670.

**SPHERE CO., INC., THE**, 25 Amity St., Little Falls, N. J. ADV. PG. 652.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.

**BUSHINGS—Nonmetallic**

Ace Plastic Co., 91-54 Van Wyck Expressway, Jamaica 35, N. Y.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Atlantic India Rubber Works, Inc., Dept. EL, 571 W. Polk St., Chicago 7, Ill.  
 BG Corp., The, 321 Broad Ave., Ridgefield, N. J.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Ceramaseal, Inc., Box 25, New Lebanon Center, N. Y.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
 Deutsch Co., The, Electrical Connector Div., 7000 Avalon Blvd., Los Angeles 3, Calif.  
 DuCo Ceramics Co., Box 587, Butler 8, Pa.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
**GRIES REPRODUCER CORP.**, 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
**HEYMAN MFG. CO.**, Kenilworth 2, N. J. ADV. PG. 597.  
 I.E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Lavelle Rubber Co., 424 N. Wood St., Chicago 2, Ill.  
 Lord Mfg. Co., 1635 W. 12th St., Erie, Pa.  
 Minnesota Rubber & Gasket Co., 3630 Wooddale Ave., Minneapolis 16, Minn.  
 Mitronics, Inc., 1290 Central Ave., Hillside, N. J.  
 National Carbon Co., Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 National Vulcanized Fibre Co., Wilmington, Del.  
 Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
**RICHARDSON CO., THE**, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 St. Marys Carbon Company, State Rd. St. Marys, Pa.  
**SEALECTRO CORP.**, 610 Fayette Ave., Mamaroneck, N. Y. ADV. PG. 484.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
**SYNCO PRODUCTS CO.**, 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 U. S. Graphite Co., Div. of The Wickes Corp., Saginaw 32, Mich.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.  
 Waterbury Companies, Inc., Waterbury 20, Conn.  
 Wilmington Fibre Specialty Co., New Castle, Del.

**CABINETS**See Also **HOUSINGS****CABINETS—Metal**

A A Metal Products, Inc., 154 Elliot St., Box 716, Brattleboro, Vt.  
 A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.  
**ABALON PRECISION MFG. CORP.**, 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
 Acme Teletronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
 Admiral Corp., 3800 Cortland St., Chicago 47 Ill.  
**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass. ADV. PG. 589.  
**ALGO, INC.**, 251 West St., South Hackensack, N. J. ADV. PG. 554.  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Alnor Industries, Inc., 3901 W. 150th St., Cleveland 11, Ohio.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
 Amco Engineering Co., 7335 Ainslie St., Chicago 31, Ill.  
**AMERICAN ALUMINUM CO.**, Sheffield St., Mountaintide, N. J. ADV. PG. 604.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, VA. ADV. PG. 491.  
 Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.  
 Art-Lloyd Metal Products Corp., 2973 Cropsey Ave., Brooklyn 14, N. Y.

Autel Electronics Co., P. O. Box 225, Linden, N. J.  
**BALTIC METAL PRODUCTS CO.**, 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Bennett Mfg. Co., Alden, N. Y.  
 Bingham Mfg. Co., J. F., 69 Bay State Rd., Lawrence, Mass.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Boyle Metalcraft Corp., 150 Sullivan St., Brooklyn 31, N. Y.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Buck Engineering Co., Inc., 37-41 Marcy St., Freehold, N. J.  
 Bud Radio Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Carroll Pressed Metal Co., 133 Dewey St., Worcester, Mass.  
**CHURCHILL LIGHTING CORP.**, 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Columbia Metal Box Co., 260 E. 143rd St., New York, N. Y.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1, N. Y.  
 Corry-Jamestown Mfg. Co., Corry, Pa.  
**CRAIG SYSTEMS, INC.**, Danvers, Mass. ADV. PG. 387.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Cutler Metal Products Co., 1025 Line St., Camden, N. J.  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.  
 Donnelly Mfg. Co., Div. of The Indian Co., 580 Winter St., Waltham 54, Mass.  
 Dukane Corp., St. Charles, Ill.  
 Edo Corp., College Point, N. Y.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 Elgin Metalformers Corp., 630 Congdon Ave., Elgin, Ill.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
 Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
 Falls Metal Works, Ltd., 414 Main St., Little Falls, N. J.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
**FORMICA METAL PRODUCTS CO.**, Corporation Way, Medford 55, Mass. ADV. PG. 284.  
 Gates Radio Co., Quincy, Ill.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
 Hamilton Mfg. Co., Two Rivers, Wis.  
 Helder Mfg. Corp., 238 Lewis St., Paterson, N. J.  
 Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
 Hoffman Engineering Corp., Anoka, Minn.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Industrial Systems Co., Matawan, N. J.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
 Longren Aircraft Co., 2576 W. Carson St., Torrance, Calif.  
 Magna Electronics Co., 9810 Anza Ave., Inglewood, Calif.  
 Majestic Aircraft Co., Moosup, Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Metal-Craft, Inc., Burgess Place, Mountain View, N. J.  
 Metalcraft, Inc., 65-33 Austin St., Rego Park 74, N. Y.  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
 Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67 E., Anderson, Ind.  
 Muckle Mfg. Co., Owatonna 55, Minn.  
**NORTHEASTERN ENGINEERING INC.**, Manchester, N. H. ADV. PG. 518, 519.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
 Olympic Metal Products Co., Inc., Third Ave., Alpha, N. J.  
 Par-Metal Products Corp., 32-62 49th St., Long Island City 3, N. Y.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
 Pneumafil Corp., Charlotte, N. C.  
 Powers Co., J. J., 1317 S. Fifth Ave., Maywood, Ill.  
**PREMIER METAL PRODUCTS CO.**, 337 Manida St., Bronx 59, N. Y. ADV. PG. 646.  
 REF Mfg. Corp., Jericho Turnpike, Mineola, N. Y.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Riester & Thesmacher Co., 1510 W. 25th St., Cleveland 13, Ohio.  
 Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
 Standard Pressed Steel Co., Box 775, Jenkintown 10, Pa.  
 Stevens-Walden, Inc., 475 Shrewsbury St., Worcester 4, Mass.

**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**Taffet Radio & Television Co.**, 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Transformer Metal Products Corp., 36 York St., Brooklyn 1, N. Y.  
 Trimm Mfg. Co., W. H., 1811 Johnston St., Los Angeles 31, Calif.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.  
 Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.  
 White Aircraft Corp., Palmer, Mass.  
 Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.  
**ZERO MFG. CO.**, 1121 Chestnut St., Burbank 71, Calif. ADV. PG. 634.

## CABINETS—Plastic

Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
 American Plastics Corp., 342 Madison Ave., New York, N. Y.  
 Calresin Corp., 4543 Brazil St., Los Angeles 39, Calif.  
 Chicago Die Mold Div. of U. S. Rubber Co., 4300 New Haven Ave., Fort Wayne 4, Ind.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
 Controlled Atmosphere Enclosures Corp., 230-11 141st Ave., Springfield Gardens 13, N. Y.  
**CRAIG SYSTEMS, INC.**, Danvers, Mass. ADV. PG. 387.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 Jodee Plastics Co., 213 Shepard Ave., Brooklyn 8, N. Y.  
 Lennard Co., Inc., P. M., P.O. Box 56, Village Station, New York 14, N. Y.  
 Metaplast Corp., Davisville Rd. at Pa. Turnpike, Hatboro, Pa.  
 Molded Fibreglas Co., 4401 Benefit Ave., Ashtabula, Ohio.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Molded Products Div. of Admiral Corp., P. O. Box 338, West Chicago, Ill.  
 Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass.  
 Panelyte Div., St. Regis Paper Corp., 261 Madison Ave., New York 16, N. Y.  
 REF Mfg. Corp., Jericho Turnpike, Mineola, N. Y.  
**RICHARDSON CO.**, THE, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
 Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.

## CABINETS—Wood

Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
 Alnor Industries, Inc., 3901 W. 150th St., Cleveland 11, Ohio.  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Cambridge Pattern Works, Inc., 55 First St., Cambridge 41, Mass.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Hamilton Mfg. Co., Two Rivers, Wis.  
 Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago 38, Ill.  
 Lansing Sound, Inc., James B., 2439 Fletcher Drive, Los Angeles 26, Calif.  
 Magna Electronics Co., 9810 Anza Ave., Inglewood, Calif.  
 Powers Co., J. J., 1317 S. Fifth Ave., Maywood, Ill.  
 R-J Audio Products, Inc., 80 Shore Rd., Port Washington, N. Y.  
 River Edge Sales Corp., 80 Shore Rd., Port Washington, N. Y.  
 Rumble, Inc., 15026 Oxnard St., Van Nuys, Calif.  
 Scientific Wood Cabinet Co., 88 Holmes St., Belleville, N. J.  
 Sieler Design Products, 10460 San Pablo Ave., El Cerrito, Calif.  
 Steger Furniture Mfg. Co., Steger, Ill.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**UNIVERSITY LOUDSPEAKERS, INC.**, 80 S. Kensico Ave., White Plains, N. Y. ADV. PG. 514.  
 Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago 39, Ill.  
 Woodcraft Corp., 501 Salzburg Ave., Bay City, Mich.

## CABLE

See Also WIRE

## CABLE ASSEMBLIES

Acme Electronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
 Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**AIRFLYTE ELECTRONICS CO.**, 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**ALLIED ALLEGRI, INC.**, 141 River Rd., Nutley, N. J. ADV. PG. 650.  
 Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky.  
 Amelco, Inc., 2040 Colorado Ave., Santa Monica, Calif.  
 American Chain & Cable Co., Inc., 601 Stephenson Bldg., Detroit 2, Mich.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
 Artisan Electronics Corp., 171 Ridgedale Ave., Morris-town, N. J.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
**AUTOMATIC METAL PRODUCTS CORP.**, 315 Berry St., Brooklyn 11, N. Y. ADV. PG. 626.  
 Automatic Processing Corp., 1335 N. Wells St., Chicago 111.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.  
 Bergen Wire Rope Co., 456 Gregg St., Lodi, N. J.  
 Berco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Bliss Electronic Corp., Box 366, Sussex, N. J.  
**BRAND & CO., INC.**, WILLIAM, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Buffalo Electronics Corp., 37 Franklin St., Buffalo 2, N. Y.  
 Buggie, Inc., H. H., P. O. Box 817, Toledo 1, Ohio.  
 Cable Specialist of Conn., 474 Prospect Ave., Hartford, Conn.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 607.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
**CRAIG SYSTEMS, INC.**, Danvers, Mass. ADV. PG. 387.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. ADV. PG. 438, 439.  
 Daystrom Electric Corp., 807 Main St., Poughkeepsie, N. Y.  
 Decatur Electronics Industries Corp., 203 Orinca Drive, Brightwater, N. Y.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo.  
**DOTY ACOUSTICAL ELECTRONIC LABS., INC.**, 431 Broome St., New York 13, N. Y. ADV. PG. 676.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Eastern Specialty Co., Philadelphia 40, Pa.  
 Eberline Instrument Division, P. O. Box 279, Santa Fe, N. M.  
 Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
 Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.  
 Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.  
 Electronic Assembly Co., Inc., 5 Prescott St., Boston 19, Mass.  
 Electronic Products Corp., 322 State St., Santa Barbara, Calif.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 Eltron Corp., St. Anne, Ill.  
 Empire Electronics Co., Inc., 166 River St., Paterson 1, N. J.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 603.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 First Electronics Corp., The, 117 Blue Hill Ave., Boston 19, Mass.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
 General Insulated Wire Works, Inc., 69 Gordon Ave., Providence 5, R. I.



GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Gerlyn Engineering Co., 2151 N. Damen Ave., Chicago 47, Ill.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.  
**HITEMP WIRES, INC.**, 26 Windsor Ave. Mineola, N. Y. ADV. PG. 386.  
**HOULIHAN CO.**, T. J., 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
 Hunter-Bristol Corp., Bristol, Pa.  
**INDUSTRIAL HARDWARE MFG. CO., INC.**, 109 Prince St., New York, N. Y. ADV. PG. 693.  
 Industrial Products Co., Div. of Danbury-Knudsen, Inc., Danbury, Conn.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Jowl Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 Kreutzer Industries, 1835 N. Hoyle Ave., Chicago 47, Ill.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
**LING ELECTRONICS, INC.**, 5170 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Magna Electronics Co., 9810 Anza Ave., Inglewood, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
 Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
 Mutron Corp., 125 Perkins Ave., Brockton, Mass.  
 National Aircraft Corp. 3411 Tulare St., Burbank, Calif.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
 Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
**PACIFIC AUTOMATION PRODUCTS, INC.**, 1000 Air Ways, Glendale 1, Calif. ADV. PG. 203.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
**PROGRESS ELECTRONICS CO.**, 296 Broadway, New York 7, N. Y. ADV. PG. 689.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Republic Electronic Industries Corp., 31 W. 27th St., New York 1, N. Y.  
 Roesch, Douglas, Div. of Hall-Scott, Inc., 2950 N. Ontario St., Burbank, Calif.  
 RoHan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Rosenau, Harris & Co., Ontario & 'Y' Sts., Philadelphia 34, Pa.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Royal Electric Corp., Pawtucket, R. I.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave., Chicago 41, Ill.  
 Sheltered Workshop, 2521 5th St., Santa Monica, Calif.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Sittler Corp., 18 N. Ada St., Chicago 7, Ill.  
 Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
 Stamford Metal Specialty Co., 429 W. Broadway, New York 12, N. Y.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**SWITCHCRAFT, INC.**, 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.  
 Tevco Insulated Wire 108 Prospect Ave., Burbank, Calif.  
 Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 United Manufacturing & Service Co., 405 S. Sixth St., Milwaukee 4, Wis.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.  
 Whitaker Cable Corp., Kansas City 16, Mo.

**CABLE CLAMPS & CLIPS**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BURNDY CORPORATION**, Norwalk, Conn. ADV. PG. 441.  
**CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
**COMMERCIAL PLASTICS CO.**, 945 George St., Chicago 14, Ill. ADV. PG. 540.  
 Crosby-Laughlin Division, P. O. Box 570, Fort Wayne, Ind.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC.**, Electronic Div., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Holub Industries, Inc., 414 DeKalb Ave., Sycamore, Ill.  
 I. E. Manufacturing, 325 N. Hoyle Ave., Chicago 12, Ill.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**NATIONAL TEL-TRONICS CORP.**, 35 Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
 Newcomb Springs Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
**SCINTILLA DIVISION, BENDIX AVIATION CORP.**, Sidney, N. Y. ADV. PG. 337.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Stanley-Judd Div. of Stanley Works, Wallingford, Conn.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Taffet Radio & Telephone Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Tinnerman Products, Inc., P. O. Box 6688, Dept. No. 16, Cleveland 1, Ohio.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Weckesser Co., 5701 Northwest Highway, Chicago 50, Ill.  
 Whitaker Cable Corp., Kansas City 16, Mo.

**CABLE-Coaxial Flexible**

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
 Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Insulated Wire Works, Inc., 69 Gordon Ave., Providence 5, R. I.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
**INTERSTATE ELECTRONICS, INC.**, 227 Fulton St., New York 7, N. Y. ADV. PG. 462.  
 Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.

**JERROLD ELECTRONICS CORP.**, 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
 Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
 Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.  
 Okonite Co., The, Canal St., Passaic, N. J.  
**PACIFIC AUTOMATION PRODUCTS, INC.**, 1000 Air Way, Glendale, Calif. ADV. PG. 203.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Precision Tube Co., Inc., North Wales, Pa.  
**PROGRESS ELECTRONICS CO.**, 296 Broadway, New York 7, N. Y. ADV. PG. 689.  
**REX CORP., THE**, Hayward Rd. West Acton, Mass. ADV. PG. 551.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
**SURPRENANT MANUFACTURING CO.**, Clinton, Mass. ADV. PG. 449.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Times Wire & Cable Co., Wallingford, Conn.  
 Transradio, Ltd., 138-A Cromwell Rd., London SW 7, England.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.  
 Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.  
 Warren Wire Co., Pownal, Vt.

**CABLE-Coaxial Rigid**

**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Dielectric Products Engineering Co., Inc., Raymond, Me.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.  
**PHELPS DODGE COPPER PRODUCTS CORP. INCA MFG. DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.

**CABLE-Insulated**

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
 Aero Research Instrument Co., 315 N. Aberdeen St., Chicago 7, Ill.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
 Ansonia Wire & Cable Co., 111 Martin St., Ashton, R. I.  
 Apex Wire & Cable Corp., 237 37th St., Brooklyn 32, N. Y.

ATLANTIC & PACIFIC WIRE & CABLE CO., INC., 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 BOSTON INSULATED WIRE & CABLE CO., 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
 BRAND & CO., INC., WILLIAM, 41 North St., Williamantic, Conn. ADV. PG. 199.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Copperwell Steel Co., Wire & Cable Div., Glassport, Pa.  
 Diamond Wire & Cable Co., Sycamore, Ill.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
 Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 General Insulated Wire Works, Inc., 69 Gordon Ave., Providence 5, R. I.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 HITEMP WIRES, INC., 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass. Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
 LEWIS ENGINEERING CO., 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
 Miller Electric Co., 120 Main St., Pawtucket, R. I.  
 Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.  
 Okonite Co., The Canal St., Passaic, N. J.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
 PACIFIC AUTOMATION PRODUCTS, INC., 1000 Air Way, Glendale 1, Calif. ADV. PG. 203.  
 PHALO PLASTICS CORP., 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
 PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV., Fort Wayne, Ind. ADV. PG. 54, 55.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Precision Tube Co., Inc., North Wales, Pa.  
 PROGRESS ELECTRONICS CO., 296 Broadway, New York 7, N. Y. ADV. PG. 689.  
 REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO., Wallingford 2, Conn. ADV. PG. 516.  
 REX CORP., THE, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Roebling's Sons Corp., John A., 640 Broad St., Trenton 2, N. J.  
 Roesch, Douglas, Div. of Hall-Scott, Inc., 2950 N. Ontario St., Burbank, Calif.  
 Rome Cable Corp., Ridge St., Rome, N. Y.  
 Royal Electric Corp., Pawtucket, R. I.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave., Chicago 41, Ill.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 SURPRENANT MANUFACTURING CO., Clinton, Mass. ADV. PG. 449.  
 TENSOLITE INSULATED WIRE CO., 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire 108 Prospect Ave., Burbank, Calif.  
 Times, Wire & Cable Co., Wallingford, Conn.  
 Transradio, Ltd., 138A Cromwell Rd., London, S.W. 7, England.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.  
 Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.  
 Warren Wire Co., Pownal, Vt.  
 Western Insulated Wire Co., 2425 E. 30th St., Los Angeles 58, Calif.  
 Whitaker Cable Corp., Kansas City 16, Mo.  
 Whitney Blake Co., New Haven 14, Conn.

## CABLES—Low Capacitance

ALPHA WIRE CORP., 200 Varick St., New York 14, N. Y. ADV. PG. 224.

AMERICAN SUPER-TEMPERATURE WIRES, INC., W. Canal St., Winooski, Vt. ADV. PG. 647.  
 AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
 Ansonia Wire & Cable Co., 111 Martin St., Ashton, R. I.  
 ATLANTIC & PACIFIC WIRE & CABLE CO., INC., 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 BOSTON INSULATED WIRE & CABLE CO., 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
 BRAND & CO., INC., WILLIAM, 41 North St., Williamantic, Conn. ADV. PG. 199.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
 Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
 Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
 Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.  
 Okonite Co., The Canal St., Passaic, N. J.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
 PACIFIC AUTOMATION PRODUCTS INC., 1000 Air Way, Glendale 1, Calif. ADV. PG. 203.  
 Phelps Dodge Copper Products Co., 300 Park Ave., New York 22, N. Y.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 REX CORP., THE, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.  
 TENSOLITE INSULATED WIRE CO., 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Times, Wire & Cable Co., Wallingford, Conn.  
 Transradio, Ltd., 138A Cromwell Rd., London, S.W. 7, England.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.  
 Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.  
 Whitaker Cable Corp., Kansas City 16, Mo.  
 Whitney Blake Co., New Haven 14, Conn.

## CABLE—Microphone

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
 ALPHA WIRE CORP., 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
 Ansonia Wire & Cable Co., 111 Martin St., Ashton, R. I.  
 ATLANTIC & PACIFIC WIRE & CABLE CO., INC., 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 BOSTON INSULATED WIRE & CABLE CO., 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
 BRAND & CO., INC., WILLIAM, 41 North St., Williamantic, Conn. ADV. PG. 199.  
 CHESTER CABLE CORP., Hill St., Chester, N. Y. ADV. PG. 436.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 CORNISH WIRE CO., 50 Church St., New York 7, N. Y. ADV. PG. 20.  
 Dielectric Materials Co., 5317-17 N. Ravenswood Ave., Chicago 40, Ill.  
 Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.

General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Insulated Wire Works, Inc., 69 Gordon Ave., Providence 5, R. I.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
 Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
 Miller Electric Co., 120 Main St., Pawtucket, R. I.  
 Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.  
 Okonite Co., The Canal St., Passaic, N. J.  
 PHALO PLASTICS CORP., 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
 REX CORP., THE, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 SURPRENANT MANUFACTURING CO., Clinton, Mass. ADV. PG. 449.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Times, Wire & Cable Co., Wallingford, Conn.  
 Transradio, Ltd., 138A Cromwell Rd., London, S.W. 7, England.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
 Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.  
 Western Insulated Wire Co., 2425 E. 30th St., Los Angeles 58, Calif.  
 Whitaker Cable Corp., Kansas City 16, Mo.  
 Whitney Blake Co., New Haven 14, Conn.

## CABLE—Shielded

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
 AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 ALPHA WIRE CORP., 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 American Steel & Wire Div. of U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
 AMERICAN SUPER-TEMPERATURE WIRES, INC., W. Canal St., Winooski, Vt. ADV. PG. 647.  
 AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
 Ansonia Wire & Cable Co., 111 Martin St., Ashton, R. I.  
 ATLANTIC & PACIFIC WIRE & CABLE CO., INC., 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 BOSTON INSULATED WIRE & CABLE CO., 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
 BRAND & CO., INC., WILLIAM, 41 North St., Williamantic, Conn. ADV. PG. 199.  
 Breeze Corps., Inc., 700 Liberty Ave., Union, N. J.  
 CHESTER CABLE CORP., Hill St., Chester, N. Y. ADV. PG. 436.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 CORNISH WIRE CO., 50 Church St., New York 7, N. Y. ADV. PG. 20.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
 Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Insulated Wire Works, Inc., 69 Gordon Ave., Providence 5, R. I.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 HITEMP WIRES, INC., 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
 INTERSTATE ELECTRONICS, INC., 227 Fulton St., New York 7, N. Y. ADV. PG. 462.

GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Gerlyn Engineering Co., 2151 N. Damen Ave., Chicago 47, Ill.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.  
**HITEMP WIRES, INC.**, 26 Windsor Ave. Mineola, N. Y. ADV. PG. 386.  
**HOULIHAN CO., T. J.**, 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
 Hunter-Bristol Corp. Bristol, Pa.  
**INDUSTRIAL HARDWARE MFG. CO., INC.**, 109 Prince St., New York, N. Y. ADV. PG. 693.  
 Industrial Products Co., Div. of Danbury-Knudsen, Inc., Danbury, Conn.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 Kretzler Industries, 1835 N. Hoyle Ave., Chicago 47, Ill.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
**LING ELECTRONICS, INC.**, 5170 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Magna Electronics Co., 9810 Anza Ave., Inglewood, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
 Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
 Mutron Corp., 125 Perkins Ave., Brockton, Mass.  
 National Aircraft Corp. 3411 Tulare St., Burbank, Calif.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
 Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
 North Electric Co., 553 S. Market St., Gallion, Ohio.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
**PACIFIC AUTOMATION PRODUCTS, INC.**, 1000 Air Ways, Glendale 1, Calif. ADV. PG. 203.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
**PROGRESS ELECTRONICS CO.**, 296 Broadway, New York 7, N. Y. ADV. PG. 689.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. Y.  
 Republic Electronic Industries Corp., 31 W. 27th St., New York 1, N. Y.  
 Roesch, Douglas, Div. of Hall-Scott, Inc., 2950 N. Ontario St., Burbank, Calif.  
 RoRan Co., Corner Route 1 & Camp Meeting Rd., Topsheld, Mass.  
 Rosenau, Harris & Co., Ontario & "Y" Sts., Philadelphia 34, Pa.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Royal Electric Corp., Pawtucket, R. I.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave., Chicago 41, Ill.  
 Sheltered Workshop, 2521 5th St., Santa Monica, Calif.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Sittler Corp., 18 N. Ada St., Chicago 7, Ill.  
 Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
 Stamford Metal Specialty Co., 429 W. Broadway, New York 12, N. Y.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**SWITCHCRAFT, INC.**, 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Telectronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 United Manufacturing & Service Co., 405 S. Sixth St., Milwaukee 4, Wis.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.  
 Whitaker Cable Corp., Kansas City 16, Mo.

**CABLE CLAMPS & CLIPS**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BURNDY CORPORATION**, Norwalk, Conn. ADV. PG. 441.  
**CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
**COMMERCIAL PLASTICS CO.**, 945 George St., Chicago 14, Ill. ADV. PG. 540.  
 Crosby-Laughlin Division, P. O. Box 570, Fort Wayne, Ind.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC.**, Electronic Div., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Holub Industries, Inc., 414 DeKaib Ave., Sycamore, Ill.  
 I. E. Manufacturing, 325 N. Hoyle Ave., Chicago 12, Ill.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**NATIONAL TEL-TRONICS CORP.**, 35 Casmir's Ave., Yonkers, N. Y. ADV. PG. 642.  
 Newcomb Springs Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
**SCINTILLA DIVISION, BENDIX AVIATION CORP.**, Sidney, N. Y. ADV. PG. 337.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Stanley-Judd Div. of Stanley Works, Wallingford, Conn.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Taffet Radio & Telephone Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Tinnerman Products, Inc., P. O. Box 6688, Dept. No. 16, Cleveland 1, Ohio.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Weckesser Co., 5701 Northwest Highway, Chicago 50, Ill.  
 Whitaker Cable Corp., Kansas City 16, Mo.

**CABLE-Coaxial Flexible**

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Williamantic, Conn. ADV. PG. 199.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
 Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Insulated Wire Works, Inc., 69 Gordon Ave., Providence 5, R. I.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
**INTERSTATE ELECTRONICS, INC.**, 227 Fulton St., New York 7, N. Y. ADV. PG. 462.  
 Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.

**JERROLD ELECTRONICS CORP.**, 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
 Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
 Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.  
 Okonite Co., The, Canal St., Passaic, N. J.  
**PACIFIC AUTOMATION PRODUCTS, INC.**, 1000 Air Way, Glendale, Calif. ADV. PG. 203.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Precision Tube Co., Inc., North Wales, Pa.  
**PROGRESS ELECTRONICS CO.**, 296 Broadway, New York 7, N. Y. ADV. PG. 689.  
**REX CORP., THE**, Hayward Rd. West Acton, Mass. ADV. PG. 551.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
**SURPRENANT MANUFACTURING CO.**, Clinton, Mass. ADV. PG. 449.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Times, Wire & Cable Co., Wallingford, Conn.  
 Transradio, Ltd., 138-A Cromwell Rd., London SW 7, England.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.  
 Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.  
 Warren Wire Co., Pownal, Vt.

**CABLE-Coaxial Rigid**

**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Williamantic, Conn. ADV. PG. 199.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Dielectric Products Engineering Co., Inc., Raymond, Me.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.  
**PHELPS DODGE COPPER PRODUCTS CORP. INCA MFG. DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.

**CABLE-Insulated**

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
 Aero Research Instrument Co., 315 N. Aberdeen St., Chicago 7, Ill.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
 Ansonia Wire & Cable Co., 111 Martin St., Ashton, R. I.  
 Apex Wire & Cable Corp., 237 37th St., Brooklyn 32, N. Y.

**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Belden Mfg. Co.**, 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
**Cadre Industries Corp.**, Box 150, 19 Delaware Ave., Endicott, N. Y.  
**Chase Brass & Copper Co., Inc.**, 236 Grand St., Waterbury 20, Conn.  
**Columbia Wire & Supply Co.**, 2850 Irving Park Rd., Chicago 18, Ill.  
**Consolidated Wire & Associated Companies**, 1635 S. Clinton St., Chicago 16, Ill.  
**Continental Wire Sales Corp.**, Wallingford, Conn.  
**Copperweld Steel Co.**, Wire & Cable Div., Glassport, Pa.  
**Diamond Wire & Cable Co.**, Sycamore, Ill.  
**Dielectric Materials Co.**, 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
**Electric Cords & Supply Co.**, 413 E. Third St., Los Angeles 13, Calif.  
**Federal Cable Div. of Royal Electric Corp.**, 95 Grand Ave., Pawtucket, R. I.  
**General Cable Corp.**, 420 Lexington Ave., New York 17, N. Y.  
**General Electric Co., Construction Materials Div.**, 1285 Boston Ave., Bridgeport 2, Conn.  
**General Insulated Wire Works, Inc.**, 69 Gordon Ave., Providence 5, R. I.  
**Hallett Mfg. Co.**, 1601 W. Florence Ave., Inglewood, Calif.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**Holyoke Wire & Cable Co.**, 720 Main St., Holyoke, Mass.  
**Jefferson Products Corp.**, Pleasant Valley Rd., Sutton, Mass.  
**Kaiser Aluminum & Chemical Sales, Inc.**, 919 N. Michigan Ave., Chicago, Ill.  
**Lenz Electric Mfg. Co.**, 1751 North Western Ave., Chicago 47, Ill.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
**Miller Electric Co.**, 120 Main St., Pawtucket, R. I.  
**Mohawk Wire & Cable Corp.**, 320 River St., Fitchburg, Mass.  
**Okonite Co., The, Canal St., Passaic, N. J.**  
**Organic Development Corp., Spectra-Strip Div.**, 10052 Larson Ave., Garden Grove, Calif.  
**PACIFIC AUTOMATION PRODUCTS, INC.**, 1000 Air Way, Glendale 1, Calif. ADV. PG. 203.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
**Plastic Wire & Cable Corp.**, Jewett City, Conn.  
**Plastoid Corp.**, 42-61 24th St., Long Island City 1, N. Y.  
**Precision Tube Co., Inc.**, North Wales, Pa.  
**PROGRESS ELECTRONICS CO.**, 296 Broadway, New York 7, N. Y. ADV. PG. 689.  
**REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**Rhode Island Insulated Wire Co.**, 50 Burnham Ave., Cranston, R. I.  
**Rockbestos Products Corp., Nicoll & Canner Sts.**, New Haven 4, Conn.  
**Roebling's Sons Corp.**, John A., 640 Brpad St., Trenton 2, N. J.  
**Roesch, Douglas, Div. of Hall-Scott, Inc.**, 2950 N. Ontario St., Burbank, Calif.  
**Rome Cable Corp., Ridge St., Rome, N. Y.**  
**Royal Electric Corp.**, Pawtucket, R. I.  
**Runzel Cord & Wire Co.**, 4723-31 W. Montrose Ave., Chicago 41, Ill.  
**Saxton Products, Inc.**, 1661 Boone Ave., Bronx 60, N. Y.  
**Sequoia Process Corp.**, 2201 Bay Rd., Redwood City, Calif.  
**Simplex Wire & Cable Co.**, 79 Sidney St., Cambridge 39, Mass.  
**Standard Telephones & Cables Ltd., Connaught House**, Aldwych, London, W.C. 2, England.  
**SURPRENANT MANUFACTURING CO.**, Clinton, Mass. ADV. PG. 449.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
**Tevco Insulated Wire**, 108 Prospect Ave., Burbank, Calif.  
**Times, Wire & Cable Co.**, Wallingford, Conn.  
**Transradio, Ltd.**, 138A Cromwell Rd., London, S.W. 7, England.  
**Union Plastics Corp.**, 1630 Paterson Plank Rd., Secaucus, N. J.  
**Vector Manufacturing Co.**, 5616 Lawndale Ave., Houston 23, Texas.  
**Victor Electric Wire & Cable Corp.**, 618 Main St., West Warwick, R. I.  
**Warren Wire Co.**, Pownal, Vt.  
**Western Insulated Wire Co.**, 2425 E. 30th St., Los Angeles 58, Calif.  
**Whitaker Cable Corp.**, Kansas City 16, Mo.  
**Whitney Blake Co.**, New Haven 14, Conn.

### CABLES—Low Capacitance

**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.

**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**Anaconda Wire & Cable Co.**, 25 Broadway, New York 4, N. Y.  
**Ansonia Wire & Cable Co.**, 111 Martin St., Ashton, R. I.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Belden Mfg. Co.**, 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
**Columbia Wire & Supply Co.**, 2850 Irving Park Rd., Chicago 18, Ill.  
**Consolidated Wire & Associated Companies**, 1635 S. Clinton St., Chicago 16, Ill.  
**Continental Wire Sales Corp.**, Wallingford, Conn.  
**Federal Cable Div. of Royal Electric Corp.**, 95 Grand Ave., Pawtucket, R. I.  
**General Cable Corp.**, 420 Lexington Ave., New York 17, N. Y.  
**Holyoke Wire & Cable Co.**, 720 Main St., Holyoke, Mass.  
**Jefferson Products Corp.**, Pleasant Valley Rd., Sutton, Mass.  
**Kaiser Aluminum & Chemical Sales, Inc.**, 919 N. Michigan Ave., Chicago, Ill.  
**Lenz Electric Mfg. Co.**, 1751 North Western Ave., Chicago 47, Ill.  
**Microdot, Inc.**, 220 Pasadena Ave., South Pasadena, Calif.  
**Mohawk Wire & Cable Corp.**, 320 River St., Fitchburg, Mass.  
**Okonite Co., The, Canal St., Passaic, N. J.**  
**Organic Development Corp., Spectra-Strip Div.**, 10052 Larson Ave., Garden Grove, Calif.  
**PACIFIC AUTOMATION PRODUCTS INC.**, 1000 Air Way, Glendale 1, Calif. ADV. PG. 203.  
**Phelps Dodge Copper Products Co.**, 300 Park Ave., New York 22, N. Y.  
**Plastic Wire & Cable Corp.**, Jewett City, Conn.  
**Plastoid Corp.**, 42-61 24th St., Long Island City 1, N. Y.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass., ADV. PG. 551.  
**Rockbestos Products Corp., Nicoll & Canner Sts.**, New Haven 4, Conn.  
**Sequoia Process Corp.**, 2201 Bay Rd., Redwood City, Calif.  
**Simplex Wire & Cable Co.**, 79 Sidney St., Cambridge 39, Mass.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
**Tevco Insulated Wire**, 108 Prospect Ave., Burbank, Calif.  
**Times, Wire & Cable Co.**, Wallingford, Conn.  
**Transradio, Ltd.**, 138A Cromwell Rd., London, S.W. 7, England.  
**Union Plastics Corp.**, 1630 Paterson Plank Rd., Secaucus, N. J.  
**Vector Manufacturing Co.**, 5616 Lawndale Ave., Houston 23, Texas.  
**Victor Electric Wire & Cable Corp.**, 618 Main St., West Warwick, R. I.  
**Whitaker Cable Corp.**, Kansas City 16, Mo.  
**Whitney Blake Co.**, New Haven 14, Conn.

### CABLE—Microphone

**Accurate Insulated Wire Corp.**, 23 Fox St., New Haven, Conn.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**Anaconda Wire & Cable Co.**, 25 Broadway, New York 4, N. Y.  
**Ansonia Wire & Cable Co.**, 111 Martin St., Ashton, R. I.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Belden Mfg. Co.**, 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.  
**Columbia Wire & Supply Co.**, 2850 Irving Park Rd., Chicago 18, Ill.  
**Consolidated Wire & Associated Companies**, 1635 S. Clinton St., Chicago 16, Ill.  
**Continental Wire Sales Corp.**, Wallingford, Conn.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
**Dielectric Materials Co.**, 5317-17 N. Ravenswood Ave., Chicago 40, Ill.  
**Electric Cords & Supply Co.**, 413 E. Third St., Los Angeles 13, Calif.  
**ELGIN NATIONAL WATCH CO., ELECTRONICS DIV.**, 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
**Federal Cable Div. of Royal Electric Corp.**, 95 Grand Ave., Pawtucket, R. I.

**General Electric Co., Technical Products Dept., Electronics Park**, Syracuse, N. Y.  
**General Insulated Wire Works, Inc.**, 69 Gordon Ave., Providence 5, R. I.  
**Holyoke Wire & Cable Co.**, 720 Main St., Holyoke, Mass.  
**Jefferson Products Corp.**, Pleasant Valley Rd., Sutton, Mass.  
**Kaiser Aluminum & Chemical Sales, Inc.**, 919 N. Michigan Ave., Chicago, Ill.  
**Lenz Electric Mfg. Co.**, 1751 North Western Ave., Chicago 47, Ill.  
**Miller Electric Co.**, 120 Main St., Pawtucket, R. I.  
**Mohawk Wire & Cable Corp.**, 320 River St., Fitchburg, Mass.  
**Okonite Co., The, Canal St., Passaic, N. J.**  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**Plastic Wire & Cable Corp.**, Jewett City, Conn.  
**Plastoid Corp.**, 42-61 24th St., Long Island City 1, N. Y.  
**Rego Insulated Wire Co.**, 830 Monroe St., Hoboken, N. J.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**Saxton Products, Inc.**, 1661 Boone Ave., Bronx 60, N. Y.  
**Sequoia Process Corp.**, 2201 Bay Rd., Redwood City, Calif.  
**Shure Brothers, Inc.**, 246 Hartrey Ave., Evanston, Ill.  
**Simplex Wire & Cable Co.**, 79 Sidney St., Cambridge 39, Mass.  
**Standard Telephones & Cables, Ltd., Connaught House**, 63 Aldwych, London, W.C. 2, England.  
**Stephens Tru-Sonic Inc.**, 8538 Warner Drive, Culver City, Calif.  
**SURPRENANT MANUFACTURING CO.**, Clinton, Mass. ADV. PG. 449.  
**Tevco Insulated Wire**, 108 Prospect Ave., Burbank, Calif.  
**Times, Wire & Cable Co.**, Wallingford, Conn.  
**Transradio, Ltd.**, 138A Cromwell Rd., London, S.W. 7, England.  
**Union Plastics Corp.**, 1630 Paterson Plank Rd., Secaucus, N. J.  
**Victor Electric Wire & Cable Corp.**, 618 Main St., West Warwick, R. I.  
**Western Insulated Wire Co.**, 2425 E. 30th St., Los Angeles 58, Calif.  
**Whitaker Cable Corp.**, Kansas City 16, Mo.  
**Whitney Blake Co.**, New Haven 14, Conn.

### CABLE—Shielded

**Accurate Insulated Wire Corp.**, 23 Fox St., New Haven, Conn.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**Alpha Metals, Inc.**, 60 Water St., Jersey City, N. J.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg.**, Cleveland 13, Ohio.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**Anaconda Wire & Cable Co.**, 25 Broadway, New York 4, N. Y.  
**Ansonia Wire & Cable Co.**, 111 Martin St., Ashton, R. I.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Belden Mfg. Co.**, 4647 W. Van Buren St., Chicago 44, Ill.  
**Bernco Engineering Corp.**, 2320 S. Tibbs Ave., Indianapolis, Ind.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
**Breeze Corps, Inc.**, 700 Liberty Ave., Union, N. J.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.  
**Columbia Wire & Supply Co.**, 2850 Irving Park Rd., Chicago 18, Ill.  
**Consolidated Wire & Associated Companies**, 1635 S. Clinton St., Chicago 16, Ill.  
**Continental Wire Sales Corp.**, Wallingford, Conn.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
**Dielectric Materials Co.**, 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
**Electric Cords & Supply Co.**, 413 E. Third St., Los Angeles 13, Calif.  
**Federal Cable Div. of Royal Electric Corp.**, 95 Grand Ave., Pawtucket, R. I.  
**General Cable Corp.**, 420 Lexington Ave., New York 17, N. Y.  
**General Electric Co., Construction Materials Div.**, 1285 Boston Ave., Bridgeport 2, Conn.  
**General Electric Co., Technical Products Dept., Electronics Park**, Syracuse, N. Y.  
**General Insulated Wire Works, Inc.**, 69 Gordon Ave., Providence 5, R. I.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**Hallett Mfg. Co.**, 1601 W. Florence Ave., Inglewood, Calif.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**Holyoke Wire & Cable Co.**, 720 Main St., Holyoke, Mass.  
**INTERSTATE ELECTRONICS, INC.**, 227 Fulton St., New York 7, N. Y. ADV. PG. 462.

- Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.
- Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
- Kistler Instrument Corp., 15 Webster St., North Tona-wanda, N. Y.
- Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.
- LEWIS ENGINEERING CO., 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.
- Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.
- Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
- Okonite Co., The Canal St., Passaic, N. J.
- Organic Development Corp., Spectra-Strip Div., 10052 Carson Ave., Garden Grove, Calif.
- PHALO PLASTICS CORP., 25 Foster St., Worcester 8, Mass. ADV. PG. 72.
- PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV., Fort Wayne, Ind. ADV. PG. 54, 55.
- Plastic Wire & Cable Corp., Jewett City, Conn.
- Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.
- Precision Tube Co., Inc., North Wales, Pa.
- PROGRESS ELECTRONICS CO., 296 Broadway, New York 7, N. Y. ADV. PG. 689.
- Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
- REVERE CORP. OF AMERICA, SUB OF NEPTUNE METER CO., Wallingford 2, Conn. ADV. PG. 516.
- REX CORP., THE, Hayward Rd., West Acton, Mass. ADV. PG. 551.
- Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.
- Rome Cable Corp., Ridge St., Rome, N. Y.
- Runzel Cord & Wire Co., 4723-31 W. Montrose Ave., Chicago 41, Ill.
- Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.
- Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.
- Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W.C. 2, England.
- Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.
- TENSOLITE INSULATED WIRE CO., INC., 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.
- Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.
- Times, Wire & Cable Co., Wallingford, Conn.
- Transradio, Ltd., 138A Cromwell Rd., London SW 7, England.
- Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.
- U.S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.
- Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.
- Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.
- Warren Wire Co., Pownal, Vt.
- Western Insulated Wire Co., 2425 E. 30th St., Los Angeles 58, Calif.
- Whitaker Cable Corp., Kansas City 16, Mo.
- Whitney Blake Co., New Haven 14, Conn.
- Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
- Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.
- Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.
- Miller Electric Co., 120 Main St., Pawtucket, R. I.
- Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
- PHALO PLASTICS CORP., 25 Foster St., Worcester 8, Mass. ADV. PG. 72.
- PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV., Fort Wayne, Ind. ADV. PG. 54, 55.
- Plastic Wire & Cable Corp., Jewett City, Conn.
- Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.
- Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
- REX CORP., THE, Hayward Rd., West Acton, Mass. ADV. PG. 551.
- Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.
- Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.
- Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.
- Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.
- Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.
- Times, Wire & Cable Co., Wallingford, Conn.
- Transradio Ltd., 138A Cromwell Rd., London S. W. 7, England.
- Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.
- Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.
- Whitney Blake Co., New Haven 14, Conn.
- CABLE—uhf**
- AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.
- Ampli-Vision Div. of The International Telemeter Corp., 2000 Stoner Ave., Los Angeles 25, Calif.
- Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.
- ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.
- ATLANTIC & PACIFIC WIRE & CABLE CO., INC., 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.
- BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.
- BOSTON INSULATED WIRE & CABLE CO., 65 Bay St., Boston 25, Mass. ADV. PG. 456.
- BRAND & CO., INC., WILLIAM, 41 North St., Willi-mantic, Conn. ADV. PG. 199.
- Channel Master Co., Ellenville, N. Y.
- Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.
- Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.
- CORNISH WIRE CO., 50 Church St., New York 7, N. Y. ADV. PG. 20.
- Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.
- Fretco Inc., 406 N. Craig St., Pittsburgh 13, Pa.
- General Cable Corp., 420 Lexington Ave., New York 17, N. Y.
- General Electric Co., Technical Products Dept., Elec-tronics Park, Syracuse, N. Y.
- Holyoke Wire & Cable Corp., 720 Main St., Holyoke, Mass.
- INTERSTATE ELECTRONICS, INC., 227 Fulton St., New York 7, N. Y. ADV. PG. 462.
- Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.
- Jersey Specialty Co., Inc., Mountainview, N. J.
- Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
- Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.
- Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
- PHELPS DODGE COPPER PRODUCTS CO., 300 Park Ave., New York 22, N. Y.
- Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.
- Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
- REX CORP., THE, Hayward Rd., West Acton, Mass. ADV. PG. 551.
- Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.
- Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.
- Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.
- Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.
- Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.
- Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.
- Times, Wire & Cable Co., Wallingford, Conn.
- Transradio, Ltd., 138A Cromwell Rd., London S. W. 7, England.
- Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.
- Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.
- Whitney Blake Co., New Haven 14, Conn.
- CALIBRATORS—uhf**
- A. R. F. Products, Inc., 7627 Lake St., River Forest, Ill.
- B & K Mfg. Co., 3726 N. Southport Ave., Chicago 13, Ill.
- BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.
- BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.
- COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicks-ville, N. Y. ADV. PG. 532.
- CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.
- DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.
- Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.
- DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.
- Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.
- GENERAL RADIO CO., 275 Massachusetts Ave., Cam-bridge 39, Mass. ADV. PG. 316, 317.
- Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.
- Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.
- Measurement Engineering Ltd., Arnprior, Ontario, Canada.
- MEASUREMENTS CORP., Boonton, N. J. ADV. PG. 94.
- Metronix, Inc., Mill Lane, Waterford, Conn.
- Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.
- PROBSCOPE CO., 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.
- RADIO FREQUENCY LABS., INC., Boonton 2, N. J. ADV. PG. 555.
- Spivey, Inc., James S., 4908 Hampden Lane, Washing-ton 14, D. C.
- Springer Aircraft Radio Co., Earl W., Route 11, Box 330, Sky Harbor Airport, Indianapolis, Ind.
- TRANSITRON, INC., 186 Granite St., Manchester, N. H. ADV. PG. 326.
- Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa.
- CALIBRATORS—Frequency**
- Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.
- Aero Instrument Co., 11423 Vanowen St., North Holly-wood, Calif.
- Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.
- CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.
- DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.
- DYNA-EMPIRE, INC., 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.
- Electro-Mechanical Research Inc., Ridgefield, Conn.
- Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.
- F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.
- GENERAL RADIO CO., 275 Massachusetts Ave., Cam-bridge 39, Mass. ADV. PG. 316, 317.
- INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Rd., Clifton, N. J. ADV. PG. 355-357.
- LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.
- Metronix, Inc., Mill Lane, Waterford, Conn.
- PANORAMIC RADIO PRODUCTS, INC., 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.
- POLYTECHNICAL RESEARCH & DEVELOPMENT CO., INC., 202 Tiljary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.
- Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.
- PROBSCOPE CO., 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.
- RADIO FREQUENCY LABS., INC., Boonton 2, N. J. ADV. PG. 555.
- Spivey, Inc., James S., 4908 Hampden Lane, Washing-ton 14, D. C.
- TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.
- VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.
- Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa.
- CALIBRATORS—Radar Range**
- CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.
- FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.
- Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.
- Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.
- Missouri Research Labs., Inc., 2019 Locust St., St. Louis 3, Mo.
- Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.
- Rutherford Electronics Co., 8944 Lindblade St., Culver City, Calif.
- Servonics, Inc., 822 N. Henry St., Alexandria, Va.
- Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.
- Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.
- CALIBRATORS—Sweep**
- CALIBRATORS—uhf**
- See INSTRUMENTS—Electrical Measuring
- CALIBRATORS—Voltage**
- B & K Mfg. Co., 3726 Southport Ave., Chicago 13, Ill.

**BALLANTINE LABORATORIES, INC.**, Boonton, N. J. ADV. PG. 159.  
**Berkshire Laboratories**, 580 Bank Village, Greenville, N. H.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
**Dubrow Development Co.**, 235B Penn St., Burlington, N. J.  
**DuMont Laboratories, Inc.**, Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
**EPSCO, INCORPORATED**, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235.  
**Foto-Video Laboratories, Inc.**, Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La. Cienega Bld., Los Angeles 16, Calif. ADV. PG. 684.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
**Millivac Instrument Corp.**, 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
**Minneapolis-Honeywell Regulator Co.**, Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**NJE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
**New York Transformer Co., Inc.**, Third Ave., Alpha, N. J. Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
**RADIO FREQUENCY LABS., INC.**, Boonton 2, N. J. ADV. PG. 555.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
**Rese Engineering Corp.**, 731 Arch St., Philadelphia 6, Pa.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
**Telectro Industries Corp.**, 35-16 37th St., Long Island City 1, N. Y.

## CALIBRATORS—vsr

**Alto Scientific Co.**, 855 Commercial St., Palo Alto, Calif.  
**Barker & Williamson**, 235 Fairfield Ave., Upper Darby, Pa.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
**California Technical Industries**, 1421 Old County Rd., Belmont, Calif.  
**CUBIC CORP.**, 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**Dunlap Electronics**, 764 Ninth St., Des Moines, Iowa.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
**Press Wireless Laboratories, Inc.**, 25 Prospect Place, West Newton 65, Mass.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
**Sperry Gyroscope Co. Div. of Sperry Rand Corp.**, Great Neck, N. Y.  
**Technical Material Corp.**, P. O. Box 142, Mamaroneck, N. Y.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.

## CALORIMETERS—Microwave

See MICROWAVE ACCESSORIES

## CAMERAS—Data Recording

**Abrams Instrument Corp.**, 600-620 E. Shiawassee St., Lansing, Mich.  
**Alto Scientific Co.**, 855 Commercial St., Palo Alto, Calif.  
**Berndt-Bach, Inc.**, Auricon Div., 6924 Romaine St., Hollywood 38, Calif.  
**Bill Jack Scientific Instrument Co.**, P. O. Box C-3, Solana Beach, Calif.  
**Cinema-Television, Ltd.**, Worsley Bridge Rd., London, S.E. 26, England.  
**Electronic Tube Corp.**, 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
**Fairchild Camera & Instrument Corp.**, Reconnaissance Systems Div., Robbins Lane, Syosset, N. Y.  
**Flight Research, Inc.**, P. O. Box 1-F, Richmond 1, Va.  
**Gordon Enterprises**, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
**Maurer, Inc.**, J. A., 37-01 31st St., Long Island City 1, N. Y.  
**Nuclear Corp. of America**, 350 Fifth Ave., New York 1, N. Y.  
**PHOTOGRAPHIC PRODUCTS, INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.

## CAMERAS—Oscilloscope

**Airmec, Ltd.**, High Wycombe, Buckinghamshire, England.  
**Allegany Instrument Co., Inc.**, 1091 Willis Mountain, Cumberland, Md.  
**American Instrument Co., Inc.**, 8030 Georgia Ave., Silver Spring, Md.  
**Aremac Associates**, 50 S. San Gabriel, Pasadena 10, Calif.  
**Beckman & Whitley, Inc.**, 913 San Carlos Ave., San Carlos, Calif.

**Bill Jack Scientific Instrument Co.**, P. O. Box C-3, Solana Beach, Calif.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
**Cinema-Television, Ltd.**, Worsley Bridge Rd., London, S.E. 26, England.  
**DuMont Laboratories, Inc.**, Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**Edgerton, Gerneshausen & Grier, Inc.**, 160 Brookline Ave., Boston, Mass.  
**Electro-Medical Lab, Inc.**, South Woodstock 8, Vt.  
**Electronic Tube Corp.**, 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
**Fairchild Camera & Instrument Corp.**, Industrial Camera Div., 88-06 Van Wyck Expressway, Jamaica 1, N. Y.  
**Flight Research, Inc.**, P. O. Box 1-F, Richmond 1, Va.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**Gordon Enterprises**, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
**Grass Instrument Co.**, 101 Old Colony Ave., Quincy, Mass.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
**Maurer, Inc.**, J. A., 37-01 31st St., Long Island City 1, N. Y.  
**Minneapolis-Honeywell Regulator Co.**, 2753 Fourth Ave., S., Minneapolis 8, Minn.  
**MULLARD OVERSEAS, LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London W.C. 2, England ADV. PG. 560.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**Perkin-Elmer Corp.**, The, Main Ave., Norwalk, Conn.  
**PHOTOGRAPHIC PRODUCTS, INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**Taller & Cooper Co.**, 75 Front St., Brooklyn 1, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

## CAMERAS—Television

**Blonder-Tongue Laboratories, Inc.**, 9-25 Alling St., Newark 2, N. J.  
**Bludworth Marine Div., Kearfott Co., Inc.**, 92 Gold St., New York 38, N. Y.  
**Dage Television Div. of Thompson Products, Inc.**, W. 10th St., Michigan City, Ind.  
**DuMont Laboratories, Inc.**, Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**Federal Telecommunication Labs., a Div. of IT&T**, 500 Washington Ave., Nutley 10, N. J.  
**Foto-Video Laboratories, Inc.**, Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
**General Electric Co.**, Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**General Precision Laboratory, Inc.**, 63 Bedford Rd., Pleasantville, N. Y.  
**Hallamore Electronics Co.**, 8352 Brookhurst Ave., Anaheim, Calif.  
**Intercontinental Electronics Corp.**, 1551 Franklin Ave., Mineola, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**Taller & Cooper Co.**, 75 Front St., Brooklyn 1, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

## CAMERAS—X-Ray

**BRACKE-SEIB X-RAY CO., INC.**, 16 Pelham Bay Parkway, Pelham Manor, N. Y. ADV. PG. 590.  
**Central Research Laboratories, Inc.**, Red Wing, Minn.  
**Fairchild Camera & Instrument Corp.**, Industrial Camera Div., 88-06 Van Wyck Expressway, Jamaica 1, N. Y.  
**Nuclear Corp. of America**, 350 Fifth Ave., New York 1, N. Y.  
**Philips Electronics, Inc.**, 750 S. Fulton Ave., Mt. Vernon, N. Y.  
**PHOTOGRAPHIC PRODUCTS, INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**Picker X-Ray Corp.**, 25 S. Broadway, White Plains, N. Y.  
**X-Ray Dept., General Electric Co.**, 4855 Electric Ave., Milwaukee 1, Wis.

## CANS

### NOTE:

(h) indicates hermetically sealed types

**ALGO, INC.**, 251 West St., South Hackensack, N. J. ADV. PG. 554.  
**Aluminum Co. of America**, Alcoa Bldg., Pittsburgh 19, Pa.  
**Amatom Electronic Hardware Co.**, 122 Sunset Rd., Mamaroneck, N. Y.  
**AMERICAN ALUMINUM CO.**, Sheffield St., -C, Mountaine-side, N. J. ADV. PG. 604.  
**Autel Electronics Co.**, P. O. Box 225, Linden, N. J. (h)  
**Barnes Metal Products Co.**, 4425 W. 16th St., Chicago 23, Ill.  
**Barwood Mfg. Co., Inc.**, L. J., 22 Williams St., Everett 49, Mass.  
**Continental Can Co., Inc.**, 100 E. 42nd St., New York 17, N. Y.

**Ellis & Sons Inc.**, George D., 4002 N. American St., Philadelphia 40, Pa. (h)  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne Valley Stream, N. Y. ADV. PG. 679. (h)  
**Goat Co., Inc.**, Fred, 308 Dean St., Brooklyn 17, N. Y.  
**GREAT EASTERN METAL PRODUCTS CO.**, 22 Woodworth Ave., Yonkers, N. Y. ADV. PG. 696. (h)  
**Heldor Mfg. Corp.**, 238 Lewis St., Paterson, N. J. (h)  
**HUDSON TOOL & DIE CO., INC.**, 118 S. 14th St., Newark, N. J. ADV. PG. 185.  
**KAUPP & SONS, C. B.**, 32 Newark Way, Maplewood, N. J. ADV. PG. 275.  
**Kling Metal Spinning Co.**, 247 Centre St., New York 13, N. Y.  
**Livingston Electronic Corp.**, Livingston, N. J. (h)  
**McDowell Electronics, Inc.**, P. O. Box 342, Metuchen, N. J. (h)  
**Metpro, Inc.**, R. I., 230 Toronto Ave., Providence, R. I.  
**Mid-West Conveyor Co., Inc.**, Metal Products Div., 7th & Sunshine Rd., Farifax District, Kansas City, Kan.  
**Northern Metal Products Co.**, 9597 W. Grand Ave., Franklin Park, Ill.  
**Olympic Metal Products Co., Inc.**, Third Ave., Alpha, N. J.  
**Paul & Beekman, Inc.**, 1801 Courtland St., Philadelphia 40, Pa.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
**Repath Pacific Div. of Arnold Engineering Co.**, 641 E. 61st St., Los Angeles 1, Calif.  
**Silicone Insulation, Inc.**, 1385 Seabury Ave., Bronx 61, N. Y.  
**Silicone Seals, Inc.**, 3125 Milwaukee Ave., Chicago 18, Ill. (h)  
**SPHERE CO., INC., THE**, 25 Amity St., Little Falls, N. J. ADV. PG. 652. (h)  
**Staver Co., Inc., The**, 43 N. Saxon Ave., Bay Shore, N. Y.  
**Stone City Machine & Tool Co., Inc.**, P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
**Sun Tube Corp.**, Washington, N. J. (h)  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**VECTOR ELECTRONIC CO.**, 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.  
**Worcester Pressed Aluminum Corp.**, 13-15 Hope Ave., Worcester, Mass.  
**ZERO MFG. CO.**, 1121 Chestnut St., Burbank 71, Calif. ADV. PG. 634.

## CAPACITORS

### NOTE:

Throughout all capacitor listings

(h) indicates hermetically sealed types  
 (p) indicates pressure types  
 (v) indicates vacuum types

### Capacitors, Fixed

1. Ceramic
2. Decade
3. Electrolytic
- 3a. Electrolytic, Subminiature
4. Energy Storage
5. Feed Through
6. Fixed Composition
7. Gas Filled
8. Glass
9. High Voltage
10. Metallized
11. Mica
12. Paper
13. Plastic
14. Power Factor
15. Precision Air
16. Pulse Forming Network
17. Silvered Mica
18. Tantalum
19. Vacuum

### Capacitors, Variable

20. Trimmer-Air
21. Trimmer-Ceramic
22. Trimmer-Mica
23. Trimmer-Vacuum
24. Tuning-Receiving
25. Tuning-Transmitter

**ACF Electronics**, 800 N. Pitt St., Alexandria, Va. 1-9-13.  
**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass. 1-3-3a-4-5-9-10-11-12-13-14-16-17-18-21. (h)  
**Airborne Accessories Corp.**, 1414 Chestnut Ave., Hillside, N. J. 10.  
**Ajax Condenser Corp.**, 10905 Chandler Blvd., North Hollywood, Calif. 3-3a-12. (h)  
**All Star Products, Inc.**, Defiance, Ohio. 20-24.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. 1-5. ADV. PG. 194.  
**American Condenser Co.**, 4410 Ravenswood Ave., Chicago 40, Ill. 3-5-12. (h)  
**AMP INC.**, 2100 Paxton St., Harrisburg, Pa. 16. ADV. PG. 339.  
**AMP INC., CHEMICALS & DIELECTRICS DIV.**, 155 Park St., Elizabethtown, Pa. 9-16. ADV. PG. 255 (h)  
**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. 9-19. ADV. PG. 290, 291. (v)  
**ARCO ELECTRONICS, INC.**, 64 White St., New York 13, N. Y. 1-5-9-11-12-17-21-22. ADV. PG. 180.  
**Arnold Ceramics Inc.**, 1 E. 57th St., New York 22, N. Y. 12-17.

- ASTRON CORP., 255 Grand Ave., East Newark, N. J. 1-3-3a-10-12-13. ADV. PG. 329. (h)
- Axel Bros., Electronics Div., 134-20 Jamaica Ave., Jamaica, N. Y. 4-9-10-12-13-16. (h)
- Balco Research Laboratories, 49-53 Edison Place, Newark 2, N. J. 6-10-13. (h)
- Barco, Inc., Box 1222, Milwaukee 1, Wis. 3a. (h)
- Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa. 15-25. (h)
- Basic Tool Engineering, Inc., 4156 S. Main St., Los Angeles, Calif. 1. (h)
- BOONTON ELECTRONICS CORP., 738 Speedwell Ave., Morris Plains, N. J. 15. ADV. PG. 562. (h)
- British Radio Electronics Ltd., 1833 Jefferson Place, N.W., Washington 6, D. C. 1-17-20. (h)
- Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio. 20-25. (h)
- CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. 1-21. ADV. PG. 150. (h)
- Cardwell Co., Allen D., The, 97 Whiting St., Plainville, Conn. 15-20-24-25. (h)
- CENTRALAB DIV., GLOBE-UNION INC., 914Y E. Keefe Ave., Milwaukee 1, Wis. 1-5-9-21. ADV. PG. 419. (h)
- CHICAGO CONDENSER CORP., 3255 W. Armitage Ave., Chicago 47, Ill. 5-9-10-12-13-14-16. ADV. PG. 420. (h)
- COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. 9. ADV. PG. 532. (h)
- Condenser Products Div., New Haven Clock & Watch Co., 140 Hamilton St., New Haven, Conn. 4-19-13-14-15-16. (h)(v)
- CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. 1-2-3-3a-4-5-6-9-10-11-12-13-14-16-17-18. ADV. PG. 111. (h)
- CORNING GLASS WORKS, Corning, N. Y. 4-8-9-16-20. ADV. PG. 390. (h)
- CORSON ELECTRIC MFG. CORP., 540 39th St., Union City, N. J. 4-9-12-13-16. ADV. PG. 587. (h)
- COSMIC RADIO CORP., 853 Whittier St., New York 59, N. Y. 3-12. ADV. PG. 368. (h)
- DEARBORN ELECTRONIC LABORATORIES, INC., 231 S. LaSalle St., Chicago 4, Ill. 4-5-6-9-10-12-13. ADV. PG. 368. (h)
- Dielectron Div. of The Gudeman Co., 2669, S. Myrtle Ave., Monrovia, Calif. 1-9-16. (h)
- DOLINKO & WILKENS, INC., 1901-7 Summit Ave., Union City, N. J. 9-19. ADV. PG. 508. (h)
- Double "E" Products Co., 216 Standard St., El Segundo, Calif. 10-11-12-13. (h)
- Dumont-Airplane & Marine Instruments, Inc., 15 William St., New York 5, N. Y. 3-3a-4-9-12-13-14. (h)
- Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y. 13. (h)
- ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. 16. ADV. PG. 63. (h)
- EITEL-McCULLOUGH, INC., San Bruno, Calif. 19-23. ADV. PG. 128, 129. (v)
- ELECTRA MFG. CO., RESISTOR DIV., 4051 Broadway, Kansas City, Mo. 1-9. ADV. PG. 338. (h)
- ELECTRO-CAPACITORS CO., 10132 Edes Ave., Oakland 3, Calif. 3-4-14. ADV. PG. 204. (h)
- Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore. 2. (h)
- ELECTRO MOTIVE MFG. CO., S. Park & John St., Willimantic, Conn. 1-5-11-12-17-22. ADV. PG. 423. (h)
- Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif. 2-4-5-9-10-12-14. (h)(p)(v)
- ELECTRONIC FABRICATORS, INC., 682 Broadway, New York 12, N. Y. 13. ADV. PG. 248. (h)
- Endevco Corp., 161 E. California St., Pasadena, Calif. 2. (h)
- ERIE RESISTOR CORP., Erie 6, Pa. 1-5-6-9-11-13-17-20-21-22. ADV. PG. 170, 171. (h)
- Fansteel Metallurgical Corp., 2200 Sheridan Road, North Chicago, Ill. 18. (h)
- Fast & Co., John E., 3538 N. Kedzie Ave., Chicago 18, Ill. 1-5-9-12-13-14. (h)
- Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill. 21. (h)
- FILM CAPACITORS, INC., 3400 Park Ave., New York 56, N. Y. 2-9-13. ADV. PG. 246. (h)
- FILTRON CO., INC., 131-05 Fowler Ave., Flushing, N. Y. 5-9-10-12-13-16. ADV. PG. 433. (h)
- FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. 2. ADV. PG. 460. (h)
- GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. 2-3-3a-4-5-6-9-11-12-13-14-16-18. ADV. PG. 1-12. (h)
- GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT., W. Genesee St., Auburn, N. Y. 1. ADV. PG. 18. (h)
- GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. 2-13-15. ADV. PG. 316, 317. (h)
- Girard-Hopkins, 1000 40th Ave., Oakland 1, Calif. 12-14. (h)
- Glenco Corp., A Sub. of Gulton Industries, Metuchen, N. J. 1. 24-25. (h)
- Gombos Co., Inc., John, 103 Montgomery Ave., Irvington 11, N. J. 24-25. (h)
- GOOD-ALL ELECTRIC MFG. CO., 112 W. First St., Ogallala, Neb. 1-4-5-9-12-13. ADV. PG. 124. (h)
- Gudeman Co., 340 W. Huron St., Chicago 10, Ill. 1-3-3a-4-5-6-9-10-12-13-14. (h)
- GULTON INDUSTRIES, INC., Metuchen, N. J. 1. ADV. PG. 425. (h)
- Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif. 5. (h)
- HAMMARLUND MFG. CO., INC., 460 W. 34th St., New York 1, N. Y. 20-24-25. ADV. PG. 265. (h)
- Hansen Electronics Co., 7117 Santa Monica Blvd., Los Angeles 46, Calif. 6. (h)
- High Fidelity Products, Box 131, Owensboro, Ky. 2. (h)
- Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. 2-5-6-9-10-12-13-14. (h)
- ILLINOIS CONDENSER CO., 1616 N. Throop St., Chicago 22, Ill. 1-3-3a-4-12. ADV. PG. 431. (h)
- Industrial Condenser Corp., 3243 N. California Ave., Chicago 18, Ill. 12-13-14. (h)
- Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J. 2. (h)
- Industron Corp., 55 Needham St., Newton Highlands, Mass. 25. (h)
- International Electronic Industries, Inc., Box 1368, Nashville, Tenn. 3-3a. (h)
- JFD MANUFACTURING CO., INC., 6101 16th Ave., Brooklyn 4, N. Y. 21. ADV. PG. 53. (h)
- Jeffers Electronics Div. of Speer Carbon Co., DuBois, Pa. 6. (h)
- JENNINGS RADIO MFG. CORP., 970 McLaughlin Ave., P. O. Box 1278, San Jose 8, Calif. 9-19-23-25. ADV. PG. 406, 407. (v)
- Jodee Plastics Corp., 213 Shepherd Ave., Brooklyn 8, N. Y. 13. (h)
- Johanson Mfg. Co., Box 329, Boonton, N. J. 20-24-25. (h)
- Johnson Co., E. F., Waseca, Minn. 9-20-25. (h)
- Landsverk Electrometer Co., 550 W. Garfield Ave., Glendale 4, Calif. 13. (h)(v)
- LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV., 31 Gilbert St., LeRoy, N. Y. 7-9-25. ADV. PG. 276, 277. (h)
- Leclanche S. A., Yverdon, Switzerland. 1-2-3-4-5-9-12-13-14-16. (h)
- Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa. 2-11-15. (h)
- Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y. 17. (h)
- London Electric Mfg. Co., Ltd., 80 Shore Rd., Port Washington, N. Y. 1-5-11-17. (h)
- Luther Electronic Mfg. Co., 5728 W. Washington Blvd., Los Angeles 16, Calif. 9-12-16. (h)
- Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind. 1-3-3a-18. (h)(p)(v)
- Maida Development Corp., 214 Academy St., Hampton, Va. 1-5-9-21. (h)
- Mallory & Co., Inc., P.R., 34 S. Gray St., Indianapolis 6, Ind. 3-3a-12-18. (h)
- Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y. 7. (p)
- MICAMOLD ELECTRONICS MFG. CORP., 1087 Flushing Ave., Brooklyn 6, N. Y. 3-3a-4-5-6-9-11-12-13-16-17. ADV. PG. 301. (h)
- Millen Mfg. Co., James, 150 Exchange St., Malden, Mass. 20-25. (h)
- Mitronics, Inc., 1290 Central Ave., Hillside, N. J. 1-8-17-21. (h)
- MUCON CORP., 9 St. Francis St., Newark 5, N. J. 1. ADV. PG. 683. (h)
- Muirhead & Co., Ltd., Beckenham, Kent, England. 2. (h)
- Muter Company, The, 1255 S. Michigan Ave., Chicago 5, Ill. 1-5-21. (h)
- National Capacitor Co., 18 Webster St., Brookline, Mass. 4-5-6-9-10-12-13-14-16. (h)
- National Co., Inc., 61 Sherman St., Malden 48, Mass. 20-21-24-25. (h)
- New York Coil Co., Phoenixville 12, Pa. 10-12. (v)
- Nielsen Mfg. Co., Addison, Ill. 15. (h)
- Nucleonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif. 3a. (h)
- OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. 3a-18. ADV. PG. 282, 283. (h)
- ONONDAGO POTTERY WORKS, Electronics Div. 1858 W. Lafayette St., Syracuse, N. Y. 1. ADV. PG. 252. (h)
- Pennsylvania Testing Lab., Inc., Doylestown, Pa. 2. (h)
- Planet Mfg. Corp., 225 Belleville Ave., Bloomfield, N. J. 3. (h)
- Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago 14, Ill. 4-9-12-13-14-19. (h)
- Potter Co., The, 1950 Sheridan Rd., North Chicago, Ill. 4-5-9-10-12-13-15-14. (h)
- PRECISION CAPACITORS, INC., 150 W. Cypress Ave., Burbank, Calif. 2-9-13. ADV. PG. 318. (h)
- PYRAMID ELECTRIC CO., 1445 Hudson Blvd., North Bergen, N. J. 3-3a-9-10-12. ADV. PG. 463. (h)
- Quality Components, Inc., St. Mary's, Pa. 6. (h)
- RADIO CONDENSER CO., Camden, N. J. 20-21-24-25. ADV. PG. 88. (h)
- Radio Industries, Inc., 5225 Ravenswood Ave., Chicago 40, Ill. 1-5-17. (h)
- Radio Materials Corp., 3325 N. California Ave., Chicago 18, Ill. 1. (h)
- RELIANCE MICA CO., 341 39th St., Brooklyn, N. Y. 11-17. ADV. PG. 695. (h)
- SANDERS ASSOCIATES, INC., Nashua, N. H. 13. ADV. PG. 534. (h)
- San Fernando Electric Mfg. Co., 1509 First St., San Fernando, Calif. 5-10-12-13. (h)
- Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. 3-3a-4-5-9-11-12-13-14-17-18. (h)
- SARKES TARZIAN INC., RECTIFIER DIV., 415 N. College Ave., Bloomington, Ind. 20. ADV. PG. 434. (h)
- Sickles, F. W., Div. General Instrument Corp., 165 Front St., Chicopee, Mass. 20. (h)
- Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa. 1-5-9. (h)
- Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles 58, Calif. 1. (h)
- SOUTHERN ELECTRONICS CORP., 150 W. Cypress Ave., Burbank, Calif. 2-9-13. ADV. PG. 166. (h)
- Sprague Electric Co., 125 Marshall St., North Adams, Mass. 1-3-3a-4-5-9-10-11-12-13-14-16-17-18. (h)
- Sprague of Wisconsin, Inc., Sixth & Beech St., Grafton, Wis. 1-21. (h)
- Stackpole Carbon Co., St. Marys, Pa. 6. (h)
- Standard Condenser Co., 3749 N. Clark St., Chicago 13, Ill. 3-3a-12-13. (h)
- Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Inc. 2-7-9-10-12. (h)
- STUPAKOFF, DIV. OF THE CARBORUNDUM CO., Latrobe, Pa. 21. ADV. PG. 108, 109. (h)
- Sullivan Ltd., W. W., 80 Shore Rd., Port Washington, N. Y. 2-11-20. (h)
- Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y. 20-24. (h)
- Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y. 15. (h)
- Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton, London W. 3, England. 1-2-3-3a-4-5-6-9-11-12-13-14-16-17-18-21. (h)
- Telesco Corp., 1415 Golf Rd., Des Plaines, Ill. 5. (h)
- Texas Capacitor Co., Div. of K-C-K Corp., 922 S. 75th St., Houston, Texas. 13. (h)
- TOBE DEUTSCHMANN CORP., 921 Providence Highway, Norwood, Mass. 4-5-6-9-10-12-13-14-16. ADV. PG. 645. (h)
- Underwood Electric & Mfg. Co., Inc., 4926 W. Grand Ave., Chicago 39, Ill. 5-9-11-15-17-20-22. (h)
- United Condenser Corp., 3400 Park Ave., New York 56, N. Y. 9-12. (h)
- United Electronic Mfg. Corp., 542 39th St., Union City, N. J. 3. (h)
- United Electronics Co., 42 Spring St., Newark 2, N. J. 19. (h)
- U. S. GASKET CO., Camden, N. J. 13-21. ADV. PG. 418, 635. (h)
- U. S. ELECTRONICS DEVELOPMENT CORP., 1323 Airway, Glendale 1, Calif. 2-9-10-12-13-18. ADV. PG. 675. (h)
- UNIVERSAL CONDENSER CO., 3435 N. Kimball Ave., Chicago 18, Ill. 3a-12-13. ADV. PG. 252. (h)
- VACAP CORP., 1905 Summit Ave., Union City, N. J. 23-25. ADV. PG. 664. (v)
- VITRAMON INC., Box 544, Bridgeport, Conn. 8. ADV. PG. 520. (h)
- Wells Co., Gary, 361 Rockaway Ave., Valley Stream, N. Y. 3-3a. (h)
- WELWYN INTERNATIONAL INC., 3355 Edgecliff Terrace, Cleveland 11, Ohio. 1-5. ADV. PG. 628. (h)
- WESTLAKE PLASTICS CO., 133 W. Lenni Rd., Lenni Mills, Pa. 13. ADV. PG. 557. (h)
- Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City 6, Mo. 25. (h)

**CARTONS—for Shipping**  
See PACKAGING MATERIALS

**CARTRIDGES**  
See CRYSTAL CARTRIDGES

**CASES—Diode & Transistor**

- Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass. (h)
- Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass. (h)
- Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio. (h)
- ELECTRICAL INDUSTRIES DIV., PHILIPS ELECTRONICS, INC., 691 Central Ave., Murray Hill, N. J. ADV. PG. 315. (h)
- FALSTROM CO., 44 Falstrom Court, Passaic, N. J. ADV. PG. 221. (h)
- HAMILTON ELECTRONICS CORP., Box 100, Bath, N. Y. ADV. PG. 507. (h)
- HUDSON TOOL & DIE CO., INC., 118 S. 14th St., Newark, N. J. ADV. PG. 185. (h)
- I. E. Manufacturing, 325 N. Hoyle Ave., Chicago 12, Ill. (h)
- JOHNSON & HOFFMAN MFG. CORP., 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87. (h)
- Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y. (h)
- Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn. (h)
- Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park, Calif. (h)
- VECTOR ELECTRIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476. (h)
- Warren Plastics Corp., Warren, Pa. (h)

**CASES—Instrument & Meter**

- A & P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y. (h)
- ABALON PRECISION MFG. CORP., 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644. (h)
- Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill. (h)
- ALGO, INC., 251 West St., South Hackensack, N. J. ADV. PG. 554. (h)
- AMERICAN ALUMINUM CO., Sheffield St.,-C, Mountaineer, N. J. ADV. PG. 604. (h)
- Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio. (h)
- BALTIC METAL PRODUCTS CO., 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501. (h)
- Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass. (h)
- Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn. (h)
- Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio. (h)
- Cambridge Pattern Works, Inc., 55 First St., Cambridge 41, Mass. (h)
- Columbia Metal Box Co., 260 E. 143rd St., New York, N. Y. (h)

**CRAIG SYSTEMS, INC.**, Danvers, Mass. ADV. PG. 387.  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Davies Molding Co., Harry, 1428 N. Wells St., Chicago 10, Ill.  
 Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.  
 Dura Plastics of New York, Inc., 303 Fifth Ave. New York 16, N. Y.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
 Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
 Helder Mfg. Corp., 238 Lewis St., Paterson, N. J.  
**HUDSON TOOL & DIE CO.**, 118 S. 14th St., Newark, N. J. ADV. PG. 185.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Instrument Cases Div. of Ta Mfg. Corp., 510 W. Garfield St., Glendale 4, Calif.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
**KAUPE & SONS, C. B.**, 32 Newark Way, Maplewood, N. J. ADV. PG. 275.  
 Keller Products, Inc., 41 Union St., Manchester, N. H.  
 Koch & Sons, H., Corte Madera, Calif.  
 Majestic Aircraft Co., Moosup, Conn.  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67 E., Anderson, Ind.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Muckle Mfg. Co., Owatonna 55, Minn.  
 Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
**PREMIER METAL PRODUCTS CO.**, 337 Manida St., Bronx 59, N. Y. ADV. PG. 646.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Stamford Metal Specialty Co., 429 W. Broadway, New York 12, N. Y.  
**TA Mfg. Corp.**, 4613 Alger St., Los Angeles 39, Calif.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Trimm Mfg. Co., W. H., 1811 Johnston St., Los Angeles 31, Calif.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.  
 Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 668, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 White Aircraft Corp., Palmer, Mass.  
**ZERO MFG. CO.**, 1121 Chestnut St., Burbank 71, Calif. ADV. PG. 634.

**CASES—Portable**  
 (for Radios, Phonographs, Amplifiers, etc.)  
 Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
 Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
**ALGO, INC.**, 251 West St., South Hackensack, N. J. ADV. PG. 554.  
**BALTIC METAL PRODUCTS CO.**, 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501.  
 Berlant Concertone-Audio Div. of American Electronics Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Jodee Plastics Corp., 213 Shepherd Ave., Brooklyn 8, N. Y.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67 E., Anderson, Ind.  
 Molded Fibreglass Co., 4401 Benefit Ave., Ashtabula, Ohio.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Muckle Mfg. Co., Owatonna 55, Minn.  
 Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**ZERO MFG. CO.**, 1121 Chestnut St., Burbank 71, Calif. ADV. PG. 634.

**CASES—Transit**  
 A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.  
**ABALON PRECISION MFG. CORP.**, 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
 Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.  
**AINSLIE CORP.**, 312 Quincy Ave., Quincy, Mass. ADV. PG. 589.  
 Art-Lloyd Metal Products Corp., 2973 Cropsey Ave., Brooklyn 14, N. Y.  
**BALTIC METAL PRODUCTS CO.**, 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
**CRAIG SYSTEMS, INC.**, Danvers, Mass. ADV. PG. 387.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 Hinde & Dauch, Sandusky, Ohio.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Instrument Cases Div. of Ta Mfg. Corp., 510 W. Garfield St., Glendale 4, Calif.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
 Koch & Sons, H., Corte Madera, Calif.  
 Kollman Show Case Corp., Fort Wayne 1, Ind.  
 Majestic Aircraft Co., Moosup, Conn.  
 REF Mfg. Corp., Jericho Turnpike, Mineola, N. Y.  
 Skydne, Inc., River Rd., Port Jervis, N. Y.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
**TA Mfg. Corp.**, 4613 Alger St., Los Angeles 39, Calif.  
 Technical Materiel Corp., P.O. Box 142, Mamaroneck, N. Y.  
 Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.  
 White Aircraft Corp., Palmer, Mass.  
**ZERO MFG. CO.**, 1121 Chestnut St., Burbank 71, Calif. ADV. PG. 634.

**CASTINGS—Precision**  
 Alloy Precision Casting Co., E. 45th & Hamilton Ave., Cleveland 14, Ohio.  
 Austenal Laboratories, Inc., Microcast Div., 224 E. 39th St., New York 16, N. Y.  
 Bean & Co., Morris, Yellow Springs, Ohio.  
 Engineered Precision Casting Co., Matawan Rd., Morganville, N. J.  
 Hitchiner Manufacturing Co., Inc., P.O. Box 232, Milford, N. H.  
 Misco Precision Casting Co., Gibbs & Larsen Sts., Whitehall, Mich.  
 Precision Metalsmiths, Inc., 1081 E. 200th St., Cleveland 17, Ohio.  
 Rode, Inc., 5 Green St., Woburn, Mass.  
 Sims Casting Co., 2174 E. Erie Blvd., Syracuse 3, N. Y.

**CAVITIES—Microwave**  
 See MICROWAVE ACCESSORIES

**CELLS—Photoelectric**  
 Cinema-Television Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 Clairex Corp., 50 W. 26th St., New York 10, N. Y.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
 Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
 Electrical Service Co., 1271 Mission St., San Francisco, Calif.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Fireye Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**INTERNATIONAL RECTIFIER CORP.**, 1521 E. Grand Ave., El Segundo, Calif. ADV. PG. 218.  
 Northern Electronic & Vacuum Industries, St. Sauveur des Monts, P.Q., P.O. Box 105, Canada.  
 Nucleonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo Crystals Inc., 15 S. First St., Geneva, Ill.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Standard Instrument Corp., 657 Broadway, New York 12, N. Y.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
 Twentieth Century Electronics Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
 Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
 Western Radiation Lab., 1107 W. 24th St., Los Angeles 7, Calif.

**CELLS—Photovoltaic**  
 Electron-Radar Products, P.O. Box 50, Route #30, North Aurora, Ill.

**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo Crystals Inc., 15 S. First St., Geneva, Ill.

**CELLS—Standard**  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
 Eppley Lab., Inc., The, Newport, R. I.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
 Hastings-Raydist, Inc., Hampton 9, Va.  
**KIN TEL (KAY LAB)**, P.O. BOX 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Muirhead & Co., Ltd., Beckenham Kent, England.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.

**CEMENTS—Radio**  
 Ambroid Co., Weymouth 88, Mass.  
 Barrett Varnish Co., 1532 S. 50th Court, Chicago 50, Ill.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Maas & Waldstein Co., 2121 McCarter Highway, Newark 4, N. J.  
 Micro-Circuits Co., New Buffalo, Mich.  
 Moyer Co., C. P., 8157 Monticello Ave., Skokie, Ill.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Walsco Electronics Mfg. Co., 160 Green St., Rockford, Ill.  
 Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.  
**ZOPHAR MILLS, INC.**, 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

**CERAMICS**  
 See INSULATION MATERIALS

**CHAINS—Small Drive**  
**BEAD CHAIN MFG. CO.**, 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
 Sierra Engineering Co., 123 E. Montecito Ave., Sierra Madre, Calif.

**CHAMBERS—Altitude**  
**CHAMBERS—Fungus Test**  
 See TEST EQUIPMENT—Environmental

**CHAMBERS—Ionization**  
 Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Daystrom Nuclear Div. of Daystrom, Inc., P. O. Box 437, West Caldwell, N. J.  
 Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
 Eberline Instrument Division, P. O. Box 279, Santa Fe, N. M.  
 Jordan Electronics, Inc., 3025 Mission Rd., Alhambra, Calif.  
 Landsverk Electrometer Co., 550 W. Garfield Ave., Glendale 4, Calif.  
 Nuclear-Chicago Corp., 223 W. Erie St., Chicago 10, Ill.  
 Nucleonic Company of America, 196 DeGraw St., Brooklyn 31, N. Y.  
 Reed-Curtis Nuclear Industries, Inc., 307 Culver Blvd., Playa del Rey, Calif.  
 Servo-Recording Instruments, Inc., 1815 W. Van Buren, Phoenix, Ariz.  
 Twentieth Century Electronics Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSISTOR PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.

**CHAMBERS—Pressure**  
**CHAMBERS—Rain and Sunshine**  
**CHAMBERS—Sand and Dust**  
 See TEST EQUIPMENT—Environmental

**CHAMBERS—Shielded Screen**  
 Ace Engineering & Machine Co., Inc., 3644 N. Lawrence St., Philadelphia 40, Pa.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Lindgren & Associates, Erik A., 4515 N. Ravenswood Ave., Chicago 40, Ill.  
**SHIELDING, INC.**, Dept. LB, Riverton, Inc. ADV. PG. 421.  
 Topatron, Inc., 942 E. Ojal Ave., Ojal, Calif.



**CHAMBERS—Temperature & Humidity**

Aireco, Inc., 2323 Second Ave., Carman, Schenectady 3, N. Y.  
 American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
 American Research Corp., Route 6 & New Britain Ave., Farmington, Conn.  
**ASSOCIATED TESTING LABORATORIES, INC.**, 407 Clinton Rd., Caldwell, N. J. ADV. PG. 627.  
 Atmosphere Control Co., Inc., 5315 Chester Ave., Philadelphia 43, Pa.  
 Blue M Electric Co., 138th & Chatham St., Blue Island Ill.  
 Bowser Technical Refrigeration Div. of Bowser, Inc., Eagle St., Terryville, Conn.  
**CONRAD, INC.**, 141 Jefferson St., Holland, Mich. ADV. PG. 395.  
 Controlled Atmosphere Enclosures Corp., 230-11 141st Ave., Springfield Gardens 13, N. Y.  
**ENVIRONMENTAL EQUIPMENT CO.**, 371 Linden St., Brooklyn 27, N. Y. ADV. PG. 600.  
 Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.  
 Hudson Bay Co., Div. of Labline Inc., 3070 W. Grand Ave., Chicago 22, Ill.  
 International Radiant Corp., 4 Manhasset Ave., Port Washington, N. Y.  
 Lennard Co., Inc., P. M., P. O. Box 56, Village Station, New York 14, N. Y.  
**MURPHY & MILLER, INC.**, 1322 S. Michigan Ave., Chicago 5, Ill. ADV. PG. 677.  
 New England Oven & Furnace Co., Post Rd., Orange, Conn.  
**STANDARD CABINET CO.**, 57 Washington Ave., Carlstadt, N. J. ADV. PG. 642.  
**TENNEY ENGINEERING INC.**, 1090 Springfield Rd., Union, N. J. ADV. PG. 422.  
**TROP-ARCTIC, INC.**, P. O. Box 334, Mishawaka, Ind. ADV. PG. 628.  
 Webber Corp., P. O. Box 217, Indianapolis 6, Ind.

**CHAMBERS—Test**

Aireco, Inc., 2323 Second Ave., Carman, Schenectady 3, N. Y.  
 American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 American Research Corp., Route 6 & New Britain Ave., Farmington, Conn.  
**ASSOCIATED TESTING LABORATORIES, INC.**, 407 Clinton Rd., Caldwell, N. J. ADV. PG. 627.  
 Blue M Electric Co., 138th & Chatham St., Blue Island, Ill.  
 Bowser Technical Refrigeration Div. of Bowser, Inc., Eagle St., Terryville, Conn.  
**CONRAD, INC.**, 141 Jefferson St., Holland, Mich. ADV. PG. 395.  
 Controlled Atmosphere Enclosures Corp., 230-11 141st Ave., Springfield Gardens 13, N. Y.  
**DEVELOPMENT ENGINEERING CO.**, 9 Cross St., Norwalk, Conn. ADV. PG. 500.  
**ENVIRONMENTAL EQUIPMENT CO.**, 371 Linden St., Brooklyn 27, N. Y. ADV. PG. 600.  
 Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.  
 Hudson Bay Co., Div. of Labline Inc., 3070 W. Grand Ave., Chicago 22, Ill.  
 Hunter-Bristol Corp., Bristol, Pa.  
 International Radiant Corp., 4 Manhasset Ave., Port Washington, N. Y.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Lennard Co., Inc., P. M., P. O. Box 56, Village Station, New York 14, N. Y.  
**MURPHY & MILLER, INC.**, 1322 S. Michigan Ave., Chicago 5, Ill. ADV. PG. 677.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
**STANDARD CABINET CO.**, 57 Washington Ave., Carlstadt, N. J. ADV. PG. 642.  
**TENNEY ENGINEERING INC.**, 1090 Springfield Rd., Union, N. J. ADV. PG. 422.  
**TROP-ARCTIC, INC.**, P. O. Box 334, Mishawaka, Ind. ADV. PG. 628.  
 Webber Corp., P. O. Box 217, Indianapolis 6, Ind.

**CHANGERS—Automatic Record**

Birmingham Sound Reproducers, Ltd., Monarch Works, Old Hill, Powke Lane, Staffs, England.  
 Garrard Sales Corp., 80 Shore Rd., Port Washington, N. Y.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Seeburg, J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.

**CHARGERS—Battery**

See **BATTERY CHARGERS**

**CHASSIS SLIDES**

See **SLIDES—Chassis**

**CHASSIS—Metal**

A A Metal Products, Inc., 154 Elliot St., Box 716, Brattleboro, Vt.  
 A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**ALGO, INC.**, 251 West St., South Hackensack, N. J. ADV. PG. 554.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
**AMERICAN ALUMINUM CO.**, Sheffield St., C, Mountain-side, N. J. ADV. PG. 604.  
 Art-Lloyd Metal Products Corp., 2973 Cropsy Ave., Brooklyn 14, N. Y.  
 Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.  
**BALTIC METAL PRODUCTS CO.**, 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501.  
 Bingham Mfg. Co., J. F., 69 Bay State Rd., Lawrence, Mass.  
 Boyle Metalcraft Corp., 150 Sullivan St., Brooklyn 31, N. Y.  
 Buck Engineering Co., Inc., 37-41 Marcy St., Freehold, N. J.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
**CHURCHILL LIGHTING CORP.**, 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
 Corry-Jamestown Mfg. Co., Corry, Pa.  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Donnelly Mfg. Co., Div. of The Indian Co., 580 Winter St., Waltham 54, Mass.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
 Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
 Falls Metal Works, Ltd., 414 Main St., Little Falls, N. J.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
 General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
**HAMMER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. ADV. PG. 671.  
 Helder Mfg. Corp., 238 Lewis St., Paterson, N. J.  
 Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
 I. E. Manufacturing, 325 N. Hoynes Ave., Chicago 12, Ill.  
 Measurement-Engineering, Ltd., Arnprior, Ontario, Canada.  
 Metal-Craft, Inc., Burgess Place, Mountain View, N. J.  
 Metalcraft, Inc., 65-33 Austin St., Rego Park 74, N. Y.  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
 Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.  
 Mobil Electronics Mfg. Co., 1111 State Rd. 67 E., Anderson, Ind.  
 Olympic Metal Products Co., Inc., Third Ave., Alpha, N. J.  
 Par-Metal Products Corp., 32-62 49th St., Long Island City 3, N. Y.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
**PREMIER METAL PRODUCTS CO.**, 337 Manida St., Bronx 59, N. Y. ADV. PG. 646.  
 REF Mfg. Corp., Jericho Turnpike, Mineola, N. Y.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Riester & Thesmacher Co., 1510 W. 25th St., Cleveland 13, Ohio.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Stamford Metal Specialty Co., 429 W. Broadway, New York 12, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Telnetronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Transformer Metal Products Corp., 36 York St., Brooklyn 1, N. Y.  
 Trimm Mfg. Co., W. H., 1811 Johnston St., Los Angeles 31, Calif.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.  
 Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.  
 Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.  
 White Aircraft Corp., Palmer, Mass.  
 Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.

**CHECKERS**  
 See Also **ANALYZERS**

**CHECKERS—Cable**

**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
 Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo.

Hunter-Bristol Corp., Bristol, Pa.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
**MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
**OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**RADAR ENGINEERS**, 403 E. 45th St., Seattle 5, Wash. ADV. PG. 462.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

**CHECKERS—Cathode Ray Tube**

B & K Mfg. Co., 3726 Southport Ave., Chicago 13, Ill.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor, 14, Mich. ADV. PG. 575.  
**MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Research Electronics Laboratories, Roslyn, Pa.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Tricraft Products Corp., 1124 W. Newport Ave., Chicago 13, Ill.

**CHECKERS—Crystal Rectifier**

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 B & K Mfg. Co., 3726 N. Southport Ave., Chicago 13, Ill.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**TECHNITROL ENGINEERING CO.**, 1952 E. Allegheny Ave., Philadelphia 34, Pa. ADV. PG. 542.  
 Telnetronics Laboratory, Inc., Kinkel St., Westbury, N. Y.

**CHECKERS—Klystron Tube**

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
**MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.

**CHEMICALS—Electronic**

**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV. OF ALLIED CHEMICAL & DYE CORP.**, 40 Rector St., New York, N. Y. ADV. PG. 363.  
**BAKER CHEMICAL CO.**, J. T., Phillipsburg, N. J. ADV. PG. 516.  
 Barco Chemical Products Co., 701-703 S. La Salle, Chicago 5, Ill.  
 Barium & Chemicals, Inc., Willoughby, Ohio.  
 Caig Laboratories, 46 Stanwood Rd., New Hyde Park, N. Y.  
 Ed-Berl Products, Inc., 87 Merrick Rd., Baldwin, N. Y.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Jonas Co., F., 55 W. 42nd St., New York 36, N. Y.  
 Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
 Micro-Circuits Co., New Buffalo, Mich.  
 Silicones Div., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Southern Instruments Ltd., Computer Div., Frimley Rd., Camberley, Surrey.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Workman TV, Inc., 309 Queen Anne Road, Teaneck, N. J.  
 Wye Industries, 6 General Devine Way, Boston 27, Mass.

## CHEMICALS—Electroplating

Allied Research & Engineering Div., Allied Record Mfg. Co., 6916 Santa Monica Blvd., Hollywood 38, Calif.  
**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV. OF ALLIED CHEMICAL & DYE CORP.**, 40 Rector St., New York, N. Y. ADV. PG. 363.  
 Barco Chemical Products Co., 701-703 S. La Salle, Chicago 5, Ill.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Enthone, Inc., 442 Elm St., New Haven 2, Conn.  
 Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
**TECHNIC, INC.**, P. O. Box 965, Providence 1, R. I. ADV. PG. 477.  
 Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

## CHEMICALS—Luminescent

American Products Mfg. Co., Inc., 8127-33 Oleander St., New Orleans 18, La.  
**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV. OF ALLIED CHEMICAL & DYE CORP.**, 40 Rector St., New York, N. Y. ADV. PG. 363.  
**CANADIAN RADIUM & URANIUM CORP.**, 630 Fifth Ave., New York 20, N. Y. ADV. PG. 665.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Mallinckrodt Chemical Works, Second and Mallinckrodt Sts., St. Louis 7, Mo.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.

## CHEMICALS—Tube

**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV. OF ALLIED CHEMICAL & DYE CORP.**, 40 Rector St., New York, N. Y. ADV. PG. 363.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Jonas Co., F., 55 W. 42nd St., New York 36, N. Y.  
 Mallinckrodt Chemical Works, Second and Mallinckrodt Sts., St. Louis 7, Mo.  
 Philadelphia Quartz Co., 1146K Public Ledger Bldg., Philadelphia 6, Pa.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

## CHOKES—Audio

See **COILS—a-f Choke**

## CHOKES—Filter

**CHOKES—Power**  
 See **COILS—Filter Choke**

## CHOKES—r-f (heavy wire low voltage)

See **COILS—r-f choke, heavy wire low voltage**

## CHOKES—r-f & if

See **COILS r-f Choke**

## CHOPPERS—DC-AC

**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
 Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bruel & Kjaer, Naerum, Denmark.  
 Collins Electronics Mfg. Corp., Stevensville, Md.  
**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
**JAMES VIBRAPOR CO.**, 4050 N. Rockwell St., Chicago 18, Ill. ADV. PG. 542.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
**OAK MFG. CO.**, 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
**PRECISE MEASUREMENTS CO.**, R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
 Rumble, Inc., 15026 Oxnard St., Van Nuys, Calif.  
**STEVENS-ARNOLD INC.**, 22 Elkins St., South Boston 27, Mass. ADV. PG. 274.  
**VIBRATION RESEARCH LABS., INC.**, 97 Lake Ave., Tuckahoe, N. Y. ADV. PG. 621.

## CHRONAXIMETERS

Electro-Medical Lab., Inc., South Woodstock 8, Vt.  
 Teca Corp., 80 Main St., White Plains, N. Y.

## CHRONOGRAPHS—Inertialess

**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.

Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 Electro-Medical Lab., Inc., South Woodstock 8, Vt.  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.

## CHRONOSCOPES

Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.

## CIRCUITS—Computer, Packaged

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Applegate & Co., C. J., 1840 24th St., Boulder, Colo.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
 Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
**COMPUTER CONTROL CO., INC.**, 92 Broad St., Babson Park 57, Mass. ADV. PG. 584.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Electronic Products Corp., 322 State St., Santa Barbara, Calif.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
**FERRANTI ELECTRIC, INC.**, 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
 Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
 Jeffers Electronics Div. of Speer Carbon Co., DuBois, Pa.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
**M F ELECTRONICS**, 122 E. 25th St., New York 10, N. Y. ADV. PG. 512.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
 Magnetics Research Co. Cor. Grove St. & E. Post Rd., White Plains, N. Y.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Philbrick Researches, Inc., George A., 230 Congress St., Boston 10, Mass.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Ransom Research, Box 382, San Pedro, Calif.  
 Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Sibley Co., The, Haddam, Conn.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Tripl-T Co. Electronics, Box 5352, Pasadena, Calif.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

## CIRCUITS—Plug-In

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
 Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky.  
 Ansley Mfg. Co., Arthur, New Hope, Pa.  
 Applegate & Co., C. J., 1840 24th St., Boulder, Colo.  
 Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
 Bernco Engineering Corp. 2320 S. Tibbs Ave., Indianapolis, Ind.  
 Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
**COMPUTER CONTROL CO., INC.**, 92 Broad St., Babson Park 57, Mass. ADV. PG. 584.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Electronic Products Corp., 322 State St., Santa Barbara, Calif.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
 Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.

**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
**M F ELECTRONICS**, 122 E. 25th St., New York 10, N. Y. ADV. PG. 512.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
**ONONDAGO POTTERY WORKS, Electronics Div.**, 1858 W. Lafayette St., Syracuse, N. Y. ADV. PG. 252.  
**OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 Philbrick Researches, Inc., George A., 230 Congress St., Boston 10, Mass.  
**POMONA ELECTRONICS CO., INC.**, 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
 Pottek Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
 Ransom Research, Box 382, San Pedro, Calif.  
**RESISTANCE PRODUCTS CO.**, 914 S. 13th St., Harrisburg, Pa. ADV. PG. 169.  
 Sibley Co., The, Haddam, Conn.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Tripl-T Co., Electronics Box 5352, Pasadena, Calif.  
 Waldorf Instrument Co. Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

## CIRCUITS—Potted

Aerovox Corp., Pacific Coast Div., 2724 So. Peck Rd., Monrovia, Calif.  
 Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky.  
**AMP INC., CHEMICALS & DIELECTRICS DIV.**, 155 Park St., Elizabethtown, Pa. ADV. PG. 255.  
 Applegate & Co., C. J., 1840 24th St., Boulder, Colo.  
 Beck's, Inc., 298-300 E. Fifth St., Saint Paul 1, Minn.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. ADV. PG. 438, 439.  
 Dwyer Engineering Co., Inc., P. O. Box 483, Nashua, N. H.  
 Electronic Assembly Co., Inc., 5 Prescott St., Boston 19, Mass.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.  
 Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
 Hansen Electronics, 7117 Santa Monica Blvd., Los Angeles 46, Calif.  
 Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
**OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
**RESISTANCE PRODUCTS CO.**, 914 S. 13th St., Harrisburg, Pa. ADV. PG. 169.  
 Sibley Co., The, Haddam, Conn.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

## CIRCUITS—Printed

1. Etched  
2. Plated  
3. Stamped and Embossed

ACF Electronics, 800 N. Pitt St., Alexandria, Va. 1-2-3.  
Admiral Corp., 3800 Cortland St., Chicago 47, Ill. 1.  
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass. 1.  
Aerovox Corp., Pacific Coast Div., 2724 So. Peck Rd.,  
Monrovia, Calif. 2.  
AIRFLYTE ELECTRONICS CO., 535-9 Avenue "A",  
Bayonne, N. J. 2. ADV. PG. 615.  
AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J.  
1-2. ADV. PG. 532.  
ALLIED ALLEGRI, INC., 141 River Rd., Nutley, N. J.  
1-2-3. ADV. PG. 650.  
Amelco, Inc., 2040 Colorado Ave., Santa Monica,  
Calif. 1-2.  
American Printed Circuits Co., Inc., Forrest St.,  
Metuchen, N. J. 1-2.  
Ansley Mfg. Co., Arthur, New Hope, Pa. 1-2.  
Automatic Processing Corp., 1335 N. Wells St., Chicago,  
Ill. 1-2-3.  
Beck's Inc., 298-300 E. Fifth St., Saint Paul 1,  
Minn. 1-3.  
Bill Jack Scientific Instrument Co., P. O. Box C-3,  
Solano Beach, Calif. 1-2-3.  
Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn. 1-2.  
BUREAU OF ENGRAVING, INC., INDUSTRIAL DIV., 500  
S. Fourth St., Minneapolis 15, Minn. 1-2. ADV. PG.  
633.  
CG Electronics Div. of Gulton Industries, Inc., 305  
Dallas St., N. E., Albuquerque, N. M. 1-2.  
California Bent Glass Corp., Torrance, Calif. 1-2-3.  
CENTRALAB DIV., GLOBE-UNION INC., 914 E. Keefe  
Ave., Milwaukee 1, Wis. 1. ADV. PG. 419.  
CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24,  
Ill. 1-2. ADV. PG. 131-133.  
CIRCON COMPONENT CO., Santa Barbara Municipal  
Airport, Goleta, Calif. 1-2. ADV. PG. 638.  
Cleveland Metal Specialties Co., 1783 E. 21st St.,  
Cleveland 14, Ohio. 1-2.  
COMPUTER CONTROL CO., INC., 92 Broad St., Babson  
Park 57, Mass. 1. ADV. PG. 584.  
Consolidated Electro-dynamics Corp., 300 N. Sierra  
Madre Villa, Pasadena 15, Calif. 1.  
COOK CO., FRANK R., 36 S. Santa Fe Drive, Denver 23,  
Colo. 1. ADV. PG. 480.  
CORNELL-DUBILIER ELECTRIC CORP., South Plainfield,  
N. J. 1-2-3. ADV. PG. 111.  
CORNING GLASS WORKS, Corning, N. Y. 1. ADV. PG.  
390.  
Croname, Inc., 1747 Grace St., Chicago 13, Ill. 1-2.  
DALE PRODUCTS, INC., Box 136, Columbus, Neb. 1-2.  
ADV. PG. 438, 439.  
DOTY ACOUSTICAL ELECTRONIC LABS, INC., 431  
Broome St., New York 13, N. Y. 1. ADV. PG. 676.  
Dubrow Development Co., 235B Penn St., Burlington,  
N. J. 3.  
Dunlap Electronics, 764 Ninth St., Des Moines, Iowa,  
1-2.  
DUNN ENGINEERING ASSOCIATES INC., 186 Massa-  
chusetts Ave., Cambridge 39, Mass. ADV. PG. 695.  
Dwyer Engineering Co., Inc., Box 483, Nashua, N. H. 1-2.  
Eaton Electronics Corp., Eaton Ave., Moodus, Conn. 1-2.  
Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia  
44, Pa. 1.  
Electralab, Inc., Sub. of Farrington Mfg. Co., Industrial  
Center, Needham Heights 94, Mass. 1-2-3.  
ELECTRICAL INSULATION CO., INC., 1245 Marconi  
Bldg., Copiague, N. Y. 1-2-3. ADV. PG. 699.  
Electrochemical Industries, Inc., 35 Armory St., Worces-  
ter, Mass. 1-2-3.  
Electronic Products Corp., 322 State St., Santa Bar-  
bara, Calif. 1-3.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa.  
1. ADV. PG. 286.  
Electro-Serv Co., 480 Johnson Ave., Brooklyn 37,  
N. Y. 1.  
Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y. 3.  
ENGINEERED ELECTRONICS CO., 506 E. First St.,  
Santa Ana, Calif. 1. ADV. PG. 623.  
ERIE RESISTOR CORP., Erie 6, Pa. 3. ADV. PG. 170,  
171.  
Fairfield Engineering Corp., 934 Hope St., Springdale,  
Conn. 1.  
FEDERAL TELEPHONE & RADIO CO., 88 Kingsland Rd.,  
Clifton, N. J. ADV. PG. 355-357.  
General American Transportation Corp., Kanigen Div.,  
135 S. La Salle St., Chicago, Ill. 2.  
GENERAL COMMUNICATION CO., 681 Beacon St., Bos-  
ton 15, Mass. 1-3. ADV. PG. 563.  
GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC  
COMPONENTS DEPT., W. Genesee St., Auburn, N. Y.  
2. ADV. PG. 18.  
General Research & Supply Co., 572 S. Division Ave.,  
Grand Rapids 3, Mich.  
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena,  
Calif. 1-2.  
Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turn-  
bull Canyon Rd., La Puente, Calif. 1-2-3.  
GULTON INDUSTRIES, INC., Metuchen, N. J. 1. ADV.  
PG. 425.  
Hansen Electronics, 7117 Santa Monica Blvd., Los An-  
geles 46, Calif. 1-2-3.  
Hoover Electronics Co., 3640 Woodland Ave., Balti-  
more 15, Md. 1-2.  
Hopp Press, Inc., 460 W. 34th St., New York, N. Y. 3.  
International Crystal Mfg. Co., 18 N. Lee St., Okla-  
homa City, Okla. 1.

INTERNATIONAL TELEPHONE & TELEGRAPH CORP.,  
INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd.,  
Clifton, N. J. ADV. PG. 355-357.  
Keil Engineering Products Co., 6833 Manchester, St.  
Louis, Mo. 1-2.  
LABORATORY FOR ELECTRONICS, INC., 75 Pitts St.,  
Boston 14, Mass. 1-2-3. ADV. PG. 358.  
LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lom-  
bard, Oak Park, Ill. 1-3. ADV. PG. 588.  
Laminated Sheet Products Corp., 449 Neponset St.,  
P. O. Box 390, Norwood, Mass. 1-2-3.  
LAMTEX INDUSTRIES, INC., 51 State St., Westbury,  
N. Y. 1-2. ADV. PG. 596.  
Litton Industries, Beverly Hills, Calif. 1.  
Litton Industries, Components Div., 5873 Rodeo Rd.,  
Los Angeles 16, Calif. 1-2.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8,  
Ill. 1-3.  
Metaplast Co. Inc., 34-51 56th St., Woodside, N. Y. 2.  
METHODE MFG. CORP., 2021 W. Churchill St., Chicago  
47, Ill. 1-2-3. ADV. PG. 204.  
MINITRON, INC., 1105 Second St., Encinitas, Calif. 1-2.  
ADV. PG. 622.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44,  
Pa. 1-2.  
MYCALEX CORP. OF AMERICA, 125 Clifton Blvd.,  
Clifton, N. J. 1-2. ADV. PG. 140, 141.  
Northern Plastics Corp., Second & Market Sts., La  
Crosse, Wis. 1-2.  
PACKARD-BELL CO., 12333 W. Olympic Blvd., Los  
Angeles 64, Calif. 1-2. ADV. PG. 268.  
Panelyte Div., St. Regis Paper Corp., 261 Madison Ave.,  
New York 16, N. Y. 1-2-3.  
Park Nameplate Co., Inc., 34-10 Linden Place, Flushing  
54, N. Y. 1.  
Peterson Radio Co., 2800 West Broadway, Council Bluffs,  
Iowa.  
PHOTOCIRCUITS CORP., Glen Cove, N. Y. 1-2. ADV.  
PG. 396.  
Plastics & Electronics Co., Inc., P.O. Box 38, Station  
J, Buffalo 8, N. Y. 2.  
Polytron Research, Inc., 7660 Woodbury Drive, Silver  
Spring, Md. 1-2.  
Printed Circuit Div. of LaPointe Electronics, Inc., Rock-  
ville, Conn. 1-2.  
Printed Electronics Corp., 7 North Ave., Natick, Mass.  
1-2-3.  
RS Electronics Corp., 435 Portage Ave., P.O. Box 368,  
Station A, Palo Alto, Calif. 1-2.  
Ransom Research, Box 382, San Pedro, Calif. 1.  
Rogers Corporation, Goodyear, Conn. 1-2-3.  
Rowe Engravers, 492 E. 39th St., Paterson 4, N. J. 1.  
SANDERS ASSOCIATES, INC., Nashua, N. H. 1. ADV.  
PG. 534.  
Sheffco Mfg. Corp., Grand & Ruby Ave., Palisades Park,  
N. J. 3.  
Sibley Co., The, Haddam, Conn. 1-2.  
Sierra Electric Corp., 15100 S. Figueroa St., P.O. Box  
85, Gardena, Calif.  
Slip Ring Co. of America, 3612-3622 W. Jefferson  
Bldg., Los Angeles 21, Calif. 1-2.  
Sprague of Wisconsin, Inc., Sixth & Beech St., Grafton,  
Wis.  
Stromberg-Carlson Co., Div. of General Dynamics Corp.,  
100 Carlson Rd., Rochester 3, N. Y. 1.  
Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles  
22, Calif. 1-2.  
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J. 1.  
Technograph Printed Electronics, Inc., 185 Valley St.,  
Tarrytown, N. Y. 1-2.  
TECHRON CORP., 81 Washington St., Boston 8, Mass.  
1. ADV. PG. 656.  
Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton,  
London W.3, England. 1-2-3.  
Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park,  
Calif.  
Tingstol Co., 1461 W. Grand Ave., Chicago 22, Ill. 1-3.  
Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y. 1.  
Tri-Dex Co., P.O. Box 1207, Lindsay, Calif. 1.  
U. S. Engineering Co., Div. of Litton Industries, 5873  
Rodeo Rd., Los Angeles 18, Calif. 1-2.  
U. S. GASKET CO., Camden, N. J. 1-2-3. ADV. PG.  
418, 635.  
Vandercook & Sons, Inc., 3601 W. Touhy Ave., Chicago  
45, Ill.  
Zenith Optical Laboratory, 1940 Great Neck Rd.,  
Copiague, N. Y. 1-2.  
Zephyr Products Co., 129 E. 124th St., New York 55,  
N. Y.

**CLAMPS for TUBES**

ALDEN ELECTRONIC & IMPULSE RECORDING EQUIP-  
MENT CO., Box 125, Westboro, Mass. ADV. PG. 566.  
ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64,  
Mass. ADV. PG. 567.  
ATLAS E-E CORP., 47 Prospect St., Woburn, Mass.  
ADV. PG. 562.  
AUGAT BROS., INC., 33 Perry Ave., Attleboro, Mass.  
ADV. PG. 517.  
Barwood Mfg. Co., Inc., L. J., 22 Williams St.,  
Everett 49, Mass.  
BIRNBACH RADIO CO., INC., 145 Hudson St., New York  
13, N. Y. ADV. PG. 501.  
BIRTCORP CORP., 4371 Valley Blvd., Los Angeles 32,  
Calif. ADV. PG. 636.  
British Electronics Sales Co., Inc., Oakland Garden Sta.,  
Flushing 64, N. Y.  
Buck Engineering Co., Inc., 37-41 Marcy St., Freehold,  
N. J.  
CAMBRIDGE THERMIONIC CORP., 445 Concord Ave.,  
Cambridge 38, Mass. ADV. PG. 150.

Exacto Industries, Inc., 8730-36 Santa Monica Blvd.,  
Los Angeles 46, Calif.  
I.E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
Ippolito & Co., Inc., James, 401 Concord Ave., Bronx 54,  
N. Y.  
METAL TEXTILE CORP., 647 E. First Ave., Roselle,  
N. J. ADV. PG. 450.  
Millen Mfg. Co., James, 150 Exchange St., Malden,  
Mass.  
Newcomb Spring Corp., The, 177 E. Hawthorne Ave.,  
Valley Stream, N. Y.  
Peerless Electronics Inc., 5338 Alhambra Ave., Los  
Angeles 32, Calif.  
Remler Company, 2101 Bryant St., San Francisco 10,  
Calif.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn  
10, N. Y.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore,  
N. Y.  
Stone City Machine & Tool Co., Inc., P. O. Box 351,  
1206 Seventh St., Bedford, Ind.  
TIMES FACSIMILE CORP., 540 W. 58th St., New York  
19, N. Y. ADV. PG. 468.  
Tinnerman Products, Inc., P. O. Box 6688, Dept. No. 16,  
Cleveland 1, Ohio.

## CLEANERS—Ultrasonic

Acoustica Associates, Inc., Shore Rd., Glenwood Landing  
2, N. Y.  
Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry,  
N. J.  
Barco Chemical Products Co., 701-703 S. LaSalle St.,  
Chicago 5, Ill.  
Blackstone Corp., 1111 Allen St., Jamestown, N. Y.  
BRANSON ULTRASONIC CORP., 1 Brown House Rd.,  
Stamford, Conn. ADV. PG. 605.  
Chesapeake Instrument Corp., Shadyside, Md.  
Electro Craft Industries, Inc., 68 Jackson St., Stamford,  
Conn.  
Enthone, Inc., 442 Elm St., New Haven 2, Conn.  
General Kinetics Inc., 555 23rd St., S. Arlington 2,  
Va.  
General Nuclear Corp., 550 Fifth Ave., New York 28,  
N. Y.  
GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG.  
425.  
Hudson Bay Co., Div. of Labline, Inc., 3070 W. Grand  
Ave., Chicago 22, Ill.  
McKenna Laboratories, Santa Monica 6, Calif.  
Mack Electronics A Div. of Mack Trucks, Inc., Plainfield,  
N. J.  
Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
Minneapolis-Honeywell Regulator Co., Ordnance Div., 600  
2nd St., N., Hopkins, Minn.  
Phillips Mfg. Co., 3406 W. Touhy Ave., Chicago 45, Ill.  
Piezo Products Co., Whitney St., Sherborn, Mass.  
Pioneer-Central Division, Bendix Aviation Corp., Davenport,  
Iowa.  
SPELLMAN TELEVISION CO., INC., 3029 Webster Ave.,  
New York 67, N. Y. ADV. PG. 230, 231.  
Telephonics Corp., Park Ave., Huntington, N. Y.  
Woodwelding, Inc., 3000 W. Olive, Burbank, Calif.

## CLIPS—Fuse

ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64,  
Mass. ADV. PG. 567.  
Amatom Electronic Hardware Co., 122 Sunset Rd.,  
Mamaroneck, N. Y.  
ATLAS E-E CORP., 47 Prospect St., Woburn, Mass.  
ADV. PG. 562.  
Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett  
49, Mass.  
BIRNBACH RADIO CO., INC., 145 Hudson St., New York  
13, N. Y. ADV. PG. 501.  
Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave.,  
Hawthorne, N. J.  
British Electronics Sales Co., Inc., Oakland Garden Sta.,  
Flushing 64, N. Y.  
BURNDY CORPORATION, Norwalk, Conn. ADV. PG. 441.  
BUSSMANN MFG. CO., St. Louis 7, Mo. ADV. PG. 60.  
Dante Electric Mfg. Co., Bantam, Conn.  
Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia  
44, Pa.  
GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-  
TEXTRON INC., 400 S. Wyman St., Rockford, Ill.  
ADV. PG. 543.  
INSULINE CORP. OF AMERICA, 186 Granite St., Man-  
chester, N. H. ADV. PG. 582.  
JFD MANUFACTURING CO., INC., 6101 16th Ave.,  
Brooklyn 4, N. Y. ADV. PG. 53.  
Koltan Electric Mfg. Co., 123 New Jersey Railroad Ave.,  
Newark 5, N. J.  
KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave.,  
Mount Vernon, N. Y. ADV. PG. 685.  
LITTELFUSE, INC., Des Plaines, Ill. ADV. PG. 459.  
NATIONAL TEL-TRONICS CORP., 35 St. Casimirs Ave.,  
Yonkers, N. Y. ADV. PG. 642.  
Rohden Manufacturing Co., Inc., 4739 Montrose Ave.,  
Chicago 41, Ill.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn  
10, N. Y.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
Stone City Machine & Tool Co., Inc., P. O. Box 351,  
1206 Seventh St., Bedford, Ind.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway,  
New York 19, N. Y. ADV. PG. 733-739.  
Trumbull Components Dept., General Electric Co., 41  
Woodford Ave., Plainville, Conn.  
Walsco Electronics Mfg. Co., 100 Green St., Rockford,  
Ill.  
ZIERICK MFG. CORP., Beechwood & Rockdale Aves., New  
Rochelle, N. Y. ADV. PG. 605.

## CLIPS—Grid

Aerolite Electronics Corp., 506 26th St., Union City, N. J.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 Exacto Industries, Inc., 8730-36 Santa Monica Blvd., Los Angeles 46, Calif.  
 Hobson Bros., 4940 W. Lawrence Ave., Chicago 30, Ill.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**KULKA ELECTRIC MFG. CO., INC.**, 633 S. Fulton Ave., Mt. Vernon, N. Y. ADV. PG. 685.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass. National Co., Inc., 61 Sherman St., Malden 48, Mass. Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Warren Plastics Corp., Warren, Pa.  
**ZIERICK MFG. CORP.**, Beechwood & Rockdale Aves., New Rochelle, N. Y. ADV. PG. 605.

## CLIPS—Test

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
**ASSOCIATED ENGINEERING CORP.**, 65 Kent St., Brookline 46, Mass. ADV. PG. 678, 679.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Eastern Specialty Co., Philadelphia 40, Pa.  
 Exacto Industries, Inc., 8730-36 Santa Monica Blvd., Los Angeles 46, Calif.  
 Frankel Connector Co., 27 Vestry St., New York, N. Y.  
**GRAYHILL, INC.**, 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
**INDUSTRIAL DEVICES, INC.**, 982 River Rd., Edgewater, N. J. ADV. PG. 631.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 Mueller Electric Co., 1582H E. 31st St., Cleveland 14, Ohio.  
**POMONA ELECTRONICS CO., INC.**, 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
**RAPID SPECIALTIES CO.**, 327 W. Huron St., Chicago 10, Ill. ADV. PG. 664.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

## CLOTHS—Speaker Grille

Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

## CLOTHS—Woven Wire

Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.

## CLUTCHES—Magnetic

Autotronics, Inc., Route 1, Box 812, Florissant, Mo.  
 Belock Instrument Corp., 111-01 14th Ave., College Point 56, N. Y.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
 Dial Products Co., 9 Avenue E., Bayonne, N. J.  
 Dynamic Instrument Corp., 59 New York Ave., Westbury, N. Y.  
 Electric Mechanisms, Inc., P. O. Box 1156, Greenwich, Conn.  
 Electro-Mechanical Div. of General Riveters, Inc., 785 Hertel Ave., Buffalo 7, N. Y.  
 Helipot Corp., Newport Beach, Calif.  
 Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
**RADIO CONDENSER CO.**, Camden, N. J. ADV. PG. 88.  
 Raymond Engineering Laboratory, Inc., Smith St., Middletown, Conn.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Sterling Precision Corp., Instrument Div., 34-17 Lawrence St., Flushing 54, N. Y.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

## COATINGS—Conductive See Also GRAPHITE—Colloidal

Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.  
 Anderson Associates, H. V., 239 Park Ave., Berkeley Heights, N. J.  
 Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 California Bent Glass Corp., Torrance, Calif.  
 Chemical Products Corp., King Philip Rd., East Providence, R. I.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
 Drakenfeld & Co., Inc., B. F., Box 519, Washington, Pa.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
**FILMOHM CORP.**, 48 W. 25th St., New York 10, N. Y. ADV. PG. 670.  
 General Plastics Corp., P. O. Box 1236, Paterson, N. J.  
**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
 Hansen Electronics Co., 7117 Santa Monica Blvd., Los Angeles 46, Calif.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Metz Refining Co., 369 Mulberry St., Newark 2, N. J.  
 Micro-Circuits Co., New Buffalo, Mich.  
 Philadelphia Quartz Co., 1146K Public Ledger Bldg., Philadelphia 6, Pa.  
 Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.  
 Pittsburgh Plate Glass Co., 1 Gateway Center, Pittsburgh 22, Pa.  
 Silicones Div., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Torrance Glass & Color Works, Torrance, Calif.  
**U. S. RUBBER CO.**, 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.  
 Vacuum Equipment Div. of the New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
 Vorac Co., The, 147 Meadow Rd., Rutherford N. J.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

## COATINGS—CONDUCTIVE—Tube Interior

Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.  
 California Bent Glass Corp., Torrance, Calif.  
 Philadelphia Quartz Co., 1146K Public Ledger Bldg., Philadelphia 6, Pa.  
 Torrance Glass & Color Works, Torrance, Calif.

## COATINGS—Protective

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 American Solder & Flux Co., 19th & Willard Sts., Philadelphia 40, Pa.  
 Angier Adhesives Div. of Interchemical Corp., 120 Potter St., Cambridge 42, Mass.  
 Aries Laboratories, Inc., 270 Park Ave., New York 17, N. Y.  
 Armstrong Cork Co., Lancaster, Pa.  
 Auburn Button Works, Inc., Auburn, N. Y.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Barrett Varnish Co., 1532 S. 50th Court, Cicero 50, Ill.  
 Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
 Borden Co., Chemical Div., 350 Madison Ave., New York 17, N. Y.  
**CANADIAN RADIUM & URANIUM CORP.**, 630 Fifth Ave., New York 20, N. Y. ADV. PG. 665.  
 Celanese Corp. of America, Plastics Div., 290 Ferry St., Newark 5, N. J.  
 Chemical Products Corp., King Philip Rd., East Providence, R. I.  
 Communication Products Co., Inc., Marlboro, N. J.  
**CONNECTICUT HARD RUBBER CO.**, 407 East St., New Haven 9, Conn. ADV. PG. 646.  
 Crown Industrial Products Co., 713 Amsterdam Ave., Woodstock, Ill.  
 Cudner & O'Connor Co., 4035 W. Kinzie Ave., Chicago 24, Ill.  
 Dow Corning Corp., Midland, Mich.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
**ELECTRONIC PLASTICS CORP.**, 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.  
 Ellis & Watts Products, Inc., P. O. Box 33, Cincinnati 36, Ohio.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Enthone, Inc., 442 Elm St., New Haven 2, Conn.  
 Esso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
 Furane Plastics, Inc., 4516 Brazil St., Los Angeles 39, Calif.  
 General American Transportation Corp., Kanigen Div., 135 S. La Salle St., Chicago, Ill.

General Electric Co., Silicone Products Dept., Waterford, N. Y.  
 General Plastics Corp., P. O. Box 1236, Paterson, N. J.  
 George Co., P. D., 5200 N. Second St., St. Louis, Mo.  
 Goodrich Industrial Products Co., B. F., 500 S. Main St., Akron 18, Ohio.  
 Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Jonas Co., F., 55 W. 42nd St., New York 36, N. Y.  
 Kellogg Co., M. W., P. O. Box 469, Jersey City 3, N. J.  
 Koppers Co., Inc., Koppers Bldg., Pittsburgh 19 Pa.  
 London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
 Markal Co., 3052 W. Carroll Ave., Chicago 12, Ill.  
 Metal & Thermit Corp., Rahway, N. J.  
 Midland Industrial Finishes Corp., Dept. 1-20, Waukegan, Ill.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
 Norton Co., 1 New Bond St., Worcester 6, Mass.  
 Nureco, Inc., 1100 Pontiac Ave., Cranston 10, R. I.  
 Paisley Products, Inc., 630 W. 51st St., New York 19, N. Y.  
 Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.  
 Pittsburgh Plate Glass Co., 1 Gateway Center, Pittsburgh 22, Pa.  
 Plastronics, P. O. Box 96, Winter Hill 45, Mass.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Protective Coatings Corp., 596 River Rd., Clifton, N. J.  
 Reilly Tar & Chemical Corp., 1615 Merchants Bank Bldg., 11 S. Meridan St., Indianapolis 4, Ind.  
 Silicones Div., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Sonneborn Sons, Inc., L., Building Products Div., 404 Fourth Ave., New York 16, N. Y.  
 Sparta Mfg. Co., Div. of U. S. Ceramic Tile Co., Dover, Ohio.  
**SPHERE CO., INC., THE**, 25 Amity St., Little Falls, N. J. ADV. PG. 652.  
 Standard-Toch Chemicals, Inc., 2500 Richmond Terrace, Staten Island 3, N. Y.  
 Stevenson Bro. & Co., 110 Race St., Philadelphia 6, Pa.  
 Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif.  
 Tempil Corp., 132 W. 22nd St., New York 11, N. Y.  
 Terrell Corp., 19 Lane St., Waltham 54, Mass.  
 Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park, Calif.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 U. S. Stoneware Co., The, Akron 9, Ohio.  
 United Technical Laboratories, Box 425-V, Morristown, N. J.  
 Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
**WESTLINE PRODUCTS DIV. OF WESTERN LITHOGRAPH CO.**, 600 E. Second St., Los Angeles 54, Calif. ADV. PG. 470.  
 Wright Metalcoaters, Inc., 255 West St., South Hackensack, N. J.  
**ZOPHAR MILLS, INC.**, 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

**COATINGS—Salt Spray Resistance**  
 ACME WIRE CO., New Haven 14, Conn. ADV. PG. 611.  
 American Solder & Flux Co., 19th & Willard Sts., Philadelphia 40, Pa.  
 Auburn Button Works, Inc., Auburn, N. Y.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
 Barrett Varnish Co., 1532 S. 50th Court, Cicero 50, Ill.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
 Borden Co., Chemical Div., 350 Madison Ave., New York 17, N. Y.  
 Chemical Products Corp., King Phillip Rd., East Providence, R. I.  
**CONNECTICUT HARD RUBBER CO.**, 407 East St., New Haven 9, Conn. ADV. PG. 646.  
 Crown Industrial Products Co., 713 Amsterdam St., Woodstock, Ill.  
**ELECTRONIC PLASTICS CORP.**, 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Enthone, Inc., 442 Elm St., New Haven 2, Conn.  
 Esso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
 General American Transportation Corp., Kanigen Div., 135 S. La Salle St., Chicago, Ill.  
 General Plastics Corp., P. O. Box 1236, Paterson, N. J.  
 Goodrich Industrial Products Co., B. F., 500 S. Main St., Akron 18, Ohio.  
 Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y.  
 Kellogg Co., M. W., P. O. Box 469, Jersey City 3, N. J.  
 London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
 Metal & Thermit Corp., Rahway, N. J.  
 Nureco, Inc., 1100 Pontiac Ave., Cranston 10, R. I.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Silicones Div., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
**AUTOMATIC COIL CO.**, 415 Bedford Ave., Brooklyn, N. Y. ADV. PG. 675.  
 Automation Instruments, Inc., Aluminum Foil Transformer Div., 401 E. Green St., Pasadena, Calif.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Coil Company of America, Inc., 207 Washington St., Northvale, N. J.  
**COTO-COIL CO., INC.**, 65 Pavilion Ave., Providence 5, R. I. ADV. PG. 668.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
 Electro Winders Co., Inc., 854 W. Front St., Covina, Calif.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
**GOOD-ALL ELECTRIC MFG. CO.**, 112 W. First St., Ogallala, Neb. ADV. PG. 124.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
 Hadley Co., Inc., Robert, M., 5112 S. Hoover St., Los Angeles 37, Calif.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J.  
 Oaktron Electric Co., Tinley Park, Ill.  
 Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.  
 Sage-Craft, Inc., Norwich, N. Y.  
**SIGNAL TRANSFORMER CO.**, 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667.  
 Sturrrup, Inc., 50 Silver St., Middletown, Conn.  
**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Warsaw Coil Co., Warsaw, Ind.

**COILS—Magnet**

A. P. W. Co., 72 W. Main St., Rockaway, N. J.  
**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
**ALLIED CONTROL CO., INC.**, 2 East End Ave., New York 21, N. Y. ADV. PG. 126, 127.  
 All-Tronics, Inc., 45 Bond St., Westbury, N. Y.  
 Arco Transformer & Electric Co., 1602 S. Hanna St., Fort Wayne, Ind.  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Atlas Resistor Co., 1128 Madison St., Chester, Pa.  
 Audivox, Inc., 123 Worcester St., Boston 18, Mass.  
**AUTOMATIC COIL CO.**, 415 Bedford Ave., Brooklyn, N. Y. ADV. PG. 675.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Coil Company of America, Inc., 207 Washington St., Northvale, N. J.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
 Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill.  
**COTO-COIL CO., INC.**, 65 Pavilion Ave., Providence 5, R. I. ADV. PG. 668.  
 Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
**DANO ELECTRIC CO.**, Main St., Winsted, Conn. ADV. PG. 584.  
 DeLuxe Coils, Inc., Wabash, Ind.  
 DeWitt Development Co., 308 W. 127th St., Blue Island, Ill.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Electrical Windings, Inc., 2015 N. Kolmar St., Chicago 39, Ill.  
**ELECTRO ENGINEERING WORKS**, 401 Preda St., San Leandro, Calif. ADV. PG. 512.  
**ELECTRONIC COILS, INC.**, P. O. Box 1665, 33 Lyman St., Springfield, Mass. ADV. PG. 682.  
**ENDICOTT COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 571.  
 Ensign Coil Co., 2516 S. Pulaski Rd., Chicago, Ill.  
**EPCO PRODUCTS, INC.**, 2500 Atlantic Ave., Brooklyn, 17, N. Y. ADV. PG. 674.

First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Five Star Co., 10 W. Main St., Plantsville, Conn.  
 Forest Electric Co., 7216 Circle Road, Forest Park, Ill.  
 Fugle-Miller Labs, Inc., 301 Central Ave., Clark, N. J.  
 Glaser-Steers Corp., 2 Main St., Belleville 9, N. J.  
 Grand Ra-Tronics, Inc., Hey St., Grand Haven, Mich.  
 Grand Transformers, Inc., Hey St., Grand Haven, Mich.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
 Hadley Co., Inc., Robert, M., 5112 S. Hoover St., Los Angeles 37, Calif.  
**HIGHLAND ENGINEERING CO.**, 91 Magnolia St., Westbury, N. Y. ADV. PG. 698.  
**HILLBURN ELECTRONIC PRODUCTS CO.**, 55 Nassau Ave., Brooklyn 22, N. Y. ADV. PG. 653.  
 Hindle Transformer Co., Inc., Woods Church Rd., Flemington, N. J.  
**HOULIHAN CO., T. J.**, 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
**KURMAN ELECTRIC CO., INC.**, 191-193 Newel St., Brooklyn 22, N. Y. ADV. PG. 669.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa.  
 Marine View Electronics Inc., 28 Main St., White Plains, N. Y.  
 Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
 Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.  
 New York Coil Co., Phoenixville 12, Pa.  
 Oaktron Electric Co., Tinley Park, Ill.  
 Omega Electronics Co., 355 Atlantic Ave., Brooklyn 17, N. Y.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
**POUGHKEEPSIE COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 681.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Randall Inc., Douglas, 6 Pawcatuck Ave., Westerly, R. I.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thompsonville, Conn. ADV. PG. 522.  
 Richmond Engineering Co., Inc., 19 Concord St., South Norwalk, Conn.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 201, Ill.  
 Sage-Craft, Inc., Norwich, N. Y.  
 Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.  
**SIGNAL TRANSFORMER CO.**, 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667.  
 Skysweeper Inc., McHenry, Ill.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Standard Winding Corp., 44-62 Johnes St., Newburgh, N. Y.  
 Sturrrup, Inc., 50 Silver St., Middletown, Conn.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
 Trent Tube Co., East Troy, N. Y.  
 Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.  
 Warsaw Coil Co., Warsaw, Ind.  
 Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.  
 Winatic Corp., The, P. O. Box 240, Endicott, N. Y.  
 Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

**COILS—Metalized Glass**

**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
 Coil Company of America, Inc., 207 Washington St., Northvale, N. J.  
**CORNING GLASS WORKS**, Cornina N. Y. ADV. PG. 390.  
 Hansen Electronics, 7117 Santa Monica Blvd., Los Angeles 46, Calif.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Mitronics, Inc., 1290 Central Ave., Hillside, N. J.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**SYNROC PRODUCTS CO.**, 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
 Torrance Glass & Color Works, Torrance, Calif.

**COILS—Motor & Generator Field**

Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 Blutworth Marine Div., Kearfoot Co., Inc., 92 Gold St., New York 38, N. Y.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
 DeLuxe Coils, Inc., Wabash, Ind.  
**ENDICOTT COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 571.  
 Ensign Coil Co., 2516 S. Pulaski Rd., Chicago, Ill.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
**HOULIHAN CO., T. J.**, 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
 National Electric Coil Co., Columbus 16, Ohio.  
**POUGHKEEPSIE COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 681.  
 Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.  
 Sturrrup, Inc., 50 Silver St., Westbury, N. Y.  
 Tronic Coil Winding Co. Inc., 58 Wesley St., Waterbury, Conn.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
 Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

**COILS—Printed Circuit**See **TRANSFORMERS—Printed Circuit****COILS—Relay**

A. P. W. Co., 72 W. Main St., Rockaway, N. J.  
**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
**ALLIED CONTROL CO., INC.**, 2 East End Ave., New York 21, N. Y. ADV. PG. 126, 127.  
 All-Tronics, Inc., 45 Bond St., Westbury, N. Y.  
 Arco Transformer & Electric Co., 1602 S. Hanna St., Fort Wayne, Ind.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Atlas Resistor Co., 1128 Madison St., Chester, Pa.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.  
 Chicago Telephone of California, Inc., 105 Pasadena Ave., South Pasadena, Calif.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Coil Company of America, Inc., 207 Washington St., Northvale, N. J.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 Coilcraft, Inc., Cary, Ill.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
**COTO-COIL CO., INC.**, 65 Pavilion Ave., Providence 5, R. I. ADV. PG. 668.  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
**DANO ELECTRIC CO.**, Main St., Winsted, Conn. ADV. PG. 584.  
 Delevan Electronics Corp., Roycroft Campus, East Aurora, N. Y.  
 DeLuxe Coils, Inc., Wabash, Ind.  
 DeWitt Development Co., 308 W. 127th St., Blue Island, Ill.  
 Electrical Windings, Inc., 2015 N. Kolmar St., Chicago 39, Ill.  
**ELECTRONIC COILS, INC.**, P. O. Box 1665, 33 Lyman St., Springfield, Mass. ADV. PG. 682.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
**ENDICOTT COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 571.  
 Ensign Coil Co., 2516 S. Pulaski Rd., Chicago, Ill.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Five Star Co., 10 W. Main St., Plantsville, Conn.  
 Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
**HART MFG. CO.**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
**HIGHLAND ENGINEERING CO.**, 91 Magnolia St., Westbury, N. Y. ADV. PG. 698.  
**HILLBURN ELECTRONIC PRODUCTS CO.**, 55 Nassau Ave., Brooklyn 22, N. Y. ADV. PG. 653.  
 Hindle Transformer Co., Inc., Woods Church Rd., Flemington, N. J.  
**HOULIHAN CO., T. J.**, 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
**KURMAN ELECTRIC CO., INC.**, 191-193 Newel St., Brooklyn 22, N. Y. ADV. PG. 669.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Magnadyne Co., 84 S. Water St., Port Chester, N. Y.  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa.

Marine View Electronics Inc., 28 Main St., White Plains, N. Y.  
 May Engineering Co., 6055 Lankershim Blvd., North Hollywood, Calif.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 NVT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 New York Coil Co., Phoenixville 12, Pa.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 Oaktron Electric Co., Tinley Park, Ill.  
 Omega Electronics Co., 355 Atlantic Ave., Brooklyn 17, N. Y.  
 Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore.  
 Penn Tran Corp., Bellefonte, Pa.  
**POUGHKEEPSIE COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 681.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
 Randall, Inc., Douglas, 6 Pawcatuck Ave., Westerly, R. I.  
 Ratigan Electronics, Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
 Richmond Engineering Co., Inc., 19 Concord St., South Norwalk, Conn.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill.  
 Sage-Craft, Inc., Norwich, N. Y.  
 Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.  
**SIoux RADIO PRODUCTS**, 100 Douglas Ave., Yankton, S. D. ADV. PG. 538.  
 Standard Winding Corp., 44-62 Johnes St., Newburgh, N. Y.  
 Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Sturup, Inc., 50 Silver St., Middletown, Conn.  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
 Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn.  
 Tur-Bo Jet Products, Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Warsaw Coil Co., Warsaw, Ind.  
 Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.  
 Winatic Corp., The, P. O. Box 240, Endicott, N. Y.

## COILS—r-f Choke

Ace Coil & Electronics Co., 912 Lincoln Highway, Metuchen, N. J.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**AEROVOX CORP., PACIFIC COAST DIV.**, 2724 So. Peck Rd., Monrovia, Calif. ADV. PG. 688.  
 Aladdin Electronics A Div. of Aladdin Industries, Inc., 711 Murfreesboro Rd., Nashville 2, Tenn.  
 All-Tronics, Inc., 45 Bond St., Westbury, N. Y.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
**AUTOMATIC COIL CO.**, 415 Bedford Ave., Brooklyn, N. Y. ADV. PG. 675.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bradford Components, Inc., Bradford, Pa.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Caddell-Burns Mfg. Co., 40 E. Second St., Mineola, N. Y.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 Carad Corp., 2850 Bay Rd., Redwood City, Calif.  
 Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.  
 Clippard Instrument Laboratory, Inc., 7350-90 Colerain Rd., Cincinnati 24, Ohio.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 Coilcraft, Inc., Cary, Ill.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
 Conдор Radio Mfg. Co., 4068 E. Paseo Grande, Tucson 12, Ariz.  
**COTO-COIL CO., INC.**, 65 Pavilion Ave., Providence 5, R. I. ADV. PG. 668.  
 Delevan Electronics Corp., Roycroft Campus, East Aurora, N. Y.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.  
**ELECTRONIC COILS, INC.**, P. O. Box 1665, 33 Lyman St., Springfield, Mass. ADV. PG. 682.  
 Ensign Coil Co., 2516 S. Pulaski Rd., Chicago, Ill.  
 Essex Electronics, Berkeley Heights, N. J.

**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Fugle-Miller Labs, Inc., 301 Central Ave., Clark, N. J.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y.  
 Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y.  
 Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.  
**HOUHLIHAN CO., T. J.**, 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
**INDUSTRIAL TRANSFORMER CORP.**, Goldsboro, Pa. ADV. PG. 454, 455.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
 Islip Transformer & Metal Co., Inc., Beech St., Islip, N. Y.  
 Jeffers Electronics Div. of Speer Carbon Co., DuBois, Pa.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Lewis Spring & Mfg. Corp., 2646 W. North Ave., Chicago 47, Ill.  
 Liberty Industries, 107-37 71st Ave., Forest Hills, N. Y.  
 MacLeod & Hanopol, Inc., 10 Roland St., Charlestown 29, Mass.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Marine View Electronics Inc., 28 Main St., White Plains, N. Y.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis.  
 Moran Electronic Components, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Muter Co., The, 1255 S. Michigan Ave., Chicago 5, Ill.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 New York Coil Co., Phoenixville 12, Pa.  
**NORTH HILLS ELECTRIC CO., INC.**, 402 Sagamore Ave., Mineola, N. Y. ADV. PG. 428.  
 Oaktron Electric Co., Tinley Park, Ill.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Radio Industries, Inc., 5225 Ravenswood Ave., Chicago 40, Ill.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Ratigan Electronic Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thompsonville, Conn. ADV. PG. 522.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill.  
 Sage-Craft, Inc., Norwich, N. Y.  
 Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
**SIoux RADIO PRODUCTS**, 100 Douglas Ave., Yankton, S. D. ADV. PG. 538.  
 Standard Winding Corp., 44-62 Johnes St., Newburgh, N. Y.  
 Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.  
 Summit Coil Co., 4 Claremont Rd., Bernardsville, N. J.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Teletro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
 United Technical Laboratories, Box 425-V, Morristown, N. J.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Warsaw Coil Co., Warsaw, Ind.  
**WATERS MANUFACTURING, INC.**, Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.  
 Western Coil Products Co., 969 Commercial St., Palo Alto, Calif.  
 Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City 6, Mo.

## COILS—r-f Choke (Heavy Wire Low Voltage)

A. P. W. Co., 72 W. Main St., Rockaway, N. J.

Ace Coil & Electronics Co., 912 Lincoln Highway, Metuchen, N. J.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J.  
 All-Tronics, Inc., 45 Bond St., Westbury, N. Y.  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
**AUTOMATIC COIL CO.**, 415 Bedford Ave., Brooklyn, N. Y. ADV. PG. 675.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bradford Components, Inc., Bradford, Pa.  
 Caddell-Burns Mfg. Co., 40 E. Second St., Mineola, N. Y.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
 Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.  
 Coil Company of America, Inc., 207 Washington St., Northvale, N. J.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
 Delevan Electronics Corp., Roycroft Campus, East Aurora, N. Y.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 Double "E" Products Co., 216 Standard St., El Segundo, Calif.  
 Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.  
**ELECTRONIC COILS, INC.**, P. O. Box 1665, 33 Lyman St., Springfield, Mass. ADV. PG. 682.  
 Fast & Co., John E., 3538 N. Kedzie Ave., Chicago 18, Ill.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Fugle-Miller Labs, Inc., 301 Central Ave., Clark, N. J.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 Grand Ra-Tronics, Inc., Hey St., Grand Haven, Mich.  
 Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y.  
**HOUHLIHAN CO., T. J.**, 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
**INDUSTRIAL TRANSFORMER CORP.**, Goldsboro, Pa. ADV. PG. 454, 455.  
 Islip Transformer & Metal Co., Inc., Beech St., Islip, N. Y.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Mag-Electric Products Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Marine View Electronics Inc., 28 Main St., White Plains, N. Y.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
**NORTH HILLS ELECTRIC CO., INC.**, 402 Sagamore Ave., Mineola, N. Y. ADV. PG. 428.  
 Oaktron Electric Co., Tinley Park, Ill.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
 Ratigan Electronics Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
 Sage-Craft, Inc., Norwich, N. Y.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
**SIoux RADIO PRODUCTS**, 100 Douglas Ave., Yankton, S. D. ADV. PG. 538.  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
 Warsaw Coil Co., Warsaw, Ind.  
 Western Coil Products Co., 969 Commercial St., Palo Alto, Calif.

## COILS—r-f Receiving See TRANSFORMERS—r-f and i-f

## COILS—Solenoid See COILS—Magnet SOLENOIDS

## COILS—Speaker (Voice Coil)

A. P. W. Co., 72 W. Main St., Rockaway, N. J.

Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Arco Transformer & Electric Co., 1602 S. Hanna St.,  
 Fort Wayne, Ind.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury,  
 Mass. ADV. PG. 600.  
 Best Manufacturing Co., Inc., 1200 Grove St., Irvington  
 11, N. J.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 Consolidated Radio Products Co., 350 W. Erie St., Chi-  
 cago 10, Ill.  
 DX Radio Products Co., Inc., 2300 Armitage Ave.,  
 Chicago 47, Ill.  
**DANO ELECTRIC CO.**, Main St., Winsted, Conn. ADV.  
 PG. 584.  
 Delevan Electronics Corp., Roycroft Campus, East Aurora,  
 N. Y.  
 Electronic Transformer Co., 70 Washington St., Brooklyn  
 1, N. Y.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19,  
 Mass.  
 Grand Ra-Tronics, Inc., Hey St., Grand Haven, Mich.  
**HOU LIHAN CO.**, T. J., 2508-14 W. Lawrence Ave.,  
 Chicago 25, Ill. ADV. PG. 590.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island  
 City 1, N. Y.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Molded Insulation Co., 335 E. Price St., Philadelphia  
 44, Pa.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp.,  
 100 Carlson Rd., Rochester 3, N. Y.  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave.,  
 Mt. Carmel, Ill.  
 Tronic Coil Winding Co., Inc., 58 Wesley St., Water-  
 bury, Conn.  
 Warren Transformer Co., Inc., 103 Warren St., Tunk-  
 hannock, Pa.

**COILS—Television Focusing**

A. P. W. Co., 72 W. Main St., Rockaway, N. J.  
 Arco Transformer & Electric Co., 1602 S. Hanna St.,  
 Fort Wayne, Ind.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury,  
 Mass. ADV. PG. 600.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521  
 Addison St., Chicago, Ill. ADV. PG. 466, 467.  
 Cinema-Television Ltd., Worsley Bridge Rd., London,  
 S.E. 26, England.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland  
 3, Ohio.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 Consolidated Radio Products Co., 350 W. Erie St.,  
 Chicago 10, Ill.  
 DX Radio Products Co., Inc., 2300 Armitage Ave.,  
 Chicago 47, Ill.  
 Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
 Glaser-Steers Corp., 2 Main St., Belleville 9, N. J.  
 Merit Coil & Transformer Corp., 4427 N. Clark St.,  
 Chicago 40, Ill.  
 Missouri Research Labs., Inc., 2109 Locust St., St.  
 Louis 3, Mo.  
 Oaktron Electric Co., Tinley Park, Ill.  
**SIoux RADIO PRODUCTS**, 100 Douglas Ave., Yankton,  
 S. D. ADV. PG. 538.  
**SYNTRONIC INSTRUMENTS, INC.**, 100 Industrial Rd.,  
 Addison, Ill. ADV. PG. 570.  
 Tele-Coil Co., Inc., 275 Saunders St., Camden 5, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville,  
 N. Y. ADV. PG. 417.  
 Television Laboratories, Inc., Mill St., Wauconda, Ill.  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave.,  
 Mt. Carmel, Ill.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst,  
 N. J. ADV. PG. 220.

**COILS—Television, Width Control, Centering,  
Linearity & Peaking**

A. P. W. Co., 72 W. Main St., Rockaway, N. J.  
 Ace Coil & Electronics Co., 912 Lincoln Highway,  
 Metuchen, N. J.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Arco Transformer & Electric Co., 1602 S. Hanna St.,  
 Fort Wayne, Ind.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury,  
 Mass. ADV. PG. 600.  
**AUTOMATIC COIL CO.**, 415 Bedford Ave., Brooklyn,  
 N. Y. ADV. PG. 675.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los  
 Angeles 16, Calif.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22,  
 Ind.  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521  
 Addison St., Chicago, Ill. ADV. PG. 466, 467.  
 Clippard Instrument Laboratory, Inc., 7350-90 Colerain  
 Rd., Cincinnati 24, Ohio.  
 Coilcraft, Inc., Cary, Ill.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Phila-  
 delphia 33, Pa. ADV. PG. 589.  
 DX Radio Products Co., Inc., 2300 Armitage Ave.,  
 Chicago 47, Ill.  
 Delevan Electronics Corp., Roycroft Campus, East Aurora,  
 N. Y.  
 Electro-Winders Co., Inc., 854 W. Front St., Covina,  
 Calif.  
 Essex Electronics, Berkeley Heights, N. J.  
 Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
 General Coil Products Corp., 43 Roselle St., Mineola,  
 N. Y.

Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights,  
 N. Y.  
**HOU LIHAN CO.**, T. J., 2508-14 W. Lawrence Ave.,  
 Chicago 25, Ill. ADV. PG. 590.  
 Leonard Electric Products Co., Inc., 67 Thirty-Fourth  
 St., Brooklyn 32, N. Y.  
 Merit Coil & Transformer Corp., 4427 N. Clark St.,  
 Chicago 40, Ill.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3,  
 Calif.  
 Muter Co., The, 1255 S. Michigan Ave., Chicago 5, Ill.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank,  
 Calif.  
**NATIONAL COIL CO.**, P.O. Box 1237, Sheridan, Wyo.  
 ADV. PG. 647.  
 New York Coil Co., Phoenixville 12, Pa.  
 Oaktron Electric Co., Tinley Park, Ill.  
 Penn Tran Corp., Bellefonte, Pa.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE  
 DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453,  
 Third & Fourth Covers.  
 Radio Industries, Inc., 5225 Ravenswood Ave., Chicago  
 40, Ill.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus,  
 N. J.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thomp-  
 sonville, Conn. ADV. PG. 522.  
 Sickles, F. W., Div., General Instrument Corp., 165  
 Front St., Chicopee, Mass.  
**SIoux RADIO PRODUCTS**, 100 Douglas Ave., Yankton,  
 S. D. ADV. PG. 538.  
 Standard Winding Corp., 44-62 Johnes St., Newburgh,  
 N. Y.  
 Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.  
 Summit Coil Co., 4 Claremont Rd., Bernardsville, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville,  
 N. Y. ADV. PG. 417.  
 Television Laboratories, Inc., Mill St., Wauconda, Ill.  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave.,  
 Mt. Carmel, Ill.  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon,  
 N. Y.  
 Todd-Tran Corp., 156 Gramatan Ave., Mt. Vernon,  
 N. Y.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst,  
 N. J. ADV. PG. 220.  
 Vanguard Electronics Co., 3384 Motor Ave., Los  
 Angeles 34, Calif.  
 Warsaw Coil Co., Warsaw, Ind.

**COILS—Toroidal**

See TOROIDS

**COILS—Variable**

See INDUCTANCES—Variable

**COLORIMETERS—Photoelectric**

Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester  
 2, N. Y.  
 Coleman Instruments, Inc., 318 Madison St., Maywood,  
 Ill.  
 Electrical Service Co., 1271 Mission St., San Francisco,  
 Calif.  
 Gardner Lab., Inc., 4723 Elm St., Bethesda 14, Md.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**,  
 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**INSTRUMENT DEVELOPMENT LABORATORIES, INC.**,  
 163 Highland Ave., Needham Heights, Mass. ADV. PG.  
 611.  
 Magnuson Engineers, Inc., 509 Emory St., San Jose 10,  
 Calif.  
 Manufacturers Engineering & Equipment Corp., York &  
 Sunset Lane, Hatboro, Pa.  
 Photovolt Corp., 95 Madison Ave., New York 16, N. Y.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
 Spino Div. of Beckman Instruments, Inc., Stanford  
 Industrial Park, Palo Alto, Calif.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville,  
 N. Y. ADV. PG. 417.

**COLUMBIAN**

See METALS

**COMMUNICATION SYSTEMS**

1. Aircraft
2. Airport Traffic Control
3. Carrier Current
4. Facsimile
5. Induction
6. Marine Radio-Telephone
7. Microwave
8. Portable Installation
9. Railroad
10. Teleprinter
11. Twinplex
12. Vehicular

ACF Electronics, 800 N. Pitt St., Alexandria, VA. 7.  
 Acme Teletronix Div. of NEA Service Inc., West Third  
 & Lakeside, Cleveland 13, Ohio. 4.  
 Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle,  
 N. Y. 12.  
 Aeronautical Communications Equipment, Inc., 3090 S.W.  
 37th Ave., Miami 33, Fla. 1.  
 Aeronautical Electronics, Inc., Raleigh-Durham Airport,  
 P.O. Box 6527, Raleigh, N. C. 1-2-8-12.

Air Associates, Inc., Research & Development Div., 511  
 Joyce St., Orange, N. J. 1-4-8-12.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old  
 Country Rd., Mineola, N. Y. 2. ADV. PG. 253.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. 1-8. ADV.  
 PG. 495.  
 Alcor Electronics Corp., 180 Lafayette St., New York  
 13, N. Y. 10.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIP-  
 MENT CO.**, Box 125, Westboro, Mass. 4. ADV.  
 PG. 566.  
 Alden Systems, Inc., Alden Research Center, Westboro,  
 Mass. 4.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE  
 PRODUCTS GROUP**, 1101 N. Royal St., Alexandria,  
 Va. 2. ADV. PG. 491.  
 Automation Management, Inc., Westboro, Mass. 4-10.  
 Avia Products Co., 7266 Beverly Blvd., Los Angeles 36,  
 Calif. 12.  
 Avionex Electronics Corp., 10855 Vanowen, North  
 Hollywood, Calif. 1-2-6-8.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby,  
 Pa. 10-12.  
 Bendix Aviation Corp., Pacific Div., 11600 Sherman  
 Way, North Hollywood, Calif. 6.  
 Bendix Radio Division, Bendix Aviation Corp., Balti-  
 more 4, Md. 1-2-8-9-12.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**,  
 Dept G-13, 2200 Wright Ave., Richmond 3, Calif. 7-10.  
 ADV. PG. 73-80.  
 Bliss Electronic Corp., Box 366, Sussex, N. J. 8.  
**BOEHME, INC.**, H. O., 915 Broadway, New York 10,  
 N. Y. 10. ADV. PG. 556.  
 Brach Div. Electronic Research, General Bronze Corp.,  
 711 Stewart Ave., Garden City, N. Y. 4-7.  
 Budelman Radio Corp., 376 Fairfield Ave., Stamford,  
 Conn. 3-7.  
 C.G.S. Laboratories, Inc., 391 Ludlow St., Stamford,  
 Conn. 10.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16,  
 Quebec. 1-4-6-7-8.  
 Collins Radio Co., Cedar Rapids, Iowa. 1-2-4-7-8-10.  
 Communications Co., Inc., 300 Greco Ave., Coral Gables  
 34, Fla. 2-12.  
 Connecticut Telephone & Electric Corp., 70 Britannia  
 St., Meriden, Conn. 12.  
**CRAIG SYSTEMS, INC.**, Danvers, Mass. 2. ADV. PG.  
 387.  
 Crosby Labs., Inc., Box 233, Robbins Lane, Hicksville,  
 N. Y. 8.  
 Dalmotron Co., 534 Laurel St., San Carlos, Calif. 8.  
 Davis Electronics, P.O. Box 1247, 4002 Burbank Blvd.,  
 Burbank, Calif. 2-6-8-9-12.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield  
 Ave., Clifton, N. J. 8-12.  
 Elco Mfg. Co., 137 Herricks Rd., New Hyde Park,  
 N. Y. 7.  
 Electro Craft Industries, Inc., 68 Jackson Ave., Stamford,  
 Conn. 8-12.  
 Erco Radio Labs, Inc., 637 Stewart Ave., Garden City,  
 N. Y. 2-3-10-12.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart  
 Ave., Garden City, N. Y. 1-7-8-12. ADV. PG. 594.  
 Federal Telecommunication Labs., A Div. of IT&T, 500  
 Washington Ave., Nutley 10, N. J. 7.  
**FEDERAL TELEPHONE & RADIO CO.**, 88 Kingsland Rd.,  
 Clifton, N. J. 1-2-8. ADV. PG. 355-357.  
 Feiler Engineering & Mfg. Co., 8026 N. Monticello Ave.,  
 Skokie, Ill. 8.  
 General Bronze Corp., 711 Stewart Ave., Garden City,  
 N. Y. 1-7.  
 General Electric Co., Communication Products Dept.,  
 Electronics Park, Syracuse, N. Y. 2-7-12.  
 General Electric Co., Technical Products Dept., Elec-  
 tronics Park, Syracuse, N. Y. 4-7.  
 General Electronics Corp., 17 Madison Ave., Montgomery  
 4, Ala. 3.  
 Gosnet Co., 801 S. Main St., Burbank, Calif. 1-12.  
 Gublin Electric & Mfg. Co., 2921 W. Olive St., Burbank,  
 Calif. 6.  
 Haller, Raymond & Brown, Inc., State College, Pa. 4.  
 Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
 8-9-10-12.  
 Haydu Electronic Products, Inc., 1426 W. Front St.,  
 Plainfield, N. J. 1.  
 Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles  
 7, Calif. 1.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14,  
 N. Y. 4.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11,  
 Calif. 1-2-3-4-5-6-7-8-9-10-11-12.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS  
 DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. 7.  
 ADV. PG. 474, 475.  
 Industrial Radio Corp., 428 N. Parkside Ave., Chicago  
 44, Ill. 8.  
 Intercontinental Electronics Corp., 1551 Franklin Ave.,  
 Mineola, N. Y. 2-6-7-8-9-12.  
 International Research Associates, 2221 Warwick Ave.,  
 Santa Monica, Calif. 1.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP.,  
 INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd.,  
 Clifton, N. J. 9-10-12. ADV. PG. 355-357.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave.,  
 Lyons, Ill. 7. ADV. PG. 640.  
**K-F DEVELOPMENT CO.**, 2606 Spring St., Redwood  
 City, Calif. 3. ADV. PG. 510.  
 Kaar Engineering Co., 2995 Middlefield Road, P. O. Box  
 1320, Palo Alto, Calif. 2-6-12.  
 Kahn Research Labs., Elizabeth Bldg., 22 Pine St.,  
 Freeport, N. Y. 2-4-6-10.

KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. 2. ADV. PG. 121-123.

Lear, Inc., 3171 S. Bundy Drive, Los Angeles 34, Calif. 1-2-12.

Lesca, Via Bergamo 21, Milan, Italy. 3.

Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco 7, Calif. 3.

Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J. 1-2-12.

Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind. 1.

Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y. 1-2-6-7-11-12.

Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y. 12.

Measurement Engineering, Ltd., Arnprior, Ontario, Canada. 6-8.

MERIDIAN METALCRAFT, INC., 8739 S. Millergrove Drive, Whittier, Calif. 7. ADV. PG. 540.

Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn. 10.

Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore. 8-12.

Motorola Communications and Electronics Inc., 4501 Augusta Blvd., Chicago 51, Ill. 7-8-9-12.

Muirhead & Co., Ltd., Beckenham, Kent, England. 4.

MULLARD OVERSEAS LTD., EQUIPMENT DIV., Century House, Shaftesbury Ave., London, W.C. 2, England. 6-8. ADV. PG. 560.

National Aeronautics Corp., Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa. 1.

National Electronics Laboratories, Inc., 1713 Kalorama Rd., N.W., Washington 9, D. C. 2-12.

National Inter-Communication Systems, Inc., 1130 N. Milwaukee Ave., Chicago 22, Ill. 2.

Neill Co., Inc., R.W., 4320 Montrose Ave., Chicago 41, Ill. 9.

Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn. North Electric Co., 553 S. Market St., Galion, Ohio. 2-3-9.

NORTHERN RADIO CO., INC., 143-145 W. 22nd St., New York 11, N. Y. 10-11. ADV. PG. 200-202.

Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa. 6.

PACKARD-BELL CO., 12333 W. Olympic Blvd., Los Angeles 64, Calif. 1. ADV. PG. 268.

Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash. 3-6-7.

Pearce-Simpson, Inc., 3023 Coral Way, Miami 34, Fla. 6-12.

Philco Corp., Government & Industrial Div., 4700 Wisahickon Ave., Philadelphia 44, Pa. 5-7.

Polytron Research, Inc., 7660 Woodbury Drive, Silver Spring, Md. 7.

PREMIER INSTRUMENT CORP., 52 W. Houston St., New York 12, N. Y. 7. ADV. PG. 683.

Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass. 4-10.

Production Research Corp., Thornwood, N. Y. 7.

Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England. 2-6-7-8-9-12.

RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. 6-7-12. ADV. PG. 453, Third & Fourth Covers.

RADIO ENGINEERING LABS, INC., 36-40 37th St., Long Island City 1, N. Y. 7. ADV. PG. 107.

Radio Specialty Mfg. Co., 2023 S. E. Sixth Ave., Portland 14, Ore. 8-9.

Railway Communications, Inc., 9351 E. 59th St., Raytown, Mo. 3-5-9.

RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. 6-7. ADV. PG. 250, 251.

Remler Company, 2101 Bryant St., San Francisco 10, Calif. 5.

RHEEM ELECTRONICS DIVISION, 7777 Industry Ave., Rivera, Calif. 2. ADV. PG. 654.

Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif. 12.

Sonar Radio Corp., 3050 W. 21st St., Brooklyn 24, N. Y. 6.

Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England. 2-3-7-9.

Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif. 8.

Stelma, Inc., 190 Henry St., Stamford, Conn. 3-10.

Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill. 1-2-7-9.

Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y. 2-3-7-9.

SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. 1. ADV. PG. 733-739.

Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y. 3-5-6-7-9.

Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa. 7.

Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill. 5-9.

TIMES FACSIMILE CORP., 540 W. 58th St., New York 19, N. Y. 4. ADV. PG. 468.

VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. 2. ADV. PG. 564.

Vocatron Mfg. Div. of Vocaline Co. of America, Inc., Old Saybrook, Conn. 3-8.

Western Union Telegraph Co., 60 Hudson St., New York 13, N. Y. 4-10.

Westrex Corp., 111 Eighth Ave., New York 11, N. Y. 1-2.

Wickes Engineering & Construction Co., P. O. Box 590, Camden 1, N. J. 2-8.

Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo. 1-2.

Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y. 8-9-12.

## COMMUTATORS—Switching

AIRFLYTE ELECTRONICS CO., 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.

APPLIED SCIENCE CORP. OF PRINCETON, P. O. Box 44, Princeton, N. J. ADV. PG. 464, 465.

Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.

BJ ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.

Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.

Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.

COMPUTER INSTRUMENTS CORP., 92 Madison Ave., Hempstead, N. Y. ADV. PG. 648.

DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.

ELECTRO MINIATURES CORP., 1060 Elm Ave., Ridgefield, N. J. ADV. PG. 539.

ELECTRO-TEC CORP., South Hackensack, N. J. ADV. PG. 149.

GRAPHITE METALLIZING CORP., 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.

INSTRUMENT DEVELOPMENT LABORATORIES, INC., 163 Highland Ave., Needham Heights, Mass. ADV. PG. 611.

LAMTEX INDUSTRIES, INC., 51 State St., Westbury, N. Y. ADV. PG. 596.

LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.

Midwest Molding & Mfg. Co., Gurnee, Ill.

MINITRON, INC., 1105 Second St., Encinitas, Calif. ADV. PG. 622.

Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.

North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.

PHOTOCIRCUITS CORP., Glen Cove, N.Y. ADV. PG. 396.

Poly-Scientific Corp., Blacksburg, Va.

Seeburg, J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.

Sibley Co., The, Haddam, Conn.

Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

## COMPARATORS—Automatic Resistance

See INSTRUMENTS—Electrical Measuring

## COMPARATORS—Capacitance

BOONTON ELECTRONICS CORP., 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.

CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.

Clippard Instrument Laboratory, Inc., 7350-90 Colerain Rd., Cincinnati 24, Ohio.

Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.

Foxboro Co., The, Foxboro, Mass.

FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.

GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

Hunter-Bristol Corp., Bristol, Pa.

INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.

INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.

Metronix, Inc., Mill Lane, Waterford, Conn.

New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.

Pennsylvania Testing Lab., Inc., Doylestown, Pa.

Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

## COMPARATORS—Circuit Linearity

See INSTRUMENTS—Electrical Measuring

## COMPARATORS—Dielectric

Central Research Laboratories, Inc., Red Wing, Minn.

Foxboro Co., The, Foxboro, Mass.

GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.

## COMPARATORS—Inductance

Carlson & Nicholson, Inc., 497 Maynard Drive, Buffalo 21, N. Y.

CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.

FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.

GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

Hunter-Bristol Corp., Bristol, Pa.

INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.

INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

Metronix, Inc., Mill Lane, Waterford, Conn.

Pennsylvania Testing Lab., Inc., Doylestown, Pa.

## COMPARATORS—Iron Core

CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.

Hunter-Bristol Corp., Bristol, Pa.

Pennsylvania Testing Lab., Inc., Doylestown, Pa.

## COMPARATORS—Q

BOONTON RADIO CORP., Boonton, N. J. ADV. PG. 427.

FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.

GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

## COMPARATORS—Surface

See ANALYZERS—Surface

## COMPARATORS—Voltage

See INSTRUMENTS—Electrical Measuring

## COMPASSES—Electronic Gyro

Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.

ECLIPSE PIONEER DIV., BENDIX AVIATION CORP., Teterboro, N. J. ADV. PG. 333-336.

Summers Gyroscope Co., 2328 Broadway, Santa Monica, Calif.

## COMPOUNDS—Cleaning

Caig Laboratories, 46 Stanwood Rd., New Hyde Park, N. Y.

Cobehn, Inc., 100 Passaic Ave., Caldwell, N. J.

Dow Chemical Co., Midland, Mich.

Enthone, Inc., 442 Elm St., New Haven 2, Conn.

GENERAL CEMENT MFG. CO., DIV. OF TETRAXON, INC., ELECTRONIC DIV., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.

L & R Mfg. Co. 580 Elm St., Arlington, N. J.

London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.

Wye Industries, 6 General Devine Way, Boston 27, Mass.

ZOPHAR MILLS, INC., 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

## COMPOUNDS—Potting

ACME WIRE CO., New Haven 14, Conn. ADV. PG. 611.

BIWAX CORP., 3445 Howard St., Skokie, Ill. ADV. PG. 337.

BORTHIG CO., INC., GEORGE C., Box 11-A, East Rutherford N. J. ADV. PG. 652.

DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.

Dow Corning Corp., Midland, Mich.

ELECTRONIC PLASTICS CORP., 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.

Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.

Hardman Co., Inc., H. V., 571 Cortland St., Belleville 9, N. J.

Hi-Test Chemical Corp., 722 64th St., Brooklyn 20, N. Y.

Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y.

Louis Laboratories, 1947 Broadway, New York 23, N. Y.

Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.

Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.

Mitchell-Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.

Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh 15, Pa.

Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

Terrell Corp., 19 Lane St., Waltham 54, Mass.

Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.

ZOPHAR MILLS, INC., 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

## COMPUTERS—Analog

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.

Allegany Instrument Co., Inc., 109 1/2 Wills Mountain, Cumberland, Md.

Analogue Controls, Inc., 39 Roselle St., Mineola, N. Y.

Austin Co., The, Special Devices Div., 76 Ninth Ave., New York 11, N. Y.

BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.

BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.

Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.

BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.

Century Engineers, Inc., Burbank, Calif.

Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.

Colorado Research Corp., 4697 E. Evans Ave., Denver 22, Colo.

Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.

COOK CO., FRANK R., 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.



DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.

Dorner Scientific Co., 888 Galindo St., Concord, Calif.

DORSETT LABORATORIES, INC., 401 E. Boyd St., Box 862, Norman, Okla. ADV. PG. 460.

Dynalysis Development Labs., Inc., 11941 Wilshire Blvd., Los Angeles 25, Calif.

Electronic Associates, Inc., Long Branch, N. J. Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.

FEDERAL TELEPHONE & RADIO CO., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.

Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y.

GPS Instrument Co., Inc., 811 Boylston St., Boston 16, Mass.

Gerber Scientific Instrument Co., 89 Spruce St., Hartford 11, Conn.

GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.

Goodyear Aircraft Corp., 1210 Massillon Road, Akron 15, Ohio.

HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.

Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.

I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.

Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.

Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.

KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main St., Clifton, N. J. ADV. PG. 181.

KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.

LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.

Link Aviation, Inc., Binghamton, N. Y.

Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.

MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.

Mid-Century Instrumatic Corp., 611 Broadway, New York 12, N. Y.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.

Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.

North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.

Philbrick Researches, Inc., George A., 230 Congress St., Boston 10, Mass.

Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.

Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.

Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.

REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.

Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.

Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.

Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.

Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.

SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.

Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.

TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

COMPUTERS—Analog (Parts & Associated Equipment)

- Refer to the following:
- Amplifiers—D-C
  - Amplifiers—Differential
  - Amplifiers—Logarithmic
  - Amplifiers—Operational
  - Amplifiers—Servo
  - Boards—Plotting
  - Boards—Plug
  - Demodulators
  - Generators—Function
  - Multipliers—Diode
  - Multipliers—Electronic
  - Multipliers—Servo
  - Potentiometers—Initial Condition
  - Power Supplies—Regulated
  - Resolvers—Coordinate Transform
  - Resolvers—Product
  - Resolvers—Sine-Cosine
  - Tachometers

COMPUTERS—Digital

AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.

Alvac Corp., 13041 S. Cerise Ave., Hawthorne, Calif.

Analogue Controls, Inc., 39 Roselle St., Mineola, N. Y.

Austin Co., The, Special Devices Div., 76 Ninth Ave., New York 11, N. Y.

Automation Management, Inc., Westboro, Mass.

BAIRD ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.

Bendix Computer Division, Bendix Aviation Corp., 5630 Arbor Vitae St., Los Angeles 45, Calif.

BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.

BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.

Century Engineers, Inc., Burbank, Calif.

COMPUTER CONTROL CO., INC., 92 Broad St., Babson Park 57, Mass. ADV. PG. 584.

Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.

Electro Data Div. of Burroughs Corp., 460 Sierra Madre Villa, Pasadena 6, Calif.

Electronic Computer Div., Underwood Corp., 35-10 36th Ave., Long Island City 6, N. Y.

Electronic Control Systems, Inc., 2136-38 Westwood Blvd., Los Angeles 25, Calif.

FEDERAL TELEPHONE & RADIO CO., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

FERRANTI ELECTRIC, INC., 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.

Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y.

GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.

Haller, Raymond & Brown, Inc., State College, Pa.

Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.

Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.

Industrial Electronic Engineers, 3973 Lankersheim Blvd., North Hollywood, Calif.

Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.

Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.

KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main St., Clifton, N. J. ADV. PG. 181.

KIN TEL (KAY LAB.), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.

LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.

Litton Industries, Beverly Hills, Calif.

Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.

Marchant Research, Inc., Sub., Marchant Calculators, Inc., 1475 Powell St., Oakland, Calif.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.

Modac Div. of Airborne Instruments Laboratory, 864 Franklin Ave., Thornwood, N. Y.

National Cash Register Co., Dayton 9, Ohio.

Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.

PACKARD-BELL CO., 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.

Philco Corp., Government & Industrial Div., 4700 Wissahickon Ave., Philadelphia 44, Pa.

Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.

Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.

Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.

Rea Co., J. B., 1723 Cloverfield Blvd., Santa Monica, Calif.

Remington Rand Univac Div. of Sperry Rand Corp., Univac Par, St. Paul 16, Minn.

Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.

Southern Instruments Ltd., Computer Div., Frimley Rd., Camberley, Surrey.

Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.

Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.

Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.

Technitrol Engineering Co., 1952 E. Allegheny Ave., Philadelphia 34, Pa.

Teleregister Corp., The, 445 Fairfield Ave., Stamford, Conn.

TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

WANG LABORATORIES, INC., 37 Hurley St., Cambridge 41, Ill. ADV. PG. 630.

COMPUTERS—Digital, General Purpose

See DATA RECORDING EQUIPMENT INVENTORYING SYSTEMS

COMPUTERS—Digital (Parts & Associated Equipment)

- Refer to the following:
- Accumulators
  - Amplifiers—Pulse
  - Circuits—Computer, Packaged
  - Converters—Analog to Digital
  - Converters—Card to Tape

Converters—Tape to Card  
 Cores—Ferrite  
 Counters—Electronic  
 Diagnostic Equipment—Computer  
 Heads—Recording  
 Memory Systems  
 Printers—High Speed  
 Printers—Keyboard  
 Printers—Line  
 Registers—Shift  
 Tape Mechanisms

COMPUTING SERVICES

A... Analog  
 D... Digital

Alvac Corp., 13041 S. Cerise Ave., Hawthorne, Calif. D

Armour Research Foundation, 10 W. 35th St., Chicago 16, Ill. A-D

Askania Regulator Co., 240 E. Ontario St., Chicago 11, Ill. A

BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.

BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.

Burroughs Corp., Electronic Instrument Div., 1209 Vine St., Philadelphia, Pa. D

Colorado Research Corp., 4697 E. Evans Ave., Denver 22, Colo. A

COMPUTER CONTROL CO., INC., 92 Broad St., Babson Park 57, Mass. ADV. PG. 584.

Datamatic Corp., 100 River Road, Waltham, Mass. D

DORSETT LABORATORIES, INC., 401 E. Boyd St., Box 862, Norman, Okla. ADV. PG. 460.

Dynalysis Development Labs., Inc., 11941 Wilshire Blvd., Los Angeles 25, Calif. A

Electro Data Div. of Burroughs Corp., 460 Sierra Madre Villa, Pasadena 6, Calif. D

Electronics & Avionics Div. of The Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo. A-D

Electronics Manufacturing Div. of Sid Stone Radio Labs., 739 Tremont St., Boston, Mass. D

Feedback Controls, Inc., 899 Main St., Waltham 54, Mass. A

GPS Instrument Co., Inc., 811 Boylston St., Boston 16, Mass. A

General Kinetics Inc., 555 23rd St., S., Arlington 2, Va. D

Haller, Raymond & Brown, Inc., State College, Pa. D

International Business Machines Corp., 590 Madison Ave., New York, N. Y. D

Machine Statistics Co., 27 Thames St., New York 6, N. Y. A

Mid-Century Instrumatic Corp., 611 Broadway, New York 12, N. Y. A

National Cash Register Co., Electronics Div., 3348 W. El Segundo Blvd., Hawthorne, Calif. D

Northrop Aircraft Co., Hawthorne, Calif. A-D

Philbrick Researches, Inc., Geo A., 230 Congress St., Boston 10, Mass. A

Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y. A-D

Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill. A-D

Rea Co., Inc., J. B., 1723 Cloverfield Blvd., Santa Monica, Calif. A-D

Remington Rand Univac Div. of Sperry Rand Corp., Univac Park, St. Paul 16, Minn. D

Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y. D

Ten Bosch, Inc., M., 80 Wheeler Ave., Pleasantville, N. Y. A

Westinghouse Electric Corp., Industry Engineering Dept., East Pittsburgh, Pa. A-D

CONDENSERS

See CAPACITORS

CONES—Speaker

Best Manufacturing Co., Inc., 1200 Grove St., Irvington 11, N. J.

Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill.

Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.

Hawley Products Co., St. Charles, Ill.

Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.

Molded Fibreglas Co., 4401 Benefit Ave., Ashtabula, Ohio.

Stevens Products Inc., 86-88 Main St., East Orange, N. J.

CONNECTORS

1. Anode
2. Audio
3. Antennae
4. Coaxial Cable
5. Diode
6. Electrical, AN or MIL-C-5015
7. Hermetically Sealed
8. Interlock
9. Miniature
10. Phono
11. Power
12. Printed Circuit
13. R-F
14. Subminiature
15. Waterproof

- Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio. 1-2-8-9-10-11-12.
- Admittance-Namco Corp., Farmingdale, N. Y. 13.
- Aerolite Electronics Corp., 507 26th St., Union City, N. J. 1-3-4-8-10.
- Aeronautical Electric Co., 5656 Northwest Highway, Chicago 30, Ill. 8-9.
- AIRCRAFT RADIO CORP., Boonton, N. J. 11. ADV. PG. 495.
- AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. 13. ADV. PG. 532.
- ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. 1-2-9-10-11. ADV. PG. 567.
- Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky. 4-9-13.
- American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y. 9.
- AMERICAN LAVA CORP., Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. 4. ADV. PG. 279.
- AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. 11-15. ADV. PG. 491.
- AMP INC., 2100 Paxton St., Harrisburg, Pa. 12. ADV. PG. 339.
- AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. 2-3-4-6-7-9-11-12-13-14-15. ADV. PG. 158.
- Ampli-Vision Div. of The International Telemeter Corp., 2000 Stoner Ave., Los Angeles 25, Calif. 4.
- ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. 3-4-13. ADV. PG. 112.
- ANTON ELECTRONIC LABORATORIES, INC., 1226 Flushing Ave., Brooklyn 37, N. Y. 4-6-7-8-9-11-12-13-14-15. ADV. PG. 691.
- Armel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y. 6-9-11-12.
- Atlantic Research Corp., 901 N. Columbus, Alexandria, Va. 15.
- Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y. 2.
- AUTOMATIC METAL PRODUCTS CORP., 315 Berry St., Brooklyn 11, N. Y. 4-9-12-13-14. ADV. PG. 626.
- AUTOMATIC & PRECISION MFG. CO., 252 Hawthorne Ave., Yonkers 5, N. Y. 11. ADV. PG. 586.
- AVNET ELECTRONIC SUPPLY CO., Inc., 36 N. Moore St., New York 13, N. Y. 6-15. ADV. PG. 402.
- Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa. 3-4-13-15.
- BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. 9. ADV. PG. 615.
- Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn. 12.
- Berg Mfg. Corp., 142 Reno Ave., New Cumberland, Pa. 12.
- BIRNBACH RADIO CO. INC., 145 Hudson St., New York 13, N. Y. 1-2-8-9-10. ADV. PG. 501.
- Blonder-Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J. 4.
- British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15.
- Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillside, N. J. 9-11.
- Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn. 9-12.
- BURNDY CORPORATION, Norwalk, Conn. 4-16-15. ADV. PG. 441.
- Cal-Connector Co., 7414 Varna Ave., North Hollywood, Calif. 6.
- CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. 9. ADV. PG. 150.
- CANNON ELECTRIC CO., 3208 Humboldt St., Los Angeles 31, Calif. 2-4-6-7-9-11-12-13-14-15. ADV. PG. 44.
- CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. 2-3-9-10-12. ADV. PG. 131-133.
- CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. 1-2-3-8-9-10-11-12-13-14. ADV. PG. 638.
- Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio. 12.
- COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. 3-4-7-8-9-13-14-15. ADV. PG. 600.
- Communication Products Co., Inc., Marlboro, N. J. 4.
- Connector Corp., 6025 N. Keystone Ave., Chicago, Ill.
- Connector Corp. of America, 3223 Burton Ave., Burbank, Calif. 4.
- Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn. 8-11-15.
- Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif. 9.
- CONSTANTIN & CO., L. L., Route #46, Lodi, N. J. 7. ADV. PG. 377.
- Continental Connector Corp., 34-63 56th St., Woodside 77, N. Y. 4-6-7-9-11-12-14-15.
- DAGE ELECTRIC CO., 67 N. Second St., Beech Grove, Ind. 4-7-9-12-13-14-15. ADV. PG. 497.
- DANBURY-KNUDSEN, INC., P. O. Box 170, Danbury, Conn. 4-11. ADV. PG. 631.
- Dante Electric Mfg. Co., Bantam, Conn. 11.
- DEJUR-AMSCO CORP., Northern Blvd., at 45th St., Long Island City 1, N. Y. 4-6-7-9-11-12-14. ADV. PG. 237-239.
- Deutsch Co., The Electrical Connector Div., 7000 Avalon Blvd., Los Angeles 3, Calif. 6-7-9.
- Dunlap Electronics, 764 Ninth St., Des Moines, Iowa. 12.
- Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza, S., Long Island City, N. Y. 8-11.
- Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa. 10.
- ELCO CORP., "M" St. below Erie Ave., Philadelphia 24, Pa. 4-6-8-9-11-12-14. ADV. PG. 284.
- ELECTRICAL INDUSTRIES DIV., PHILIPS ELECTRONICS, INC., 691 Central Ave., Murray Hill, N. J. 7. ADV. PG. 315.
- Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y. 4.
- Electronic Service Corp., 2906 Birch St., Franklin Park, Ill. 7-15.
- Enfo Corp., Route 38 at Airport Circle, Pensauken, N. J. 3-7-8-9-11-13-14-15.
- Entron, Inc., 4902 Lawrence St., Bladenburg, Md. 4-13.
- Equipment & Service Co., 6815 Oriole Drive, Dallas 9, Texas. 15.
- Farnsworth Electronics Co., Div. of IT&T, 3700 E. Pontiac St., Fort Wayne 1, Ind. 7-9.
- Frankel Connector Co., 27 Vestry St., New York, N. Y. 11.
- Garde Mfg. Co., 588 Eddy St., Providence 3, R. I. 3-6-7-9-12-13-14-15.
- GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC., 400 S. Wyman St., Rockford, Ill. 3-4. ADV. PG. 543.
- Gemex Corp., The Industrial Products Div., 1200 Commerce Ave., Union, N. J. 4-14.
- GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV., 400 S. Wyman St., Rockford, Ill. 3. ADV. PG. 543.
- General Electric Co., Technical Products Dept., Electronics Park, Syracuse N. Y. 2-3.
- GENERAL HERMETIC SEALING CORP., 99 E. Hawthorne, Valley Stream, N. Y. 7. ADV. PG. 679.
- GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. 2-4-13. ADV. PG. 316, 317.
- GENERAL RF FITTINGS, INC., 702 Beacon St., Boston 15, Mass. 3-4-7-8-9-10-11-12-13-14-15. ADV. PG. 596.
- Glasseal Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J. 7.
- GORN ELECTRIC CO., INC., Main St., Stamford, Conn. 7-9-12-15. ADV. PG. 273.
- Graham Mfg. Co., Inc., 247 Bridge St., East Greenwich, R. I. 4.
- Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif. 12.
- GULTON INDUSTRIES, INC., Metuchen, N. J. 4-7-9-14-15. ADV. PG. 425.
- Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood Calif. 4-15.
- HARVEY HUBBELL, INC., State St. & Bostwick Ave., Bridgeport 2, Conn. 8-9-12-14-15. ADV. PG. 409.
- Harwood Co., Div. of Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif. 6-9.
- Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J. 1-5-14.
- Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J. 7.
- HERMETIC SEAL CORP., 29-37 S. Sixth St., Newark 7, N. J. 6-7. ADV. PG. 325.
- Hermetite Corp., 702 Beacon St., Boston 15, Mass. 7.
- Hobson Bros., 4940 W. Lawrence Ave., Chicago 30, Ill. 1.
- Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.
- INDUSTRIAL HARDWARE MFG. CO., INC., 109 Prince St., New York, N. Y. 1-3-8-10-12. ADV. PG. 693.
- Industrial Products Co., Div. of Danbury-Knudsen, Inc., Danbury, Conn. 3-4-9-13.
- INSTRUMENT SPECIALTIES CO., INC., 254 Bergen Blvd., Little Falls, N. J. 12-14. ADV. PG. 240.
- INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. 10. ADV. PG. 582.
- INTERSTATE ELECTRONICS INC., 227 Fulton St., New York, N. Y. 4. ADV. PG. 462.
- International Pump & Machine Works, 81 Dorsa Ave., Livingston, N. J. 1.
- Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill. 10.
- J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. 3-13. ADV. PG. 640.
- Javex, P. O. Box 646, Redlands, Calif. 2-3-4-6-9-10-11-15.
- JERROLD ELECTRONICS CORP., 23rd & Chestnut Sts., Philadelphia 3, Pa. 4. ADV. PG. 574.
- JONES DIV., HOWARD B., CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. 2-3-11. ADV. PG. 131-133.
- JOY MFG. CO., Dept. 39, Oliver Bldg., Pittsburgh 22, Pa. 6-11-15. ADV. PG. 362.
- Kennedy Industries, 6808 Vista Del Mar, Playa Del Rey, Calif. 12.
- KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. 5. ADV. PG. 675.
- KINGS ELECTRONICS CO., 40 Marbledale Rd., Tuckahoe, N. Y. 2-3-4-7-9-10-11-13-14-15. ADV. PG. 448.
- Koiled Kords, Inc., Box K, New Haven 14, Conn. 6-15.
- Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill. 2-4-7-9-10-14-15.
- LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lombard, Oak Park, Ill. 12. ADV. PG. 588.
- LERCO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. 5-12. ADV. PG. 664.
- Livingston Electronic Corp., Livingston, N. J. 7-9-14.
- MALCO TOOL & MFG. CO., 4025 W. Lake St., Chicago 24, Ill. 12-14. ADV. PG. 252.
- Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill. 1-8-10.
- MENDELSON SPEEDGUN CO., INC., Fourth Ave., Haskell, N. J. 4-9-13-14. ADV. PG. 690.
- METHODE MFG. CORP., 2021 W. Churchill St., Chicago 47, Ill. 9-12. ADV. PG. 204.
- Metron Corp., 8 Coryell St., Lambertville, N. J. 14.
- Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif. 4-12-13-14-15.
- Miller Electric Co., 120 Main St., Pawtucket, R. I. 8-11.
- Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Miss. 7-8-14.
- Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn. 11.
- Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa. 2-3-4-6-7-8-9-12-13-15.
- Molding Corp. of America, 40 Church St., Pawtucket, R. I. 7-9-14.
- Morse Co., Frank W., 1300 Soldiers Field Rd., Boston 35, Mass. 9.
- Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis 14, Mo. 3.
- Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y. 4-5-7-8-9-13-14.
- NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. 12.
- NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. 1-8-10. ADV. PG. 642.
- North Electric Co., 553 S. Market St., Galion, Ohio. 8-14.
- Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass. 6.
- Nugent Electronics Co., New Albany, Ind. 4-9-12-14.
- PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. 2-8-9-11-13-14. ADV. PG. 601.
- Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill. 1-8-10.
- Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y. 12.
- Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md. 3-4-9.
- PROGRESS ELECTRONICS CO., 296 Broadway, New York 7, N. Y. 4-6. ADV. PG. 689.
- Pyle-National Co., 1334 N. Kostner Ave., Chicago 51, Ill. 4-6-7-11-15.
- Raypar, Inc., 7800 W. Addison St., Chicago, Ill. 1-8.
- Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass. 4-7-9.
- RAYTHEON MFG. CO. MICROWAVE & POWER TUBE OPERATIONS, Waltham 54, Mass. 4-7-9. ADV. PG. 249.
- Richards Electrocraft, Inc., 3743 N. Kedzie Ave., Chicago 18, Ill. 2-9-10-14.
- Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass. 2-3-9.
- ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. 4-9-10-12-14. ADV. PG. 643.
- Royal Electric Corp., Pawtucket, R. I. 8-11.
- Russell & Stoll Co., Inc., 125-6 Barclay St., New York 7, N. Y. 4.
- SANDERS ASSOCIATES, INC., Nashua, N. H. 12. ADV. PG. 534.
- SCINTILLA DIVISION, BENDIX AVIATION CORP., Sidney, N. Y. 4-6-9-11-15. ADV. PG. 337.
- SEALECTRO CORP., 610 Fayette Ave., Mamaroneck, N. Y. 9. ADV. PG. 484.
- Sherman Mfg. Co., H. B., 22 Barney St., Battle Creek, Mich. 6.
- Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif. 6.
- Sightmaster Corp., 85 Beechwood Ave., New Rochelle, N. Y. 4-9-11-13.
- Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y. 1-8-9-10.
- Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y. 9-14.
- SWITCHCRAFT, INC., 1320 N. Halsted St., Chicago 22, Ill. 2-9-10. ADV. PG. 619.
- SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. 1-3-8-9-10-11-14. ADV. PG. 733-739.
- Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y. 11.
- TECHRON CORP., 8 Washington St., Boston 8, Mass. 5-14. ADV. PG. 656.
- Telex, Inc., Telex Park, St. Paul 1, Minn. 9-14.
- Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland 25, Ohio. 4.
- Thomas & Betts Co., Inc., 36 Butler St., Elizabeth 1, N. J. 4-11.
- Titeflex, Inc., Hendee St., Springfield 4, Mass. 6-15.
- Transradio, Ltd., 138A Cromwell Rd., London, S. W. 7, England. 9-13-14.
- Tru-Connector Corp., 416 Union St., Lynn, Mass. 4-7-9-13-15.
- UCINITE CO. DIV. OF UNITED-CARR FASTENER CORP., 459 Watertown St., Newtonville, Mass. 1-12. ADV. PG. 65.
- Union Electronics & Machine Corp., Moulton & Munroe Sts., Georgetown, Mass. 4-7-9-13-14.
- United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass. 12.
- U. S. COMPONENTS, INC., 454 E. 148th St., New York 55, N. Y. 1-2-5-7-8-9-10-11-12-14-15. ADV. PG. 359.
- U. S. GASKET CO., Camden, N. J. 7-9-10-11-12-13-14-15. ADV. PG. 418, 635.
- Viking Industries, Inc., 21343 Roscoe Blvd., Canoga Park, Calif. 7-9-11-12-14-15.
- Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill. 1-8-10.
- Walco Electronics Mfg. Co., 100 Green St., Rockford, Ill. 9.
- Waltham Horological Corp., 395 Lynnway, Lynn, Mass. 2-3-4-7-9-10-11-13-14-15.
- Warren Plastics Corp., Warren, Pa. 7.

Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y. 4-13.  
 Whitney Blake Co., New Haven 14, Conn. 6-7-9-10-11-12-14-15.  
 Winchester Electronics, Inc., Willard Rd., Norwalk, Conn. 1-4-6-7-9-11-12-14-15.

**CONSOLES**  
 See **CABINETS HOUSINGS**

**CONTACTORS**

ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 ALLIED CONTROL CO., INC., 2 East End Ave., New York 21, N. Y. ADV. PG. 126, 127.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Clark Controller Co., The, 1146 E. 152nd St., Cleveland 10, Ohio.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 FARMER ELECTRIC PRODUCTS CO., INC., 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
 Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 LEACH CORP., LEACH RELAY DIV., 5915 Avalon Blvd., Los Angeles 3, Calif. ADV. PG. 52.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 McQuay-Norris Mfg. Co., 2320 Marconi Ave., St. Louis 10, Mo.  
 MAKEPEACE CO., D.E., DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Synchro Start Products, Inc., 8151 Ridgeway Ave., Skokie, Ill.  
 Vickers Electric Division Vickers, Inc., 1825 Lobust St., St. Louis 3, Mo.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.  
 WARD LEONARD ELECTRIC CO., 31 South St., Mt. Vernon, N. Y. ADV. PG. 408.  
 Weltronic Co., 19500 W. Eighth Mile Rd., Detroit 19, Mich.  
 WHEELLOCK SIGNALS, INC., 273 Branchport Ave., Long Branch, N. J. ADV. PG. 599.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

**CONTACTS—Electrical**

Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
 BAKER & CO., INC., 113 Astor St., Newark, N. J. ADV. PG. 313.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
 BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
 Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 BRAININ CO., C. S., 320 Washington St., Mt. Vernon, N. Y. ADV. PG. 601.  
 Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorne, N. J.  
 CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Derringer Metallurgical Corp., 8127 Monticello Ave., Skokie, Ill.  
 ELECTRONIC PARTS MFG. CO., INC., 508-10 25th St., Union City, N. J. ADV. PG. 536.  
 GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV., Attleboro, Mass. ADV. PG. 327.  
 Gibson Electric Co., The, Box J527, Delmont, Pa.  
 Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.  
 GRAPHITE METALLIZING CORP., 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 HART MFG. CO., 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
 JOHNSON & HOFFMAN MFG. CORP., 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
 Keystone Carbon Co., Inc., Saint Marys, Pa.  
 Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
 MAKEPEACE CO., D.E., DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392.  
 Mallory & Co., Inc., P.R., 34 S. Gray St., Indianapolis 6, Ind.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.

Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 NEY CO., J. M., 179 Elm St., Hartford, Conn. ADV. PG. 558.  
 Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Stackpole Carbon Co., St. Mary's, Pa.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Steel Co., Herman D., Lafayette Bldg., Philadelphia 6, Pa.  
 Superior Carbon Products Co., 9115 George Ave., Cleveland 5, Ohio.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
 Tubular Rivet & Stud Co., Weston Ave., Wollaston (Quincy) 70, Mass.  
 VOLKERT STAMPINGS, INC., 222-34 96th Ave., Queens Village 8, N. Y. ADV. PG. 103.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.  
 WILSON CO., H. A., 2655 U. S. Hwy 22, Union, N. J. ADV. PG. 257.

**CONTAINERS—for Shipping**  
 See **PACKAGING MATERIALS**

**CONTROLS—Alarm System**

Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
 AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Dayton Corp., 216 S. Main St., Dayton, Ohio.  
 Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
 Devco Engineering Inc., P. O. Box 387, Caldwell, N. J.  
 Dondar Devices, 321 E. 6th St., Medford, Ore.  
 ELECTRO PRODUCTS LABS., 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 GIANNINI & CO., INC., G.M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 International Research & Development Corp., 769 Thomas Lane, P. O. Box 1707, Columbus 16, Ohio.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
 Philadelphia Scientific Glass Co., Quakertown, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 POTTER AERONAUTICAL CORP., Route #22, Union, N. J. ADV. PG. 372, 373.  
 Recora Co., Inc., 6100 S. Archer Rd., Summit, Ill.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
 Russell & Stoll Co., Inc., 125-6 Barclay St., New York 7, N. Y.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W.C. 2, England.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 Teller & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 WESTINGHOUSE ELECTRIC CORP., P.O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 WHEELLOCK SIGNALS, INC., 273 Branchport Ave., Long Branch, N. J. ADV. PG. 599.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.

**CONTROLS—Automatic Tuning**

Collins Radio Co., Cedar Rapids, Iowa.  
 FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

**CONTROLS—Automatic Voltage Regulating**

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Airmecc Ltd., High Wycombe, Buckinghamshire, England.  
 ASSEMBLY PRODUCTS, INC., Chesterland 6, Ohio. ADV. PG. 504, 505.  
 ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
 Bone Engineering Corp., 701 W. Broadway, Glendale 4, Calif.  
 BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London S. E. 26, England.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Cline Electric Mfg. Co., 3405 W. 47th St., Chicago, Ill.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
 Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.  
 Electric Regulator Corp., Pearl St., Norwalk, Conn.  
 Electric Storage Battery Co., Exide Industrial Div., 42 S. 15th St., Philadelphia 2, Pa.  
 ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
 Gates Radio Co., Quincy, Ill.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 KEPCO LABS., INC., 131-38 Sanford Ave., Flushing 55, N. Y. ADV. PG. 45-48.  
 Leach Corp., Inet-Palmer Div., 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif.  
 MAGNETIC AMPLIFIERS, INC., 632 Tinton St., New York 55, N. Y. ADV. PG. 389.  
 MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
 Optimized Devices, Inc., P.O. Box 38, Gedney Station, White Plains, N. Y.  
 PACKARD-BELL CO., 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
 Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
 PRECISE MEASUREMENTS CO., R.D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
 Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
 RED BANK DIVISION, BENDIX AVIATION CORP., Eatontown, N. J. ADV. PG. 332.  
 Servo-Tek Products Co., Inc., 1086 Goffe Rd., Hawthorne, N. J.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 SUPERIOR ELECTRIC CO., THE, 5000 Bradley Ave., Bristol, Conn. ADV. PG. 96-99.  
 TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
 Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Tuttle & Kift, 1823 N. Momitor St., Chicago 39, Ill.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 VEC TROL ENGINEERING INC., P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
 Wac Line, Inc., 35 S. St. Claire St., Dayton 2, Ohio.  
 WALLSON ASSOCIATES LTD., 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
 Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

**CONTROLS—Capacitance Operated**

Bristol Co., The, P.O. Box 1790EBG, Waterbury 20, Conn.  
 Electric Regulator Corp., Pearl St., Norwalk, Conn.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Minatron Corp., 17 Cliveden Place, Belle Mead, N. J.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Niagara Electron Laboratories, Andover, N. Y.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.

### CONTROLS—Chemical

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Devco Engineering Inc., P. O. Box 387, Caldwell, N. J.  
 Foxboro Co., The, Foxboro, Mass.  
 Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Niagara Electron Laboratories, Andover, N. Y.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
**POTTER AERONAUTICAL CORP.**, Route No. 22, Union, N. J. ADV. PG. 372, 373.  
 Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

### CONTROLS—Counting & Sorting

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Automation Management, Inc., Westboro, Mass.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
**BOWMAR INSTRUMENT CORP.**, 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**COOK CO., FRANK R.**, 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 Eagle Signal Corp., Moline, Ill.  
 Electrical Service Co., 1271 Mission St., San Francisco, Calif.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 Electron-Radar Products, P. O. Box 50, Route No. 30, North Aurora, Ill.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 Hagen Mfg. Co., 202 20th St., Moline, Ill.  
 Illumitronic Engineering, 680 E. Taylor Ave., Sunnysdale, Calif.  
 Industrial Electronic Controls Co., 2271 E. 14th St., Brooklyn 29, N. Y.  
 Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 Nuclear Research Corp., Southampton, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photoswitch Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
**POTTER AERONAUTICAL CORP.**, Route No. 22, Union, N. J. ADV. PG. 372, 373.  
 Ram Meter Co., Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
 Ransom Research, Box 382, San Pedro, Calif.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

### CONTROLS—Density

See **CONTROLS—Specific Gravity**

### CONTROLS—Dimension

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant No. 2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Farrand Optical Co., Inc., Bronx Blvd. at 238th St., New York 70, N. Y.  
 Foxboro Co., The, Foxboro, Mass.  
 Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.

### CONTROLS—Door

Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
 Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Ill.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Gyro Electronics Co., 325 Canal St., New York, N. Y.  
 Multi-Products Co., 21470 Coolidge Highway, Oak Park, Mich.  
 Recora Co., Inc., 6100 S. Archer Rd., Summit, Ill.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Stanley Tools, New Britain, Conn.  
 Telectron Co., The, Bldg. No. 9, Broward County International Airport, Fort Lauderdale, Fla.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Vinson Co., E. R., 1401 Middle Harbor Rd., Oakland, Calif.  
 Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago 39, Ill.  
 Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio.

### CONTROLS—Electric DC Motor

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorne St., Hartford 6, Conn.  
**ASSEMBLY PRODUCTS, INC.**, Chesterland 6, Ohio. ADV. PG. 504, 505.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Eagle Signal Corp., Moline, Ill.  
 Electric Regulator Corp., Pearl St., Norwalk, Conn.  
 Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
 Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
 Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
 Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.  
**HART MFG. CO.**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Leach Corp., Inet-Palmer Div., 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif.  
 Machinery Electrification, Inc., Northboro, Mass.  
**MAGNETIC AMPLIFIERS, INC.**, 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S. Minneapolis 8, Minn.  
**MODEL RECTIFIER CORP.**, 1065 Utica Ave., Brooklyn 3, N. Y. ADV. PG. 665, 667.

**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
 Servospeed Div. of Electro Devices, Inc., 4 Godwin Ave., Paterson, N. J.  
 Servo-Tek Products Co., Inc., 1086 Goffe Rd., Hawthorne, N. J.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
 Ther Electric & Machine Works, 17 S. Jefferson St., Chicago 6, Ill.  
 Trumbull Components Div., General Electric Co., 41 Woodford Ave., Plainville, Conn.  
**VECTROL ENGINEERING INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 Wacline Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
**WARD LEONARD ELECTRIC CO.**, 31 South St., Mt. Vernon, N. Y. ADV. PG. 408.  
 Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.

### CONTROLS—Electronic AC Motor Speed

American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorne St., Hartford 6, Conn.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 C.G.S. Laboratories, Inc., 391 Ludlow St., Stamford, Conn.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Electric Regulator Corp., Pearl St., Norwalk, Conn.  
 Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
 Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
 Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
 Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.  
**HART MFG. CO.**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
 Leach Corp., Inet-Palmer Div., 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif.  
**MAGNETIC AMPLIFIERS, INC.**, 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
 Robinette Co., W. C., 802 Fair Oaks Ave., South Pasadena, Calif.  
 Servo-Tek Products Co., Inc., 1086 Goffe Rd., Hawthorne, N. J.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
**VECTROL ENGINEERING INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 Wacline, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

### CONTROLS—Elevator Leveling

Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.

### CONTROLS—Film Thickness

Applied Research Labs., 3717 Park Place, Glendale 8, Calif.

Automatic Timing & Controls, Inc., King of Prussia, Pa. Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.,** Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.

**CONTROLS—Flame Failure**

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BARBER-COLMAN CO.,** Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Combustion Control Div., Electronics Corp. of America, 77 Broadway, Cambridge 42, Mass.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
**GENERAL CONTROLS CO.,** Glendale 1, Calif. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.,** 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.,** Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.

**CONTROLS—Flexible Mechanical Push-Pull**

American Chain & Cable Co., Inc., 601 Stephenson Blvd., Detroit 2, Mich.  
**KUPFRIAN MFG. CORP.,** 398 State St., Binghamton, N. Y. ADV. PG. 684.  
 Simmonds Aeronautics, Inc., Tarrytown, N. Y.  
**STEWART CORP.,** F. W., 4311 Ravenswood Ave., Chicago 13, Ill. ADV. PG. 653.

**CONTROLS—Fluid Conductivity**

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.

**CONTROLS—Fluid Flow**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BAIRD-ATOMIC, INC.,** 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.,** Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Buffalo Electronics Corp., 37 Franklin St., Buffalo 2, N. Y.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
**FENWAL INCORPORATED,** Ashland, Mass. ADV. PG. 371.  
 Fischer & Porter Co., 476 Warminster Road, Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
**GENERAL CONTROLS CO.,** Glendale 1, Calif. ADV. PG. 546.  
**GIANNINI & CO., INC., G.M.,** 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
**GORN ELECTRIC CO., INC.,** Main St., Stamford, Conn. ADV. PG. 273.  
**GULTON INDUSTRIES, INC.,** Metuchen, N. J. ADV. PG. 425.  
 Hays Mfg. Co., 818 W. 12th St., Erie, Pa.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Mercoind Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.,** Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Nuclear Research Corp., Southampton, Pa.

**POTTER AERONAUTICAL CORP.,** Route #22, Union, N. J. ADV. PG. 372, 373.  
**REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO.,** Wallingford 2, Conn. ADV. PG. 516.  
**RIPLEY CO., INC.,** Middletown, Conn. ADV. PG. 458.  
 Standard Instrument Corp., 657 Broadway, New York 12, N. Y.  
**UNITED AIRCRAFT PRODUCTS, INC.,** 1116 Bolander Ave., Dayton 1, Ohio. ADV. PG. 148.  
**VARO MFG. CO., INC.,** 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
**WAUGH ENGINEERING CO.,** 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.  
 Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

**CONTROLS—Food Processing**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Automation Management, Inc., Westboro, Mass.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BARBER-COLMAN CO.,** Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Buffalo Electronics Corp., 37 Franklin St., Buffalo 2, N. Y.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Devco Engineering Inc., P. O. Box 387, Caldwell, N. J.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.,** 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Mercoind Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Pantek Co., Box 212, El Segundo, Calif.  
**POTTER AERONAUTICAL CORP.,** Route #22, Union, N. J. ADV. PG. 372, 373.  
 Saratoga Scientific, P. O. Box 488, Saratoga, Calif.  
 Vinson Co., E. R., 1401 Middle Harbor Rd., Oakland, Calif.  
**WALKIRT CO.,** 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.  
**WESTINGHOUSE ELECTRIC CORP.,** P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**CONTROLS—Frequency**

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.,** Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**DAVEN CO.,** Route 10, Livingston, N. J. ADV. PG. 245.  
**DEMORNAY-BONARDI, INC.,** 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 Electric Regulator Corp., Pearl St., Norwalk, Conn.  
 Engineered Magnetics Div. of Gulton Mfg. Corp., 11818 Teale St., Culver City, Calif.  
**FEDERAL MFG. & ENGINEERING CORP.,** 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.,** 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Norram Laboratories, Ernst, Williams Bay, Wis.  
**POTTER AERONAUTICAL CORP.,** Route #22, Union, N. J. ADV. PG. 372, 373.  
 Ransom Research, Box 382, San Pedro, Calif.  
 Riverbank Laboratories, Dept. of Engineering, P. O. Box 65, Geneva, Ill.  
 Robinette Co., W. C., 802 Fair Oaks Ave., South Pasadena, Calif.  
 Spivey Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 Thompson Products, Inc., Electronics Div., 2196 Clarkwood Ave., Cleveland 3, Ohio.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
**VARO MFG. CO., INC.,** 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
**VECTROL ENGINEERING, INC.,** P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
**WALKIRT CO.,** 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
**WANG LABORATORIES, INC.,** 37 Hurley St., Cambridge 41, Mass. ADV. PG. 630.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
**WAUGH ENGINEERING CO.,** 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.

**CONTROLS—Gain**  
 See ATTENUATORS

**CONTROLS—Heat Treating**

Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BARBER-COLMAN CO.,** Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.,** 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Huppert Co., K.H., 6864 S. Cottage Grove Ave., Chicago 37, Ill.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Magnadyne Co., 84 S. Water St., Port Chester, N. Y.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.,** Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
**UNITED AIRCRAFT PRODUCTS, INC.,** 116 Bolander Ave., Dayton 1, Ohio. ADV. PG. 148.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.

**CONTROLS—Humidity**

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
**BARBER-COLMAN CO.,** Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Controlled Atmosphere Enclosures Corp., 230-11 141st Ave., Springfield Gardens 13, N. Y.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
**FENWAL INCORPORATED,** Ashland, Mass. ADV. PG. 371.  
 Foxboro Co., The, Foxboro, Mass.  
 Friez Instrument Div., Bendix Aviation Corp., Baltimore 4, Md.  
**GENERAL CONTROLS CO.,** Glendale 1, Calif. ADV. PG. 546.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Lennard Co., Inc., P.M., P. O. Box 56, Village Station, New York 14, N. Y.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.,** Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
 Philadelphia Scientific Glass Co., Quakertown, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo-Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Serdex, Inc., 91 Cambridge St., Boston, Mass.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Weston Electrical Instrument Corp., a Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**CONTROLS—Illumination**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 American Mica Insulation Co., Manasquan, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 Fairfield Engineering Corp., 934 Hope St., Springfield, Conn.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.,** 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL RADIO CO.,** 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
 Illumitronic Engineering, 680 E. Taylor Ave., Sunnyvale, Calif.  
 Industrial Electronic Controls Co., 2271 E. 14th St., Brooklyn 29, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Photoswitch Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
 Production Research Corp., Thornwood, N. Y.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## CONTROLS—Inspection

Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
 Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
**COOK CO., FRANK R.**, 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

## CONTROLS—Liquid-Level

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
 Airmec Ltd., High Wycombe, Buckinghamshire, England.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Askania Regulator Co., 240 E. Ontario St., Chicago 11, Ill.  
 Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.  
 Avien, Inc., 58-15 Northern Blvd., Woodside 77, N. Y.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Buffalo Electronics Corp., 37 Franklin St., Buffalo 2, N. Y.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
 Deltrol, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
 Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
 Electrical Service Co., 1271 Mission St., San Francisco, Calif.  
 Electrovort, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 Ferrara, Inc., 8106 W. Nine Mile Rd., Oak Park 27, Mich.  
 Fields Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Fischer & Porter Co., 476 Warminster Road, Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 Fulton Syphon Div., Robertshaw-Fulton Controls Co., Knoxville 1, Tenn.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
**GORN ELECTRIC CO., INC.**, Main St., Stamford, Conn. ADV. PG. 273.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
**GULTON INDUSTRIES INC.**, Metuchen, N. J. ADV. PG. 425.  
 Haledy Electronics Co., 57 William St., New York 5, N. Y.  
 Liquidometer Corp., The, Skillman Ave. at 36th St., Long Island City 1, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.

Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Nuclear Research Corp., Southampton, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photoswitch Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif.  
**REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Robertshaw-Fulton Controls Co., Aeronautical Div., Santa Ana Freeway at Euclid Ave., Anaheim, Calif.  
 Saratoga Scientific, P. O. Box 488, Saratoga, Calif.  
 Servo-Tek Products Co., Inc., 1086 Goffe Rd., Hawthorne, N. J.  
 Simmonds Aerocessories Inc., Tarrytown, N. Y.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Taller & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
 Trimount Instrument Co., 3119 W. Lake St., Chicago 12, Ill.  
 Tuttle & Kift, 1823 N. Momitor St., Chicago 39, Ill.  
 United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J.  
 Warrick Co., Charles F., 1964 W. Eleven Mile Rd., Berkley, Mich.

## CONTROLS—Loop Regulation

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
**KEPCO LABS., INC.**, 131-38 Sanford Ave., Flushing 55, N. Y. ADV. PG. 45-48.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.  
**VECTROL ENGINEERING, INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.

## CONTROLS—Machine Safety

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Recora Co., Inc., 6100 S. Archer Rd., Summit, Ill.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Synchro Start Products, Inc., 8151 Ridgeway Ave., Skokie, Ill.  
 Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

## CONTROLS—Materials Thickness

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Amthor Testing Instrument Co., 45-53 Van Sinderen Ave., Brooklyn 7, N. Y.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
 Askania Regulator Co., 240 E. Ontario St., Chicago 11, Ill.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.

Branson Instruments, Inc., 1 Brown House Rd., Stamford, Conn.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Foxboro Co., The, Foxboro, Mass.  
 Illumitronic Engineering, 680 E. Taylor, Sunnyvale, Calif.  
 Industrial Electronics Co., Inc., Hanover, Mass.  
 Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

## CONTROLS—Mechanical Overload

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Matrol, Inc., 38 Virginia Place, Buffalo, N. Y.  
 Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
 Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

## CONTROLS—Mechanical Switch

American Mica Insulation Co., Manasquan, N. J.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
 Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.  
**HART MFG. CO.**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Synchro Start Products, Inc., 8151 Ridgeway Ave., Skokie, Ill.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.

## CONTROLS—Moisture

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Controlled Atmosphere Enclosures Corp., 230-11 141st Ave., Springfield Gardens 13, N. Y.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Foxboro Co., The, Foxboro, Mass.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 Philadelphia Scientific Glass Co., Quakertown, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
**VECTROL ENGINEERING INC.**, P. O. Box 1089, Stamford Conn. ADV. PG. 632.  
 Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
 WaClone, Inc., 35 S. St. Claire St., Dayton 2, Ohio.  
**WALLSON ASSOCIATES, LTD.**, 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.  
 Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

**CONTROLS—Smoke & Combustion, Electronic**

**BARBER-COLMAN CO.**, Dept., 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Combustion Control Div., Electronics Corp. of America, 77 Broadway, Cambridge 42, Mass.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Photo Crystals Inc., 15 S. First St., Geneva, Ill.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Standard Instrument Corp., 657 Broadway, New York 12, N. Y.  
**VECTROL ENGINEERING, INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 Worner Electronic Devices, Rankin, Ill.

**CONTROLS—Sound System**

**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41, Ill.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
 Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**CONTROLS—Specific Gravity**

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa. Foxboro Co., The, Foxboro, Mass.  
**GENERAL COMMUNICATION CO.**, 631 Beacon St., Boston 15, Mass. ADV. PG. 563.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
 Nuclear Research Corp., Southampton, Pa.

**CONTROLS—Strain**

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Ellis Associates, Box 77, Pelham, N. Y.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
**OWEN LABORATORIES, INC.**, 55 Beacon Place, Pasadena, Calif. ADV. PG. 680.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridgeport, Penna. ADV. PG. 697.

Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.

**CONTROLS—Temperature, Electronic**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
**ASSEMBLY PRODUCTS, INC.**, Chesterland 6, Ohio. ADV. PG. 504, 505.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cline Electric Mfg. Co., 3405 W. 47th St., Chicago, Ill.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
**DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT**, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
 Devco Engineering Inc., P. O. Box 387, Caldwell, N. J.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
**FENWAL INCORPORATED**, Ashland, Mass. ADV. PG. 371.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa. Foxboro Co., The, Foxboro, Mass.  
 General Electric Co. Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
**HART MFG. CO.**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Huppert Co., K.H., 6864 S. Cottage Grove Ave., Chicago 37, Ill.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.  
 Neutronics Research Co., 165 Lake St., Waltham, Mass.  
 Niagara Electron Laboratories, Andover, N. Y.  
 Philadelphia Scientific Glass Co., Quakertown, Pa.  
 Photoswitch Div., Electronics Corp., of America, One Memorial Drive, Cambridge 42, Mass.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 Serdex, Inc., 91 Cambridge St., Boston, Mass.  
 Servo Corp. of America, 20-20 Jerichg Turnpike, New Hyde Park, N. Y.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
 United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
 United Electric Controls Co. 85 School St., Watertown 72, Mass.  
**VECTROL ENGINEERING INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.  
 Yellow Springs Instrument Co., Inc., P. O. Box 106, Yellow Springs, Ohio.

**CONTROLS—Tentering**

Servospeed Div. of Electro Devices, Inc., 4 Godwin Ave., Paterson, N. J.

**CONTROLS—Timing**

Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing 1, Mich.  
**ADAMS & WESTLAKE CO., THE**, Michigan St., Elkhart, Ind. ADV. PG. 58, 59.  
 Alden Systems, Inc., Alden Research Center, Westboro, Mass.  
 Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Automation Management, Inc., Westboro, Mass.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solano Beach, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bristol Motor Div., Vocaline Co., of America, Inc., Old Saybrook, Conn.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
 Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 Deitz Co., S. J., 9 E. Wesley St., South Hackensack, N. J.  
 Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
 Eagle Signal Corp., Moline, Ill.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
 Electronic Assembly Co., Inc., 5 Prescott St., Boston 19, Mass.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
**FARMER ELECTRIC PRODUCTS CO., INC.**, 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Foxboro Co., The, Foxboro, Mass.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electric Co., Clock and Timer Dept., Ashland, Mass.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
 Haen Mfg. Co., 202 20th St., Moline, Ill.  
**HAYDON CO., A. W. THE**, 238 N. Elm St., Waterbury, Conn. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
**INDUSTRIAL TIMER CORP.**, 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
 Ingraham Co., E., Bristol, Conn.  
 Lektra Laboratories, 154 11th Ave., New York 11, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
 Norrman Laboratories, Ernst, Williams Bay, Wis.  
 Pantek Co., Box 212, El Segundo, Calif.  
 Paragon Electric Co., Two Rivers, Wis.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.  
 Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.  
 Ransom Research, Box 382, San Pedro, Calif.  
 Reliance Automatic Lighting Co., 1919 Mead St., Racine, Wis.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Robotron Corp., 21300 W. Eight Mile Rd., Detroit 19, Mich.

Rockwell Engineering Co., 2125 E. 45th St., Indianapolis 5, Ind.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
 Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.  
 Servo-Tek Products Co., Inc., 1086 Goffle Rd., Hawthorne, N. J.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
 Tork Time Controls Inc., 32 Grove St., Mt. Vernon, N. Y.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
**VECTROL ENGINEERING, INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 Vinson Co., E. R., 1401 Middle Harbor Rd., Oakland, Calif.  
**WALLSON ASSOCIATES LTD.**, 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
**WANG LABORATORIES, INC.**, 37 Hurley St., Cambridge 41, Mass. ADV. PG. 630.  
 Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

### CONTROLS—Torque, Electronic

Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Electro-Mechanical Div. of General Riveters, Inc., 785 Hertel Ave., Buffalo 7, N. Y.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Foxboro Co., The, Foxboro, Mass.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
 Magtrol, Inc., 38 Virginia Place, Buffalo, N. Y.  
 Robinette Co., W. C., 802 Fair Oaks Ave., South Pasadena, Calif.  
 Servospeed Div. of Electro Devices, Inc., 4 Godwin Ave., Paterson, N. J.  
 Servo-Tek Products Co., Inc., 1086 Goffle Rd., Hawthorne, N. J.  
**VECTROL ENGINEERING INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 WaLine, Inc., 35 S. St. Claire St., Dayton 2, Ohio.

### CONTROLS—Turbidity

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

### CONTROLS—Ultrasonic

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
 Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
**BRANSON ULTRASONIC CORP.**, 1 Brown House Rd., Stamford, Conn. ADV. PG. 605.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 General Nuclear Corp., 550 Fifth Ave., New York 28, N. Y.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

### CONTROLS—Vacuum

Alfred Electronics, 897 Commercial St., Palo Alto, Calif.  
 Amthor Testing Instrument Co., 45-53 Van Sinderen Ave., Brooklyn 7, N. Y.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Consolidated Electrodynamics Corp., Rochester Div., Rochester 3, N. Y.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.

Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
 Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
 Foxboro Co., The, Foxboro, Mass.  
 Fulton Sylphon Div., Robertshaw-Fulton Controls Co., Knoxville 4, Tenn.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GIANNINI & CO. INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
**GORN ELECTRIC CO., INC.**, Main St., Stamford, Conn. ADV. PG. 273.  
 Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
 Hastings-Raydist, Inc., Hampton 9, Va.  
 High Vacuum Equipment Corp., 2 Churchill Rd., Hingham, Mass.  
 Kinney Mfg. Div. of The New York Air Brake Co., 3529 Washington St., Boston, Mass.  
 Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S. Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
**NRC EQUIPMENT CORP.**, 169 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
 Philadelphia Scientific Glass Co., Quakertown, Pa.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 Research Electronics Laboratories, Roslyn, Pa.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Vacuum Equipment Div., of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### CONTROLS—Ventilating Control System

**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
 Foxboro Co., The, Foxboro, Mass.  
 Fulton Sylphon Div., Robertshaw-Fulton Controls Co., Knoxville 4, Tenn.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S. Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Tallier & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
**VECTROL ENGINEERING INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.

### CONTROLS—Volume & Tone

**M . . . Indicates Miniature Type**  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
**CENTRALAB DIV., GLOBE-UNION, INC.**, 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**CHICAGO TELEPHONE & SUPPLY CORP.**, 1142 W. Beardsey Ave., Elkhart, Ind. ADV. PG. 223.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
 Lesa, Via Bergamo 21, Milan, Italy. M.  
 Stackpole Carbon Co., St. Marys, Pa. M.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Trimm, Inc., 400 W. Lake St., Libertyville, Ill. M.

### CONTROLS—Weight

Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV., PLANT #2**, Central Ave., Carlstadt, N. J. ADV. PG. 110.

Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Foxboro Co., The, Foxboro, Mass.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
 Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
 Niagara Electron Laboratories, Andover, N. Y.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Pantek Co., Box 212, El Segundo, Calif.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.

### CONTROLS—Welding

**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
 Ewald Instruments, Route 7E, Kent, Conn.  
 Federal Tool Engineering, Inc., 1386 Pompton Ave., Cedar Grove, N. J.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
 Peer, Inc., Benton Harbor, Mich.  
 Robotron Corp., 21300 W. Eight Mile Rd., Detroit 19, Mich.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
**VECTROL ENGINEERING INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
 Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.

### CONVERTERS

1. Analog to Digital
  2. Card to Tape
  3. Computing
  4. Digital to Analog
  5. Frequency Shift Keying
  6. High Frequency
  7. Low Frequency
  8. Power Frequency, Electronic
  9. Power Frequency, Rotary
  10. Power Frequency, Vibrator
  - 10a. Single Sideband Receiver Vibrator
  11. R-F
  12. Tape to Card
  13. Television (UHF to VHF)
- ACF Electronics, 800 N. Pitt St., Alexandria, Va. 1-4.  
 Acme Electronix Div. of NEA Service, Inc., West Third & Lakeside, Cleveland 13, Ohio. 5.  
 Adcon Corp., 1117 Commonwealth Ave., Boston 15, Mass. 1.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J. 1-4.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. 1-2-12. ADV. PG. 253.  
**AIRFLYTE ELECTRONICS CO.**, 535-9 Avenue "A", Bayonne, N. J. 1-4. ADV. PG. 615.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. 10. ADV. PG. 297-300.  
 American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif. 1.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. 1-4. ADV. PG. 491.  
 American Mica Insulation Co., Manassas, N. J. 10.  
**AMERICAN TELEVISION & RADIO CO.**, 300 E. Fourth St., St. Paul 1, Minn. 10. ADV. PG. 222.  
 Anatron Div. of Endeavor Corp., 165 E. California St., Pasadena, Calif. 1.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. 11-13. ADV. PG. 672.  
 Austin Co., The, Special Devices Div., 76 Ninth Ave., New York 11, N. Y. 1.  
 Avion Division, ACF Industries, Inc., 11 Park Place, Paramus, N. J. 4.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. 1. ADV. PG. 541.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. 1-4. ADV. PG. 537.  
 Baldwin Piano Co., 1801 Gilbert St., Cincinnati 2, Ohio. 1.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa. 5-6-7-10a-11.  
 Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles 64, Calif. 1-4.  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J. 1.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. 1-2-3-4-5-6-7-8-12. ADV. PG. 73-80.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solano Beach, Calif. 6-9.  
 Blonder-Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J. 13.



**BOEHME, INC.**, H. O., 915 Broadway, New York 10, N. Y. ADV. PG. 556.  
**Bogen Co. Inc.**, David, P. O. Box 500, Paramus, N. J. 13.  
**Bogue Electric Mfg. Co.**, 52 Iowa Ave., Paterson 3, N. J. 9.  
**BOONTON RADIO CORP.**, Boonton, N. J. 11. ADV. PG. 427.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. 2-11. ADV. PG. 286.  
**Bristol Co.**, The, P. O. Box 1790 EBG, Waterbury 20, Conn. 1.  
**Carter Motor Co.**, 2746 W. George St., Chicago 18, Ill. 9.  
**Century Engineers, Inc.**, Burbank, Calif. 1.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. 10a. ADV. PG. 632.  
**Cline Electric Mfg. Co.**, 3405 W. 47th St., Chicago, Ill. 8.  
**Coleman Engineering Co., Inc.**, 6040 W. Jefferson Blvd., Los Angeles 16, Calif. 1.  
**Colorado Research Corp.**, 4697 E. Evans Ave., Denver 22, Colo. 1.  
**Consolidated Avionics, Inc.**, 66 Brooklyn Ave., Westbury, N. Y. 1-2-3-4-7-8-12.  
**Consolidated Electrodynamics Corp.**, 300 N. Sierra Madre Villa, Pasadena 15, Calif. 1.  
**CONTINENTAL ELECTRIC CO., INC.**, 334 Ferry St., Newark 5, N. J. 6-7-9. ADV. PG. 557.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. 8. ADV. PG. 680.  
**Crosby Labs., Inc.**, Box 233, Robbins Lane, Hicksville, N. Y. 10a.  
**D & R LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. 10a. ADV. PG. 698.  
**Delaware Products Co.**, 300 Broadway, Camden 3, N. J. 1.  
**Dynapar Corp.**, 5150 Church St., Skokie, Ill. 1.  
**ECLIPSE-PIONEER DIV., BENDIX AVIATION CORP.**, Teterboro, N. J. 1. ADV. PG. 333-336.  
**Eicor, Inc.**, 4235 W. North Ave., Chicago 39, Ill. 9.  
**ELECTRIC SPECIALTY CO.**, 300 South St., Stamford, Conn. 6-7-9. ADV. PG. 490.  
**Electro Instruments, Inc.**, 3794 Rosecrans, San Diego, Calif. 1.  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. 5-8-10. ADV. PG. 556.  
**Electronic Research Associates, Inc.**, 67 E. Centre St., Nutley 10, N. J. 8.  
**ELECTRONICS COMPUTER CORP.**, 6191 Ridge Ave., Philadelphia 28, Pa. 1. ADV. PG. 635.  
**Entron, Inc.**, 4902 Lawrence St., Bladensburg, Md. 13.  
**EPSCO, INCORPORATED**, 588 Commonwealth Ave., Boston 15, Mass. 1-4. ADV. PG. 233-235.  
**Erco Radio Labs, Inc.**, 637 Stewart Ave., Garden City, N. Y. 5.  
**Farrand Optical Co., Inc.**, Bronx Blvd. at 238th St., New York 70, N. Y. 1.  
**Fireye Div., Electronics Corp. of America**, One Memorial Drive, Cambridge 42, Mass. 1.  
**Fischer & Porter Co.**, 476 Warminster Rd., Hatboro, Pa. 1.  
**Franklin Electronics, Inc.**, E. Fourth St., Bridgeport, Pa. 1-3.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. 6-7-9. ADV. PG. 1-12.  
**Genisco, Inc.**, 2233 Federal Ave., Los Angeles 64, Calif. 1.  
**Georator Corp.**, Manassas, Va. 7-9.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. 1-4. ADV. PG. 344.  
**Gonset Co.**, 801 S. Main St., Burbank, Calif. 6-11.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. 4. ADV. PG. 684.  
**Great Lakes Electric Mfg. Co.**, 17 S. Desplaines St., Chicago 6, Ill. 6-7.  
**Gurley, W. & L. E.**, 514 Fulton St., Troy, N. Y. 1.  
**Gyro Electronics Co.**, 325 Canal St., New York, N. Y. 6.  
**Hoffman Laboratories, Inc.**, 3761 S. Hill St., Los Angeles 7, Calif. 5-10a.  
**Hogan Laboratories, Inc.**, 155 Perry St., New York 14, N. Y. 5.  
**Hoover Electronics Co.**, 3640 Woodland Ave., Baltimore 15, Md. 1-4.  
**Hudson Associates, Inc.**, 50 Drumm St., San Francisco 11, Calif. 1-2-3-4-5-6-7-8-9-10-11-12.  
**Hycor Electronics, Inc.**, P. O. Bin D, Pasadena, Calif. 1.  
**I.D.E.A., Inc.**, 7900 Pendleton Pike, Indianapolis 26, Ind. 13.  
**I-L-S Instrument Corp.**, 4525 W. 160th St., Cleveland 11, Ohio. 8.  
**Industrial Electronic Engineers**, 3973 Lankershim Blvd., North Hollywood, Calif. 1-3.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. 8. ADV. PG. 676.  
**INSTRUMENT DEVELOPMENT LABORATORIES, INC.**, 163 Highland Ave., Needham Heights, Mass. 1. ADV. PG. 611.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. 6-7-8-9-10. ADV. PG. 613.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. 1-8. ADV. PG. 355-357.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. 11. ADV. PG. 640.  
**Jacobs Instrument Co.**, 4718 Bethesda Ave., Bethesda, Md. 1-3-4.  
**JAMES VIBRAPOWR CO.**, 4050 N. Rockwell St., Chicago 18, Ill. 10. ADV. PG. 542.

**JERROLD ELECTRONICS CORP.**, 23rd & Chestnut Sts., Philadelphia 3, Pa. 13. ADV. PG. 574.  
**Julie Research Laboratories**, 556 W. 168th St., New York 32, N. Y. 4.  
**Kahn Research Labs.**, Elizabeth Bldg., 22 Pine St., Freeport, N. Y. 10a.  
**Kato Engineering Co.**, 1415 First Ave., Mankato, Mich. 6-7-9.  
**Katolight Corp.**, First Ave. at Chestnut, Mankato, Minn. 9.  
**KEARFOTT CO., INC., ENGINEERING SALES DIV.**, 1378 Main Ave., Clifton, N. J. 1-4. ADV. PG. 181.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. 1-3-4. ADV. PG. 121-123.  
**Leach Corp., Inet-Palmer Div.**, 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif. 6-7-8-9.  
**Lesia, Via Bergamo 21**, Milan, Italy. 9-10.  
**LIBRASCOP, INC.**, 808 Western Ave., Glendale, Calif. 1-2-3-4-12. ADV. PG. 183.  
**Liquidometer Corp.**, The, Skillman Ave. at 36th St., Long Island City 1, N. Y. 7.  
**Mack Electronics, Div. of Mack Trucks, Inc.**, 40 Leon St., Boston 15, Mass. 1-2-3-4-12.  
**MacLeod & Hanopol, Inc.**, 10 Roland St., Charlestown 29, Mass. 1-5.  
**Magnetics Research Co., Cor. Grove St. & E. Post Rd.**, White Plains, N. Y. 1-2-3-12.  
**Maxson Instruments, Div. of The W. L. Maxson Corp.**, 47-37 Austell Place, Long Island City 1, N. Y. 1-8.  
**Missouri Research Labs., Inc.**, 2109 Locust St., St. Louis 3, Mo. 1.  
**Mohawk Electronic Research Labs., Inc.**, Box 126-A, RD 4, Amsterdam, N. Y. 11.  
**Morrow Radio Mfg. Co., Inc.**, 2794 Market St., Salem, Ore. 6.  
**NJE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. 8. ADV. PG. 369, 370.  
**Non-Linear Systems, Inc.**, Del Mar Airport, Del Mar, Calif. 1-8.  
**Norden-Ketay Corp.**, 58 Commerce Rd., Stamford, Conn. 1-4.  
**North American Instruments, Inc.**, 2420 N. Lake Ave., Altadena, Calif. 1.  
**NORTH HILLS ELECTRIC CO., INC.**, 402 Sagamore Ave., Mineola, N. Y. 8. ADV. PG. 428.  
**NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St., New York 11, N. Y. 5. ADV. PG. 200-202.  
**OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. 8. ADV. PG. 650.  
**Otis Elevator Co., Electronic Div.**, 35 Ryerson St., Brooklyn 5, N. Y. 1-4.  
**PERKIN ENGINEERING CORP.**, 345 Kansas St., El Segundo, Calif. 6-7-8-9. ADV. PG. 67.  
**Pitometer Log Corp.**, 237 Lafayette St., New York 12, N. Y. 1-4.  
**Portchester Instrument Corp.**, 114 Wilkins Ave., Port Chester, N. Y. 6.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. 4-7. ADV. PG. 372, 373.  
**Potter Instrument Co., Inc.**, 115 Cutter Mill Rd., Great Neck, N. Y. 1-2-3-4-12.  
**POWER SOURCES, INC.**, Northwest Industrial Park, Burlington, Mass. 8. ADV. PG. 674.  
**PRECISE MEASUREMENTS CO., R. D. #1**, Millbrooks Rd., Flemington, N. J. 10. ADV. PG. 399.  
**Radiart Corp.**, The, 3455 Vega Ave., Cleveland 13, Ohio. 10.  
**Radiation Counter Laboratories, Inc.**, 5122 W. Grove St., Skokie, Ill. 1.  
**Radiation, Inc.**, Melbourne, Fla. 1.  
**Radiation Instrument Development Labs.**, 2337 W. 67th St., Chicago 36, Ill.  
**Radio Mfg. Engineers, Inc.**, 501 Wajnut St., Washington, Ill. 6-10a.  
**Rea Co., J. B.**, 1723 Cloverfield Blvd., Santa Monica, Calif. 1.  
**Robbins & Myers, Inc.**, 1345 Lagonda Ave., Springfield 99, Ohio. 6.  
**Sangamo Electric Co.**, 1201 N. 11th St., Springfield, Ill. 9.  
**Scantlin Electronics, Inc.**, 11624 W. Pico Blvd., Los Angeles 64, Calif. 3.  
**Servo Corp. of America**, 20-20 Jericho Turnpike, New Hyde Park, N. Y. 8.  
**Servo-Tek Products Co., Inc.**, 1086 Goffe Rd., Hawthorne, N. J. 9.  
**SORENSEN & CO., INC.**, Richards Ave., Norwalk, Conn. 8. ADV. PG. 151-154.  
**Southern Instruments Ltd., Computer Div.**, Frimley Rd., Camberley, Surrey. 1.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. 1. ADV. PG. 294, 295.  
**Stanley Transformer Co.**, 31-23 Vernon Blvd., Long Island City, N. Y. 10.  
**Stelma, Inc.**, 190 Henry St., Stamford, Conn. 5.  
**Taller & Cooper Co.**, 75 Front St., Brooklyn 1, N. Y. 1-2-3-4-12.  
**Tally Register Co.**, 5300 14th N. W., Seattle, Wash. 1.  
**Technical Materiel Corp.**, P. O. Box 142, Mamaroneck, N. Y. 5-10a.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. 8. ADV. PG. 661.  
**Tel-Instrument Electronics Corp.**, 728 Garden St., Carlstadt, N. J. 8.  
**Tele-Matic Industries, Inc.**, 16 Howard Ave., Brooklyn 21, N. Y. 13.  
**Tesla Electric Co.**, 2871 N. Lincoln Ave., Chicago 13, Ill. 8.

**TIMES FACSIMILE CORP.**, 540 W. 58th St., New York 19, N. Y. 5. ADV. PG. 468.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRAN-SISTOR PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. 8. ADV. PG. 548.  
**United Electrodynamics Div., United Geophysical Co., Inc.**, 1200 S. Marengo, Pasadena, Calif. 4.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. 8-9. ADV. PG. 564.  
**VIBRATION RESEARCH LABS., INC.**, 97 Lake Ave., Tuckahoe, N. Y. 10. ADV. PG. 621.  
**Videon Electronic Corp.**, 902 E. Michigan St., Indianapolis 2, Ind. 13.  
**WacLine Inc.**, 35 S. St. Claire St., Dayton 2, Ohio. 9.  
**Waldorf Instrument Co., Div. of F. C. Huyck & Sons**, Park Ave., Huntington Station, N. Y. 1-3-4.  
**WANG LABORATORIES, INC.**, 37 Hurley St., Cambridge 41, Mass. 1. ADV. PG. 630.  
**WAUGH ENGINEERING CO.**, 7842 Burnet Ave., Van Nuys, Calif. 4. ADV. PG. 663.  
**Westbury Electronics, Inc.**, 300 Shames Drive, Westbury, N. Y. 11.  
**Western Gear Corp., Electro Products Div.**, 132 W. Colorado St., Pasadena 1, Calif. 8-9.  
**Wilmar Mfg. Co., Inc.**, 1110 Truman Rd., Kansas City 6, Mo. 10.  
**Wincharger Corp.**, E. 7th & Division Sts., Sioux City, Iowa. 9.  
**World Radio Laboratories, Inc.**, 3415 W. Broadway, Council Bluffs, Iowa. 6.

**COOKERS—Electronic**

**General Electric Co., Technical Products Dept.**, Electronics Park, Syracuse, N. Y.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
**Magnavox Co.**, The, 2131 Beuter Rd., Fort Wayne, Ind.

**COOLERS—Blower or Fan**

**COOLING UNITS—Blower See BLOWERS TUBE COOLING UNITS**

**CORD SETS**

**Accurate Insulated Wire Corp.**, 23 Fox St., New Haven, Conn.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**Apex Wire & Cable Corp.**, 237 37th St., Brooklyn 32, N. Y.  
**Audio Sears Corp.**, Shepard Hill Rd., Roxbury, N. Y.  
**B & M Electric Co.**, 838 Fourth Ave., Brooklyn 32, N. Y.  
**Belden Mfg. Co.**, 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CORP., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**Connecticut Telephone & Electric Corp.**, 70 Britannia St., Meriden, Conn.  
**Cords Ltd., Div. of The Essex Wire Corp.**, 1601 Wall St., Fort Wayne, Ind.  
**CORNISH-WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
**Decatur Electronics Industries Corp.**, 203 Orinco Drive, Brightwater, N. Y.  
**Eagle Electric Mfg. Co., Inc.**, 23-10 Bridge Plaza, S., Long Island City, N. Y.  
**Electric Cords & Supply Co.**, 413 E. Third St., Los Angeles 13, Calif.  
**Electronic Products Co.**, 322 State St., Santa Barbara, Calif.  
**Empire Electronics Co., Inc.**, 166 River St., Paterson 1, N. J.  
**First Electronics Corp.**, 117 Blue Hill Ave., Boston 19, Mass.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**General Cable Corp.**, 420 Lexington Ave., New York 17, N. Y.  
**General Electric Co., Construction Materials Div.**, 1285 Boston Ave., Bridgeport 2, Conn.  
**General Insulated Wire Works, Inc.**, 69 Gordon Ave., Providence 5, R. I.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
**Irwin Products**, 6312 N. Artesian Ave., Chicago 45, Ill.  
**Miller Electric Co.**, 120 Main St., Pawtucket, R. I.  
**Modelectric Products Corp.**, 1500 Bangs Ave., Asbury Park, N. J.  
**Molded Insulation Co.**, 335 E. Price St., Philadelphia 44, Pa.  
**Mutual Electronic Industries Corp.**, 85 Beechwood Ave., New Rochelle, N. Y.  
**Mutron Corp.**, 125 Perkins Ave., Brockton, Mass.  
**National Aircraft Corp.**, 3411 Tulare St., Burbank, Calif.  
**Noel Mfg. Co.**, 3 W. 18th St., New York 11, N. Y.  
**Plastics Mold & Engineering Co.**, 157 Clifford St., Providence 3, R. I.  
**Plastic Wire & Cable Corp.**, Jewett City, Conn.  
**POMONA ELECTRONICS CO., INC.**, 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
**Roanwell Corp.**, 662 Pacific St., Brooklyn 17, N. Y.  
**Roflan Co.**, Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
**Rowe Industries**, 1702 Wayne St., Toledo 9, Ohio.  
**Royal Electric Corp.**, Pawtucket, R. I.

Rye Sound Corp., 21 Rye Rd., N. Y.  
Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
Superior Insulated Wire Co., Route 9W, West Haverstraw, N. Y.  
Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.  
Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
Whitaker Cable Corp., Kansas City 16, Mo.  
Witelrad Electrical Mfg., Inc., 76 Pulaski St., Stamford, Conn.

### CORDS—Dial Cords & Cables

**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**GUDEBROD BROS. SILK CO., INC., ELECTRONICS DIV.**, 225 W. 34th St., New York 1, N. Y. ADV. PG. 318.  
**Heminway & Bartlett Mfg. Co.**, 500 Fifth Ave., New York 36, N. Y.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**Mutual Electronic Industries Corp.**, 85 Beechwood Ave., New Rochelle, N. Y.  
**Mutron Corp.**, 125 Perkins Ave., Brockton, Mass.  
**Newcomb Spring Corp.**, The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
**New England Electrical Works, Inc.**, Lisbon, N. H.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
**Spivey, Inc.**, James S., 4908 Hampden Lane, Washington 14, D. C.  
**Stromberg-Carlson Co.**, Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
**Walsco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.  
**Whitney Blake Co.**, New Haven 14, Conn.

### CORDS—Lacing

**BENTLEY-HARRIS MFG., CO.**, Conshohocken 13, Pa. ADV. PG. 523.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, New York. ADV. PG. 501.  
**GUDEBROD BROS. SILK CO., ELECTRONICS DIV.**, 225 W. 34th St., New York 1, N. Y. ADV. PG. 318.  
**Heminway & Bartlett Mfg. Co.**, 500 Fifth Ave., New York 36, N. Y.  
**Mitchell-Rand Insulation Co., Inc.**, 51 Murray St. New York 7, N. Y.  
**NARROW FABRIC CO., THE**, Reading, Pa. ADV. PG. 655.  
**Owens-Corning Fiberglas Corp.**, 598 Madison Ave., New York 22, N. Y.  
**Walsco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.  
**Warren Wire Co.**, Pownal, Vt.

### CORDS—Line

**Accurate Insulated Wire Corp.**, 23 Fox St., New Haven, Conn.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**ASSOCIATED ENGINEERING CORP.**, 65 Kent St., Brookline 46, Mass. ADV. PG. 678, 679.  
**B & M Electric Co.**, 838 Fourth Ave., Brooklyn 32, N. Y.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**Columbia Wire & Supply Co.**, 2850 Irving Park Rd., Chicago 18, Ill.  
**Cords Ltd.**, Div. of The Essex Wire Corp., 1601 Wall St., Fort Wayne, Ind.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
**Eagle Electric Mfg. Co., Inc.**, 23-10 Bridge Plaza S., Long Island City, N. Y.  
**Electric Cords & Supply Co.**, 413 E. Third St., Los Angeles 13, Calif.  
**Empire Electronics Co., Inc.**, 166 River St., Paterson 1, N. J.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**Holyoke Wire & Cable Co.**, 720 Main St., Holyoke, Mass.  
**Rwin Products**, 6312 N. Artesian Ave., Chicago 45, Ill.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**Kaiser Aluminum & Chemical Sales, Inc.**, 919 N. Michigan Ave., Chicago, Ill.  
**Miller Electric Co.**, 120 Main St., Pawtucket, R. I.  
**Mutual Electronic Industries Corp.**, 85 Beechwood Ave., New Rochelle, N. Y.  
**Plastic Wire & Cable Corp.**, Jewett City, Conn.  
**Royal Electric Corp.**, Pawtucket, R. I.  
**Simplex Wire & Cable Co.**, 79 Sidney St., Cambridge 39, Mass.  
**Superior Insulated Wire Co.**, Route 9W, West Haverstraw, N. Y.  
**Victor Electric Wire & Cable Corp.**, 618 Main St., West Warwick, R. I.  
**Valdom Electronics, Inc.**, 4625 W. 53rd St., Chicago 32, Ill.  
**Whitney Blake Co.**, New Haven 14, Conn.  
**Witelrad Electrical Mfg. Co.**, 76 Pulaski St., Stamford, Conn.

### CORDS—Line Resistance

**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**Columbia Wire & Supply Co.**, 2850 Irving Park Rd., Chicago 18, Ill.  
**Electric Cords & Supply Co.**, 413 E. Third St., Los Angeles 13, Calif.  
**Empire Electronics Co., Inc.**, 166 River St., Paterson 1, N. J.  
**Holyoke Wire & Cable Co.**, 720 Main St., Holyoke, Mass.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**Victor Electric Wire & Cable Corp.**, 618 Main St., West Warwick, R. I.  
**Witelrad Electrical Mfg. Co.**, 76 Pulaski St., Stamford, Conn.

### CORDS—Patch

**Aerolite Electronics Corp.**, 507 26th St., Union City, N. J.  
**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**ASSOCIATED ENGINEERING CORP.**, 65 Kent St., Brookline 46, Mass. ADV. PG. 678, 679.  
**Audio Development Co.**, 2833 13th Ave. S., Minneapolis, 7, Minn.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
**Connecticut Telephone & Electric Corp.**, 70 Britannia St., Meriden, Conn.  
**Decatur Electronics Industries Corp.**, 203 Orinco Drive, Brightwater, N. Y.  
**Electric Cords & Supply Co.**, 413 E. Third St., Los Angeles 13, Calif.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
**Empire Electronics Co., Inc.**, 166 River St., Paterson 1, N. J.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
**General Electric Co.**, Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**Miller Electric Co.**, 120 Main St., Pawtucket, R. I.  
**Molded Insulation Co.**, 335 E. Price St., Philadelphia 44, Pa.  
**North Electric Co.**, 553 S. Market St., Galion, Ohio.  
**POMONA ELECTRONICS CO., INC.**, 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
**Robco Mfg. Co.**, 225 W. Main St., Patchogue, N. Y.  
**Roflan Co.**, Corner Route 1 & Camp Meeting Rd., Topshfield, Mass.  
**Runzel Cord & Wire Co.**, 4723-31 W. Montrose Ave., Chicago 41, Ill.  
**Smith, Inc.**, Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
**Trimm, Inc.**, 400 W. Lake St., Libertyville, Ill.

### CORDS—Retractable

**Cords Ltd.**, Div. of The Essex Wire Corp., 1601 Wall St., Fort Wayne, Ind.  
**General Cable Corp.**, 420 Lexington Ave., New York 17, N. Y.  
**Koiled Kords, Inc.**, Box K, New Haven 14, Conn.  
**Plastic Wire & Cable Corp.**, Jewett City, Conn.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.

### CORES—C Type

**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**ARNOLD ENGINEERING CO.**, Marengo, Ill. ADV. PG. 322, 323.  
**Barker Sales Co.**, 996-8 Edgewater Ave., Ridgefield, N. J.  
**Crowley Div. of Aerovox Corp.**, 1 Central Ave., West Orange, N. J.  
**Cybergor, Inc.**, Electronics, 1705 W. 135th St., Gardena, Calif.  
**Ferricore, Inc.**, 303 Railroad Place, Orange, N. J.  
**GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT.**, W. Genesee St., Auburn, N. Y. ADV. PG. 18.  
**INDIANA STEEL PRODUCTS CO.**, Valparaiso, Ind. ADV. PG. 20.  
**MOLONEY ELECTRIC CO.**, 5590 Bircher Blvd., St. Louis 20, Mo. ADV. PG. 527.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**Steward Mfg. Co.**, D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**THOMAS & SKINNER INC.**, 1122 E. 23rd St., Indianapolis 5, Ind. ADV. PG. 625.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

### CORES—Ceramic

**AMERICAN FELDMUEHLE CORP.**, 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.

**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
**Dilectron Div. of The Gudeman Co.**, 2669 S. Myrtle Ave., Monrovia, Calif.  
**DuCo Ceramics Co.**, Box 587, Butler 8, Pa.  
**Electrical Refractories Co.**, 50 Clark St., East Palestine, Ohio.  
**Ferricore, Inc.**, 303 Railroad Place, Orange, N. J.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
**Isolantite Mfg. Corp.**, Stirling, N. J.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main St., Clifton, N. J. ADV. PG. 181.  
**Kirchberger & Co., Inc.**, M., 250 Humphrey St., Englewood, N. J.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., Le Roy, N. Y. ADV. PG. 276, 277.  
**Maryland Lava Co.**, Ceramic Dept., Bel Air, Md.  
**Raytheon Mfg. Co.**, Ceramic Sales, Waltham 54, Mass.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
**Star Porcelain Co., The.**, 61 Muirhead Ave., Trenton 9, N. J.  
**Steward Mfg. Co.**, D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**STUPAKOFF DIV. OF THE CARBORUNDUM CO.**, Latrobe, Pa. ADV. PG. 108, 109.  
**SUPERIOR STEATITE & CERAMIC CORP.**, 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
**Thermo Materials, Inc.**, 4040 Campbell Ave., Menlo Park, Calif.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
**Yale & Towne Mfg. Co.**, Powdered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.

### CORES—Cut

See CORES—C Type

CORES—E Type

CORES—U Type

### CORES—E Type

**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
**ARNOLD ENGINEERING CO.**, Marengo, Ill. ADV. PG. 322, 323.  
**Crowley Div. of Aerovox Corp.**, 1 Central Ave., West Orange, N. J.  
**Ferricore, Inc.**, 303 Railroad Place, Orange, N. J.  
**MOLONEY ELECTRIC CO.**, 5590 Bircher Blvd., St. Louis 20, Mo. ADV. PG. 527.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**Steward Mfg. Co.**, D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

### CORES—Ferrite

**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
**Crowley Div. of Aerovox Corp.**, 1 Central Ave., West Orange, N. J.  
**Cybergor, Inc.**, Electronics, 1705 W. 135th St., Gardena, Calif.  
**Dilectron Div. of The Gudeman Co.**, 2669 S. Myrtle Ave., Monrovia, Calif.  
**Fair-Rite Products Corp.**, Wallkill, N. Y.  
**Ferricore, Inc.**, 303 Railroad Place, Orange, N. J.  
**Ferroxcube Corp. of America**, 125 E. Bridge St., Saugerties, N. Y.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
**GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT.**, W. Genesee St., Auburn, N. Y. ADV. PG. 18.  
**Leonard Electric Products Co., Inc.**, 67 Thirty Fourth St., Brooklyn 32, N. Y.  
**MAGNETIC CORE CORP.**, 199 Main St., Ossining, N. Y. ADV. PG. 650.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
**Potter Instrument Co., Inc.**, 115 Cutter Mill Rd., Great Neck, N. Y.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**Stackpole Carbon Co.**, St. Marys, Pa.  
**Steward Mfg. Co.**, D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**Superelex Electronics Corp.**, 4-6 Radford Place, Yonkers, N. Y.  
**Thermo Materials, Inc.**, 4040 Campbell Ave., Menlo Park, Calif.  
**Yale & Towne Mfg. Co.**, Powdered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.

**CORES—High Permeability Magnetic**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**ARNOLD ENGINEERING CO.**, Marengo, Ill. ADV. PG. 322, 323.  
 Burroughs Corp., Electronic Instruments Div., 1209 Vine St., Philadelphia 23 Pa.  
**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.  
 Cybergor, Inc., Electronics, 1705 W. 135th St., Gradena, Calif.  
 Dilectron Div. of The Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.  
 G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden 5, N. J.  
**MAGNETIC CORE CORP.**, 199 Main St., Ossining, N. Y. ADV. PG. 650.  
**MAGNETIC METALS CO.**, Hayes Ave. at 21st St., Camden, N. J. ADV. PG. 544.  
**MAGNETICS, INC.**, P. O. Box 391, Butler, Pa. ADV. PG. 161-163.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Pyroferic Co., Inc., 621 E. 216th St., New York 67, N. Y.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Standard Telephones & Cables, Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn.  
**THOMAS & SKINNER INC.**, 1122 E. 23rd St., Indianapolis 5, Ind. ADV. PG. 625.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**CORES—Iron**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.  
 Cybergor, Inc., Electronics, 1705 W. 135th St., Gradena, Calif.  
**MAGNETIC CORE CORP.**, 199 Main St., Ossining, N. Y. ADV. PG. 650.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
 Pyroferic Co., Inc., 621 E. 216th St., New York 67, N. Y.  
 Research Development Manufacture, Inc., 429 E. Collom St., Philadelphia 44, Pa.  
**THOMAS & SKINNER, INC.**, 1122 E. 23rd St., Indianapolis 5, Ind. ADV. PG. 625.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**CORES—Powdered**

**ARNOLD ENGINEERING CO.**, Marengo, Ill. ADV. PG. 322, 323.  
 Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.  
 Double "E" Products Co., 216 Standard St., El Segundo, Calif.  
 Laboratoire Industriel de Physique Appliquee, 67 Rue M.A.-Colombier, Bagnole (Seine) France.  
**MAGNETIC CORE CORP.**, 199 Main St., Ossining, N. Y. ADV. PG. 650.  
**MAGNETICS, INC.**, P. O. Box 391, Butler, Pa. ADV. PG. 161-163.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Pyroferic Co., Inc., 621 E. 216th St., New York 67, N. Y.  
 Quality Components, Inc., St. Marys, Pa.  
**RADIO CORES, INC.**, 9540 Tulley Ave., Oak Lawn, Ill. ADV. PG. 617.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Standard Telephones & Cables, Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
**VARI-L CO., INC.**, P. O. Box 1433, Stamford, Conn. ADV. PG. 608.  
 Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

**CORES—Slug Tuning Units**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**ARNOLD ENGINEERING CO.**, Marengo, Ill. ADV. PG. 322, 323.  
 Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.  
**GRIES REPRODUCER CORP.**, 15 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
**MAGNETIC CORE CORP.**, 199 Main St., Ossining, N. Y. ADV. PG. 650.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Pyroferic Co., Inc., 621 E. 216th St., New York 67, N. Y.  
 Quality Components, Inc., St. Marys, Pa.

**RADIO CORES, INC.**, 9540 Tulley Ave., Oak Lawn, Ill. ADV. PG. 617.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Standard Telephones & Cables, Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn.

**CORES—Tape Wound**

**ARNOLD ENGINEERING CO.**, Marengo, Ill. ADV. PG. 322, 323.  
 Burroughs Corp., Electronic Instruments Div., 1209 Vine St., Philadelphia, Pa.  
 Cybergor, Inc., Electronics, 1705 W. 135th St., Gradena, Calif.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden 5, N. J.  
**INDIANA STEEL PRODUCTS CO.**, Valparaiso, Ind. ADV. PG. 20.  
**MAGNETIC METALS CO.**, Hayes Ave. at 21st St., Camden, N. J. ADV. PG. 544.  
**MAGNETICS, INC.**, P. O. Box 391, Butler, Pa. ADV. PG. 161-163.  
 Standard Telephones & Cables, Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
**THOMAS & SKINNER INC.**, 1122 E. 23rd St., Indianapolis 5, Ind. ADV. PG. 625.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**CORES—Toroidal**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**ALDEN PRODUCTS CO.**, 112 N Main St., Brockton 64, Mass. ADV. PG. 567.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
**ARNOLD ENGINEERING CO.**, Marengo, Ill. ADV. PG. 322, 323.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.  
 Cybergor, Inc., Electronics, 1705 W. 135th St., Gradena, Calif.  
 Double "E" Products Co., 216 Standard St., El Segundo, Calif.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden 5, N. J.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
**MAGNETIC CORE CORP.**, 199 Main St., Ossining, N. Y. ADV. PG. 650.  
**MAGNETIC METALS CO.**, Hayes Ave. at 21st St., Camden, N. J. ADV. PG. 544.  
**MAGNETICS, INC.**, P. O. Box 391, Butler, Pa. ADV. PG. 161-163.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Quality Components, Inc., St. Marys, Pa.  
**RADIO CORES, INC.**, 9540 Tulley Ave., Oak Lawn, Ill. ADV. PG. 617.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Standard Telephones & Cables, Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**THOMAS & SKINNER, INC.**, 1122 E. 23rd St., Indianapolis 5, Ind. ADV. PG. 625.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Yale & Towne Mfg. Co., Powdered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.

**CORES—U Type**See **CORES—C Type****COUNTERS, ELECTRON AND NUCLEAR**See **COUNTERS—Geiger****COUNTERS—Electronic**

Acme Telextronix Div. of NEA Service, Inc., West Third & Lakeside, Cleveland 13, Ohio.  
**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
 Airmec Ltd., High Wycombe, Buckinghamshire, England.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.

**AMERICAN TRADAIR CORP.**, SUB. OF EKCO ELECTRONICS, LTD., 34-01 30th St., Long Island City 6, N. Y. ADV. PG. 693.  
 Anatron Div. of Endeveco Corp., 165 E. California St., Pasadena, Calif.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**BOESCH MFG. CO.**, Danbury, Conn. ADV. PG. 520.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Bruel & Kjaer, Naerum, Denmark.  
 Burroughs Corp., Electronic Instruments Div., 1209 Vine St., Philadelphia, Pa.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Control Devices, Inc., 8299 E. Nine Mile Rd., Van Dyke, Mich.  
 Cyclotron Specialties Co., Moraga 8, Calif.  
 Deitz Co., S. J., 9 E. Wesley St., South Hackensack, N. J.  
 Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
 Dubrow Development Co., 235-B Penn St., Burlington, N. J.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 Durant Mfg. Co., 1912-A N. Buffum St., Milwaukee 1, Wis.  
 Dynac, Inc., 395 Page Mill Rd., Palo Alto, Calif.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
 Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.  
 Electrical Service Co., 1271 Mission St., San Francisco, Calif.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
 Electro Instruments, Inc., 3794 Rosencrans, San Diego 10, Calif.  
**ELECTRO-PULSE, INC.**, 11861 Teale St., Culver City, Calif. ADV. PG. 651.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Haledy Electronics Co., 57 William St., New York 5, N. Y.  
**HAMNER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. ADV. PG. 671.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Hupp Instru/mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
 I-L-S Instrument Corp., 4159 52nd St., Cleveland 11, Ohio.  
 Industrial Electronic Controls Co., 2271 E. 14th St., Brooklyn 29, N. Y.  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
 Magnetics Research Co., Cor. Grove St. & E. Post Rd., White Plains, N. Y.  
 Magtrol, Inc., 38 Virginia Place, Buffalo, N. Y.  
 May Engineering Co., 6055 Lankershim Blvd., North Hollywood, Calif.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Mueller Laboratory, 1052 N. Allen, Pasadena, Calif.  
 Nader Mfg. Co., 2661 Myrtle Ave., Monrovia, Calif.  
**NAVIGATION COMPUTER CORP.**, 1621 Snyder Ave., Philadelphia 45, Pa. ADV. PG. 585.  
**NORTHEASTERN ENGINEERING, INC.**, Manchester, N. H. ADV. PG. 518, 519.  
 Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis 5, Ind.  
 Nucleonic Company of America, 196 DeGraw St., Brooklyn 31, N. Y.  
 Pantek Co., Box 212, El Segundo, Calif.  
 Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
 Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.  
 Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.

Ransom Research, P. O. Box 382, San Pedro, Calif.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.  
 Spencer Mfg. Co., 3253 N. Cicero Ave., Chicago 41, Ill.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSISTOR PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
**VICTOR ADDING MACHINE CO., ELECTRONICS SALES DIV.**, 3900 N. Rockwell St., Chicago 18, Ill. ADV. PG. 565.  
 Vinson Co., E. R., 1401 Middle Harbor Rd., Oakland, Calif.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

### COUNTERS—Frequency

**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
 Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
 Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
 Dubrow Development Co., 235-B Penn St., Burlington, N. J.  
 Dynac, Inc., 395 Page Mill Rd., Palo Alto, Calif.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
 Electro Instruments, Inc., 3794 Rosecrans, San Diego, Calif.  
**ELECTRO-PULSE, INC.**, 11861 Teale St., Culver City, Calif. ADV. PG. 651.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Hupp Instru/mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
 Magnetics Research Co., Cor. Grove St. & E. Post Rd., White Plains, N. Y.  
**NORTHEASTERN ENGINEERING, INC.**, Manchester, N. H. ADV. PG. 518, 519.  
 Pantek Co., Box 212, El Segundo, Calif.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. 372, 373.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Ransom Research, P. O. Box 382, San Pedro, Calif.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

### COUNTERS—Geiger

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Atomic Research Corp., P. O. Box 205, Colorado Springs, Colo.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Bruel & Kjaer, Naerum, Denmark.  
 Cyclotron Specialties Co., Moraga 8, Calif.

Douglas Radio Labs., 176 Norfolk Ave., Boston 19, Mass.  
 Eberline Instrument Division, P. O. Box 279, Santa Fe, N. M.  
 Electronic Products Co., 111 E. Third St., Mt. Vernon, N. Y.  
 Goldak Co., Inc., The, Dept. E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.  
 Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
 Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 Landsverk Electrometer Co., 550 W. Garfield Ave., Glendale 4, Calif.  
 Leighton Labs., H. W., Sunset Lane & York Rd., Hatboro, Pa.  
 Measurement Engineering, Ltd., Armprior, Ontario, Canada.  
 Menlo Research Laboratory, 538 Phelan Ave., San Jose, Calif.  
 Mt. Sopris Instrument Corp., 1320 Pearl St., Boulder, Colo.  
 NRD Instrument Co., 6425 Etzel Ave., St. Louis 14, Mo.  
 Nuclear-Chicago Corp., 223 W. Erie St., Chicago 10, Ill.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Nuclear Development Lab., Box 7034, Kansas City, Mo.  
 Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
 Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis 5, Ind.  
 Nucleonic Company of America, 196 De Graw St., Brooklyn 31, N. Y.  
 Omco, U. S. 93 & Las Palomas St., Kingman, Ariz.  
 Pacific Transducer EBG Corp., 11921 W. Pico Blvd., Los Angeles 64, Calif.  
 Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 Precision Radiation Instruments, Inc., 4223 W. Jefferson Blvd., Los Angeles 16, Calif.  
 Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.  
 Radioactive Products, Inc., 2421 Wolcott, Ferndale, Mich.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif.  
 Research Mfg. Co., 2115 W. 17th St., Long Beach, Calif.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Technical Measurement Corp., 140-142 State St. New Haven 11, Conn.  
 Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.  
 Twentieth Century Electronics, Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSISTOR PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.  
 Vinson Co., E. R., 1401 Middle Harbor Rd., Oakland, Calif.  
 Western Radiation Lab., 1107 W. 24th St., Los Angeles 7, Calif.  
 Wood Counter Laboratory, N. 5491 Blackstone, Chicago 37, Ill.

### COUNTERS—Mechanical

**AMERICAN MOLDED PRODUCTS CO.**, 2727 W. Chicago Ave., Chicago 22, Ill. ADV. PG. 580.  
 Anatron Div. of Endevo Corp., 165 E. California St., Pasadena, Calif.  
 Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Barker Sales Co., 996-B Edgewater Ave., Ridgefield, N. J.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**BOWMAR INSTRUMENT CORP.**, 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
 Camera Mart Inc., 1845 Broadway, New York 23, N. Y.  
 Counting Instruments, Ltd., 5, Elstree Way, Boreham Wood, Hertfordshire, England.  
 Cyclotron Specialties Co., Moraga 8, Calif.  
 Durant Mfg. Co., 1912-A N. Buffum St., Milwaukee 1, Wis.  
 Exact Engineering & Mfg. Co., P. O. Box 668, Ocean-side, Calif.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Haledy Electronics Co., 57 William St., New York 5, N. Y.  
 Hycon Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
**LIBRASCOPE, INC.**, 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Magnuson Engineers, Inc., 509 Emory St., San Jose 10, Calif.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Production Instrument Co., 710 W. Jackson Blvd., Chicago 6, Ill.

Streeter-Amet Co., Grayslake, Ill.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.  
 Veeder-Root, Inc., Hartford 2, Conn.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

### COUNTERS—Photoelectric

Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Autotron, Inc., 3629 N. Vermilion St., Danville, Ill.  
 Autron Engineering, Inc., 1254 W. 6th St. Los Angeles 15, Calif.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
**COOK CO., FRANK R.**, 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.  
 Durant Mfg. Co., 1912-A N. Buffum St., Milwaukee 1, Wis.  
 Electrical Service Co., 1271 Mission St., San Francisco, Calif.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 Erdoc Engineering Corp., Addison, Ill.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Haledy Electronics Co., 57 William St., New York 5, N. Y.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Machinery Electrification Inc., Northboro, Mass.  
 Magnuson Engineers, Inc., 509 Emory St., San Jose 10, Calif.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
 Pantek Co., Box 212, El Segundo, Calif.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photoswitch Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Production Instrument Co., 710 W. Jackson Blvd., Chicago 6, Ill.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Rockwell Engineering Co., 2125 E. 45th St., Indianapolis 5, Ind.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Testa Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Twentieth Century Electronics Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
 Veeder-Root, Inc., Hartford 2, Conn.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

### COUNTERS—Proportional

**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**BOWMAR INSTRUMENT CORP.**, 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
 Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main St., Clifton, N. J. ADV. PG. 181  
 NRD Instrument Co., 6425 Etzel Ave., St. Louis 14, Mo.  
 Nuclear-Chicago Corp., 223 W. Erie St., Chicago 10, Ill.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis 5, Ind.  
 Nucleonic Company of America, 196 DeGraw St., Brooklyn 31, N. Y.  
 Pantek Co., Box 212, El Segundo, Calif.  
 Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Production Instrument Co., 710 W. Jackson Blvd., Chicago 6, Ill.  
 Ransom Research, P. O. Box 382, San Pedro, Calif.  
 Radioactive Products, Inc., 2421 Wolcott, Ferndale, Mich.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif.  
 Technical Measurement Corp., 140-142 State St., New Haven 11, Conn.

Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.  
 Twentieth Century Electronics, Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
 UNIWADE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Wood Counter Laboratory, N., 5491 Blackstone, Chicago 37, Ill.  
 X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

**COUNTERS—Revolution**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
 BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 BOWMAR INSTRUMENT CORP., 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 COMPUTER-MEASUREMENT CORP., 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Counting Instruments, Ltd., 5, Elstree Way, Boreham Wood, Hertfordshire, England.  
 Durant Mfg. Co., 1912-A N. Buffum St., Milwaukee 1, Wis.  
 Eagle Signal Corp., Moline, Ill.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Helipot Corp., Newport Beach, Calif.  
 HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Hupp Instru/Mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
 INDUSTRIAL WINDING MACHINERY CO., 120 Wall St., New York 5, N. Y. ADV. PG. 651.  
 KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main St., Clifton, N. J. ADV. PG. 181.  
 LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Machinery Electrification, Inc., Northboro, Mass.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
 POTTER AERONAUTICAL CORP., Route #22, Union, N. J. ADV. PG. 372, 373.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Production Instrument Co., 710 W. Jackson Blvd., Chicago 6, Ill.  
 STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Streeter-Amet Co., Grayslake, Ill.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
 Telnetronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Veeder-Root, Inc., Hartford 2, Conn.  
 WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

**COUNTING AND SORTING**

See **CONTROLS—Counting & Sorting**

**COUPLERS—Directional  
COUPLINGS—Microwave**

See **MICROWAVE ACCESSORIES**

**COUPLINGS, SHAFT—Reducers & Extensions**

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 Amatron Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
 KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 Koppers Co., Inc., Koppers Bldg., Pittsburgh 19, Pa.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles 8, Calif.  
 P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill.  
 SUFFOLK PRODUCTS CORP., Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.

**COUPLINGS, SHAFT—Rigid & Flexible**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 Amatron Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
 Belock Instrument Corp., 111-01 14th Ave., College Point 56, N. Y.

BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Cardwell Co., Allen D., The, 97 Whiting St., Plainview, Conn.  
 Clifford Mfg. Co., Grove St., Waltham, Mass.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Ford Instrument Co., Div., of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y.  
 GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
 Goe Engineering Co., 219 S. Mednik Ave., Los Angeles 22, Calif.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
 KUPFRIAN MFG. CORP., 398 State St., Binghamton, N. Y. ADV. PG. 684.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Lord Mfg. Co., 1635 W. 12th St., Erie, Pa.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles 8, Calif.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
 REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
 Reflectone Corp., Post Rd & Myano Lane, Stamford, Conn.  
 RENBRANDT, INC., 98 Kirkland St., Cambridge 38, Mass. ADV. PG. 624.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill.  
 STEWART CORP., F. W., 4311 Ravenswood Ave., Chicago 13, Ill. ADV. PG. 653.  
 SUFFOLK PRODUCTS CORP., Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City 6, Mo.

**CROSSES—Microwave**

See **MICROWAVE ACCESSORIES**

**HYBRID JUNCTIONS—Microwave****CRYSTAL ANALYSIS EQUIPMENT**

RADIO FREQUENCY LABS., INC., Boonton 2, N. J. ADV. PG. 555.

**CRYSTAL CARTRIDGES**

American Microphone Co., 270 S. Fair Oaks Ave., Pasadena 1, Calif.  
 Astatic Corporation, The, Conneaut, Ohio.  
 BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Duotone Co., Inc., Keyport, N. J.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 Lesa, Via Bergamo 21, Milan, Italy.

**CRYSTAL DETECTORS**

See **DETECTORS—Crystal**

**CRYSTAL MOUNTS & MIXERS**

See **MICROWAVE ACCESSORIES**

**CRYSTALS—Barium Titanate-Transducer**

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 BRANSON ULTRASONIC CORP., 1 Brown House Rd., Stamford, Conn. ADV. PG. 605.  
 BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 DYNA-EMPIRE, INC., 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
 GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
 King Laboratory, Inc., 2645 S. Second W., Salt Lake City 15, Utah.  
 Lewis Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.  
 Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
 Northern Electronic & Vacuum Industries, St. Sauveur des Monts P. Q., P. O. Box 105, Canada.

**CRYSTALS—Color TV Frequency Control**

See **PARTS for COLOR TV TUBES**

**CRYSTALS—Grown, Germanium & Silicon, Uncut**

SEMIMETALS, INC., 130-11 90th Ave., Richmond Hill 18, N. Y. ADV. PG. 673.

**CRYSTALS—Quartz-Frequency Control**

Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
 Bassett, Inc., Rex, 1314 N. E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.  
 BLILEY ELECTRIC CO., Union Station Bldg., Erie, Pa. ADV. PG. 178, 179.  
 Breon Laboratories, 1520 Evergreen Rd., Williamsport, Pa.  
 BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
 C-W Mfg. Co., Box 2065, El Monte, Calif.  
 CLARK CRYSTAL CO., Farm Rd., Marlboro, Mass. ADV. PG. 512.  
 Cryco, Inc., 1138 Mission St., South Pasadena, Calif.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles 29, Calif.  
 Eidson Electronic Co., 1902 N. Third St., Temple, Texas.  
 Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
 Hudson American Corp., 25 W. 43rd St., New York 36, N. Y.  
 HUNT CORP., THE, 453 Lincoln St., Carlisle, Pa. ADV. PG. 532.  
 Hupp Electronics Co., 265 E. Pomfret St., Carlisle, Pa.  
 International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.  
 KEYSTONE ELECTRONICS CO., 65 Seventh Ave., Newark, N. J. ADV. PG. 614.  
 KNIGHTS CO., JAMES, THE, Sandwich, Ill. ADV. PG. 521.  
 Lewis Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.  
 McCoy ELECTRONICS CO., Mount Holly Springs, Pa. ADV. PG. 286.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 MIDLAND MFG. CO., INC., 3155 Fiberglas Rd., Kansas City 15, Kansas. ADV. PG. 367.  
 Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J.  
 Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.  
 Nebel Laboratory, R. E., 1634 E. 12th St., Brooklyn 29, N. Y.  
 NORTHERN ENGINEERING LABORATORIES, INC., 372 Wilmot Ave., Burlington, Wis. ADV. PG. 668.  
 Pan-Electronics Corp., Box 404, Griffin, Ga.  
 Peterson Radio Co., 2800 West Broadway, Council Bluffs, Iowa.  
 Precision Crystal Laboratory, 2223 Warwick Ave., Santa Monica, Calif.  
 Precision Piezo Service, 427 Mayflower St., Baton Rouge, La.  
 Premier Research Laboratories, Inc., 83 Seventh Ave., New York 11, N. Y.  
 Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
 SCIENTIFIC RADIO PRODUCTS, INC., 215 S. 11th, Omaha, Neb. ADV. PG. 657.  
 Scientific Radio Service, 4301 Sheridan St., University Park, Md.  
 Sherold Crystals, Inc., 1510 McGee St., Kansas City, Mo.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 STANDARD CRYSTAL CO., 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London W.C. 2, England.  
 VALPEY CRYSTAL CORP., 1244 Highland St., Holliston, Mass. ADV. PG. 561.  
 Wright Electronics, Inc., 1519 McGee St., Kansas City 7, Mo.

**CRYSTALS—Quartz-Transducer**  
 ANDERSEN LABORATORIES, INC., 39 Talcott Rd., West Hartford 10, Conn. ADV. PG. 486.  
 BLILEY ELECTRIC CO., Union Station Bldg., Erie, Pa. ADV. PG. 178, 179.  
 Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
 CLARK CRYSTAL CO., Farm Rd., Marlboro, Mass. ADV. PG. 512.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles 29, Calif.  
 Hoffman Co., P. R., Carlisle, Pa.  
 Hupp Electronics Co., 265 E. Pomfret St., Carlisle, Pa.  
 Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.  
 KNIGHTS CO., JAMES, THE, Sandwich, Ill. ADV. PG. 521.  
 Lewis Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.  
 MIDLAND MFG. CO., INC., 3155 Fiberglas Rd., Kansas City 16, Kansas. ADV. PG. 367.  
 Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J.  
 Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.  
 NORTHERN ENGINEERING LABORATORIES, INC., 372 Wilmot Ave., Burlington, Wis. ADV. PG. 668.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Pan-Electronics Corp., Box 404, Griffin, Ga.  
 Piezo Products Co., Whitney St., Sherborn, Mass.  
 Precision Crystal Laboratory, 2223 Warwick Ave., Santa Monica, Calif.

Premier Research Laboratories, Inc., 83 Seventh Ave., New York 11, N. Y.  
 Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
**STANDARD CRYSTAL CO.**, 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
 Sturupp, Inc., 50 Silver St., Middletown, Conn.  
**VALPEY CRYSTAL CORP.**, 1244 Highland St., Holliston, Mass. ADV. PG. 561.  
 Wright Electronics Inc., 1519 McGee St., Kansas City 8, Mo.

## CRYSTALS—Raw

Diamond Drill Carbon Co., The, 244 Madison Ave., New York 16, N. Y.  
 Hoffman Co., P. R., Carlisle, Pa.  
**KEYSTONE ELECTRONICS CO.**, 65 Seventh Ave., Newark, N. J. ADV. PG. 614.  
 Nebel Laboratory, R. E., 1624 E. 12th St., Brooklyn 29, N. Y.  
 Pan-Electronics Corp., Box 404, Griffin, Ga.  
**PAN AMERICAN TRADE DEVELOPMENT CORP.**, 2 Park Ave., New York 16, N. Y. ADV. PG. 624.  
**SCIENTIFIC RADIO PRODUCTS, INC.**, 215 S. 11th, Omaha, Neb. ADV. PG. 657.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
**STANDARD CRYSTAL CO.**, 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.

## CRYSTALS—Rochelle Salts, Transducer

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.

## CRYSTALS—Sapphire

**LINDE AIR PRODUCTS CO., A DIV. OF UNION CARBIDE & CARBON CORP.**, 30 E. 42nd St., New York 17, N. Y. ADV. PG. 636.

## CRYSTALS—Sapphire, Synthetic

**LINDE AIR PRODUCTS CO., A DIV. OF UNION CARBIDE & CARBON CORP.**, 30 E. 42nd St., New York 17, N. Y. ADV. PG. 636.

## CRYSTALS—Scintillation Counter

**AMERICAN TRADAIR CORP., SUB. OF EKCO ELECTRONICS LTD.**, 34-01 30th St., Long Island City 6, N. Y. ADV. PG. 693.  
 Fretco Inc., 406 N. Craig St., Pittsburgh 13, Pa.  
 Jonas Co., F., 55 W. 42nd St., New York 36, N. Y.  
 Levinthal Electronic Products, Inc., 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.  
 Mt. Sopris Instrument Corp., 1320 Pearl St., Boulder, Colo.  
 Northern Electronic & Vacuum Industries, St. Sauveur des Monts, P. Q., P. O. Box 105M, Canada.  
 Nuclear-Chicago Corp., 223 W. Erie St., Chicago 10, Ill.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Nuclear Research Corp., Southampton, Pa.  
 Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.

## CRYSTALS—Tourmaline-Frequency Control

**CLARK CRYSTAL CO.**, Farm Rd., Marlboro, Mass. ADV. PG. 512.  
 Hupp Electronics Co., 265 E. Pomfret St., Carlisle, Pa.  
 Premier Research Laboratories Inc., 83 Seventh Ave., New York 11, N. Y.  
**VALPEY CRYSTAL CORP.**, 1244 Highland St., Holliston, Mass. ADV. PG. 561.

## CRYSTALS—Unfinished

**BULOVA WATCH CO., INC., ELECTRONICS DIV.**, 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
**CLARK CRYSTAL CO.**, Farm Rd., Marlboro, Mass., ADV. PG. 512.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 Eidson Electronic Co., 1902 N. Third St., Temple, Texas.  
 Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
 Hoffman Co., P. R., Carlisle, Pa.  
 Hupp Electronics Co., 265 E. Pomfret St., Carlisle, Pa.  
**KEYSTONE ELECTRONICS CO.**, 65 Seventh Ave., Newark N. J. ADV. PG. 614.  
 Lewis Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.  
**McCOY ELECTRONICS CO.**, Mount Holy Springs, Pa. ADV. PG. 286.  
 Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J.  
 Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.  
 Nebel Laboratory, R. E., 1634 E. 12th St., Brooklyn 29, N. Y.  
 Pan-Electronics Corp., Box 404, Griffin, Ga.  
 Premier Research Laboratories Inc., 83 Seventh Ave., New York 11, N. Y.  
 Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
**SCIENTIFIC RADIO PRODUCTS CO., INC.**, 215 S. 11th, Omaha, Neb. ADV. PG. 657.  
**STANDARD CRYSTAL CO.**, 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.

**VALPEY CRYSTAL CORP.**, 1244 Highland St., Holliston, Mass. ADV. PG. 561.  
 Wright Electronics Inc., 1519 McGee St., Kansas City 7, Mo.

## CYLINDERS—Air

Clippard Instrument Laboratory, Inc., 7350-90 Colerain Rd., Cincinnati 24, Ohio.  
 Hydraulic Press Mfg. Co., A Div. of Koehring Co., Mt. Gilead, Ohio.  
 Kidde & Co., Inc., Walter, 477 Main St., Belleville 9, N. J.

## DATA RECORDING EQUIPMENT

Acme Telectronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 3, Ohio.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Allegany Instrument Co., Inc., 1091 Willis Mountain, Cumberland, Md.  
 Alwac Corp., 13041 S. Cerise Ave., Hawthorne, Calif.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
**AMPEX CORP.**, 934 Charter St., Redwood City, Calif. ADV. PG. 285.  
 Austin Co., The, Special Devices Div., 76 Ninth Ave., New York 11, N. Y.  
 Automation Management, Inc., Westboro, Mass.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa.  
 Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
 Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles 64, Calif.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Berlant Concertone-Audio Div. of American Electronics Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 Berndt-Bach, Inc., Auricon Div., 6924 Romaine St., Hollywood 38, Calif.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Coleman Engineering Co., Inc., 6040 W. Jefferson Blvd., Los Angeles 16, Calif.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Corbett Science Laboratories, F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
**DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO.**, 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
 Delaware Products Co., 300 Broadway, Camden 3, N. J.  
 Edin Co., Inc., 207 Main St., Worcester, Mass.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Electro Instruments, Inc., 3794 Rosecrans, San Diego, Calif.  
**ELECTROMATION CO.**, 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
 Electronic Associates, Inc., Long Branch, N. J.  
 Electronic Control Systems, Inc., 2136-38 Westwood Blvd., Los Angeles 25, Calif.  
 Electronic Engineering Co. of California, 1601 E. Chestnut St., Santa Ana, Calif.  
 Fairchild Camera & Instrument Corp., Reconnaissance Systems Div., Robbins Lane, Syosset, N. Y.  
**FEDERAL TELEPHONE & RADIO CO.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Fischer & Porter Co., 476 Warninster Rd., Hatboro, Pa.  
 Flight Research, Inc., P. O. Box 1-F, Richmond 1, Va.  
 Friden Calculating Machine Co., Inc., 2350 Washington Ave., San Leandro, Calif.  
**GENERAL ELECTRIC CO., APPARTUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Precision Laboratory, Inc., 63 Bedford Rd., Pleasantville, N. Y.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
 Haller, Raymond & Brown, Inc., State College, Pa.  
 Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.  
**HYCON EASTERN, INC.**, Dept. EBG, 75 Cambridge Parkway, Cambridge, Mass. ADV. PG. 400, 401.

Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Magnecord, Inc., 1101 S. Kilbourn Ave., Chicago 24, Ill.  
 Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
 Maurer, Inc., J. A., 37-01 31st St., Long Island City 1, N. Y.  
 Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
 Modac Div. of Airborne Instruments Laboratory, 864 Franklin Ave., Thornwood, N. Y.  
**NAVIGATION COMPUTER CORP.**, 1621 Snyder Ave., Philadelphia 45, Pa. ADV. PG. 585.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Radiation, Inc., Melbourne, Fla.  
 Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.  
 Southern Instruments Ltd., Computer Div., Frimley Rd., Camberley, Surrey.  
 Streeter-Amet Co., Grayslake, Ill.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Taller & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Telecomputing Div. of Telecomputing Corp., 12838 Saticoy St., North Hollywood, Calif.  
 Teleregister Co., The, 445 Fairfield Ave., Stamford, Conn.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**TIMES FACSIMILE CORP.**, 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.  
 Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.  
**VICTOR ADDING MACHINE CO., ELECTRONICS SALES DIV.**, 3900 N. Rockwell St., Chicago 18, Ill. ADV. PG. 565.

## DECADE BOXES—Capacitance

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Alco Electronics Mfg. Corp., 3 Wolcott Ave., Lawrence, Mass.  
 Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
 Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
 Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
 High Fidelity Products, Box 131, Owensboro, Ky.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Simmonds Aerocoessories, Inc., Tarrytown, N. Y.  
**SOUTHERN ELECTRONICS CORP.**, 150 W. Cypress Ave., Burbank, Calif. ADV. PG. 166.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

## DECADE BOXES—Inductance

Aerovox Corp., Belleville Ave., New Bedford, Mass.  
 Barker & Willaimson, 235 Fairfield Ave., Upper Darby, Pa.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**BURNELL & CO., INC.**, 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
 Coast Coil Co., 5333 W. Washington Blvd., Los Angeles 16, Calif.

Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HYCOR DIV. OF INTERNATIONAL RESISTANCE CO.**, 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
 New York Transformer Co., Inc., Third Ave., Alpha, N. Y.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Torocoil Co., 2615 Bristol Rd., Columbus 21, Ohio.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.

**DECADE BOXES—Resistance**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Alco Electronics Mfg. Corp., 3 Wolcott Ave., Lawrence, Mass.  
 Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
**CINEMA ENGINEERING DIV., AERVOX CORP.**, 1100 Chestnut St., Burbank, Calif. ADV. PG. 688.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
 Consolidated Resistance Co. of America Inc., 44 Prospect St., Yonkers, N. Y.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 Dubrow Development Co., 235-B Penn St., Burlington, N. J.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
 Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Marma Electronic Co., 703 Willow St., Chicago 14, Ill.  
 Miller Research Laboratories, 5529 S. Fifth St., Milwaukee 7, Wis.  
 Multhead & Co., Ltd., Beckenham, Kent, England.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Rubicon Co., Ridge Ave., at 35th St., Philadelphia 29, Pa.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

**DELICALCOMANIAS**

Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 Johnson Research Corp., Bethpage, N. Y.  
 Meyercord Co., 5323 W. Lake St., Chicago 44, Ill.  
**NORTH SHORE NAMEPLATE, INC.**, 214-27 Northern Blvd., Bayside 61, N. Y. ADV. PG. 486.  
 Topflight Corp., 160 E. Ninth Ave., York, Pa.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**DEFLECTION YOKES**

See **YOKES—Deflection**

**DEHYDRATORS—Automatic**

**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
 Communication Products Co., Inc., Marlboro, N. J.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
 Kahn and Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Pittsburgh Lectrodryer Div. of McGraw-Edison Co., 300 32nd St., Pittsburgh 30, Pa.

**DELAY LINE CORES—Metallized**

Ceramat Corp., 5905 Broadway, New York 63, N. Y.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.

**DELAY LINES—Color TV**

See **PARTS for COLOR TV TUBES**

**DELAY LINES—Digital**

**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., BROCKTON 64, Mass. ADV. PG. 567.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BREW & CO., INC., RICHARD D.**, Concord, N. H. ADV. PG. 524.  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
 Burroughs Corp., Electronic Instruments Div., 1209 Vine St., Philadelphia 23, Pa.  
**COLUMBIA TECHNICAL CORP.**, 61-02 31 Ave., Woodside 77, N. Y. ADV. PG. 517.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electronic Computer Div., Underwood Corp., 35-10 36th Ave., Long Island City 6, N. Y.  
**FERRANTI ELECTRIC, INC.**, 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thompsonville, Conn. ADV. PG. 522.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
**WANG LABORATORIES, INC.**, 37 Hurley St., Cambridge 41, Mass. ADV. PG. 630.

**DELAY LINES—Distributed-Constant Fixed**

Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
 Aladdin Electronics, A Div. of Aladdin Industries, Inc., 711 Murfreesboro Rd., Nashville 2, Tenn.  
 Ampli-Vision Div. of The International Telemeter Corp., 2000 Stoner Ave., Los Angeles 25, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bel-Fuse, Inc., 311 Mountain Rd., Union City, N. J.  
**BREW & CO., INC., RICHARD D.**, Concord, N. H. ADV. PG. 524.  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
 Colicraft, Inc., Cary, Ill.  
**COLUMBIA TECHNICAL CORP.**, 61-02 31 Ave., Woodside 77, N. Y. ADV. PG. 517.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 Dilectron Div., The Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Essex Electronics, Berkeley Heights, N. J.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
**GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT.**, W. Genesee St., Auburn, N. Y. ADV. PG. 18.  
 Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y.  
 Gudeman Co., 340 W. Huron St., Chicago 10, Ill.  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
 Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y.  
 Helipot Corp., Newport Beach, Calif.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.

Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
**PACKARD-BELL CO.**, 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
 Ratigan Electronics Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thompsonville, Conn. ADV. PG. 522.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
**TECHNITROL ENGINEERING CO.**, 1952 E. Allegheny Ave., Philadelphia 34, Pa. ADV. PG. 309.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.

**DELAY LINES—Distributed-Constant Variable**

Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BREW & CO., INC., RICHARD D.**, Concord, N. H. ADV. PG. 524.  
**BURNELL & CO., INC.**, 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
**COLUMBIA TECHNICAL CORP.**, 61-02 31 Ave., Woodside 77, N. Y. ADV. PG. 517.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
**PACKARD-BELL CO.**, 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
 Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.  
 Ratigan Electronics Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**DELAY LINES—Lumped-Constant Fixed**

**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BREW & CO., INC., RICHARD D.**, Concord, N. H. ADV. PG. 524.  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
**BURNELL & CO., INC.**, 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 Carad Corp., 2850 Bay Rd., Redwood City, Calif.  
 Colicraft, Inc., Cary, Ill.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
 Delttime, Inc., 608 Fayette Ave., Mamaroneck, N. Y.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 Double "E" Products Co., 216 Standard St., El Segundo, Calif.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electronic Computer Div., Underwood Corp., 35-10 36th Ave., Long Island City 6, N. Y.  
**EPSCO, INCORPORATED**, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235.  
 Essex Electronics, Berkeley Heights, N. J.  
**FERRANTI ELECTRIC, INC.**, 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
 Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y.  
 Gudeman Co., 340 W. Huron St., Chicago 10, Ill.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.

Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
 Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y.  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
 Leonard Electric Products Co., Inc., 67 Thirty-Fourth St., Brooklyn 32, N. Y.  
 Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Magnetics Research Co., Cor. Grove St. & E. Post Rd., White Plains, N. Y.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 MICAMOLD ELECTRONICS MFG. CORP., 1087 Flushing Ave., Brooklyn 6, N. Y. ADV. PG. 301.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 NATIONAL COIL CO., P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 Orbitran Co., Lakeside, Calif.  
 ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 PACKARD-BELL CO., 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
 POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Radio Industries, Inc., 5225 Ravenswood Ave., Chicago 40, Ill.  
 Ratigan Electronics Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
 RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 TECHNIPHIL ENGINEERING CO., 1952 E. Allegheny Ave., Philadelphia 34, Pa. ADV. PG. 309.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 TOBE DEUTSCHMANN CORP., 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
 U. S. ELECTRONICS CORP., 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 Valor Electronic Components Co., 5808 Marilyn Ave., Culver City, Calif.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.

### DELAY LINES—Lumped-Constant Variable

ADVANCE ELECTRONICS LAB., INC., 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 BREW & CO., INC., RICHARD D., Concord, N. H. ADV. PG. 524.  
 BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595.  
 ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electronic Computer Div., Underwood Corp., 35-10 36th Ave., Long Island City 6, N. Y.  
 FILTRON CO., INC., 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 PACKARD-BELL CO., 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
 Ratigan Electronics Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
 RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.

### DELAY LINES—Ultrasonic, Liquid or Solid

ANDERSEN LABORATORIES, INC., 39 Talcott Rd., West Hartford 10, Conn. ADV. PG. 486.  
 ARENBERG ULTRASONIC LABORATORY, INC., 94 Green St., Jamaica Plain 30, Mass. ADV. PG. 672.  
 BLILEY ELECTRIC CO., Union Station Bldg., Erie, Pa. ADV. PG. 178, 179.  
 BREW & CO., INC., RICHARD D., Concord, N. H. ADV. PG. 524.  
 CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 FERRANTI ELECTRIC, INC., 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
 LABORATORY FOR ELECTRONICS, INC., 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 MICROSONICS, INC., Hingham Industrial Center, Route 3A, Hingham, Mass. ADV. PG. 458.  
 Sturupp, Inc., 50 Silver St., Middletown, Conn.

### DEMINEALIZERS & STILLS—Water

BARNSTEAD STILL & STERILIZER CO., INC., 84 Lanesville Terrace, Boston 31, Mass. ADV. PG. 418.  
 Graver Water Conditioner Co., 216 W. 14th St., New York, N. Y.  
 La Motte Chemical Products Co., Chestertown, Md.  
 Penfold Mfg. Co., 19 High School Ave., Meriden, Conn.  
 Permutit Co., The, 330 W. 42nd St., New York 36, N. Y.

### DEMOMODULATORS

e—indicates electronic  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J. (e)  
 AIRPAX PRODUCTS CO., Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
 American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md. (e)  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y. (e)  
 Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah. (e)  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa. (e)  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y. (e)  
 Hoover Electronics Co., 3640 Woodland Ave., Baltimore 16, Md. (e)  
 INDUSTRIAL CONTROL CO., 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
 INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
 MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
 MINNEAPOLIS-HONEYWELL, BOSTON DIV., 1400 Soldiers Field Rd., Boston 15, Mass. ADV. PG. 445.  
 North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif. (e)  
 NORTHERN RADIO CO., INC., 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
 Pegasus Laboratories, Inc., 3692 Eleven Mile Rd., Berkeley, Mich. (e)  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif. (e)  
 SANBORN CO., 175 Wyman St., Waltham 54, Mass. ADV. PG. 125. (e)  
 SANDERS ASSOCIATES, INC., Nashua, N. H. ADV. PG. 534.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y. (e)  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417. (e)  
 TELONIC INDUSTRIES, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535. (e)  
 TIMES FACSIMILE CORP., 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.  
 TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405. (e)  
 TRANSITRON, INC., 186 Granite St., Manchester, N. H. ADV. PG. 326.  
 Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.

### DENSITOMETERS—Electronic

BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Eberline Instrument Division, P.O. Box 279, Santa Fe, N. M.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
 Herrnfeld Engineering Corp., Frank, 5716 Camille Ave., Culver City, Calif.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Photovolt Corp., 95 Madison Ave., New York 16, N. Y.  
 POTTER AERONAUTICAL CORP., Route #22, Union, N. J. ADV. PAGE 372, 373.  
 Spinco Div. of Beckman Instruments, Inc., Stanford Industrial Park, Palo Alto, Calif.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

### DEPTH SOUNDERS

ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO., Box 125 Westboro, Mass. ADV. PG. 566.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Edo Corp., College Point, N. Y.  
 KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1370 Main St., Clifton, N. J. ADV. PG. 181.  
 Kelvin & Hughes Ltd., New North Rd., Barking, Essex, England.  
 Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 Sonar Radio Corp., 3050 W. 21st St., Brooklyn 24, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Wallace & Tlernan, Inc., 25 Main St., Belleville 9, N. J.

### DETECTORS—Crystal

Admittance-Namco Corp., Farmingdale, N. Y.  
 Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.  
 Automatic Mfg. Div. of General Instrument Corp., 65 Gouverneur St., Newark, N. J.  
 BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 F-R MACHINE WORKS, INC., 26-12 Berrough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 FREQUENCY STANDARDS, INC., P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 HUGHES PRODUCTS DIVISION, HUGHES AIRCRAFT CO., Los Angeles 45, Calif. ADV. PG. 340-343.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 KEARFOTT CO., INC., WESTERN DIV., 14644 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 SIERRA ELECTRONIC CORP., 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London W.C. 2, England.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 TELONIC INDUSTRIES, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
 TRANSITRON ELECTRONIC CORP., 168 Albion St., Wakefield, Mass. ADV. PG. 176, 177.

### DETECTORS—Crystal Germanium

See CRYSTALS—Germanium

### DETECTORS—Crystal Silicon

See CRYSTALS—Silicon

### DETECTORS—Explosive Gas

Hunter-Bristol Corp., Bristol, Pa.  
 Johnson-Williams, Inc., 2526 Park Blvd., Palo Alto 14, Calif.  
 Tallier & Cooper Co., 75 Front St., Brooklyn 1, N. Y.

### DETECTORS—Fire, Electronic

Arnoux Corp., Box 34628, Los Angeles, Calif.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
 EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV., 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Fireye Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 Klidde & Co., Inc., Walter, 477 Main St., Belleville 9, N. J.  
 Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Marine Electric Co., 600 E. Fourth Ave., Brooklyn 15, N. Y.



Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgeway Rd., Minneapolis 13, Minn.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Teller & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
**VEC TROL ENGINEERING INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.

**DETECTORS—Flaw & Defect, Electronic**

Dice Co., J. W. Englewood, N. J.  
 Electro Circuits, Inc., 401 E. Green St., Pasadena, Calif.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Magnetic Analysis Corp., 42-44 12th St., Long Island City 1, N. Y.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
**RADAR ENGINEERS**, 403 E 45th St., Seattle 5, Wash. ADV. PG. 462.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.

**DETECTORS—Flaw, Ultrasonic**

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
 Branson Instruments, Inc., 1 Brown House Rd., Stamford, Conn.  
 Dice Co., J. W. Englewood, N. J.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
 Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.

**DETECTORS—Galena**

Philmore Mfg. Co., Inc., 113 University Place, New York 3, N. Y.

**DETECTORS—Impedance**

**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Transline Associates, 95 Summit St., Newark 3, N. J.

**DETECTORS—Leak**

Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
**AIRFLYTE ELECTRONICS CO.**, 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Consolidated Electrodynamics Corp., Rochester Div., Rochester 3, N. Y.  
**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
 Fisher Research Lab., Inc., 1961 University Ave., Palo Alto, Calif.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Goldak Co., Inc., The Dept. E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.  
 Johnson-Williams, Inc., 2526 Park Blvd., Palo Alto 14, Calif.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
**LINDE AIR PRODUCTS CO., A DIV. OF UNION CARBIDE & CARBON CORP.**, 30 E. 42nd St., New York 17, N. Y. ADV. PG. 636.  
 Menlo Research Laboratory, 538 Phelan Ave., San Jose, Calif.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif.  
 Twentieth Century Electronics Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
 Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.

**DETECTORS—Metal, Electronic**

Allis-Chalmers Mfg. Co., 935 S. 70th St., Milwaukee 1, Wis.  
 Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.

Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Brillmayer Labs., Inc., E. W., 86 Fulton St., New York 38, N. Y.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Dice Co., J. W. Englewood, N. J.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 Gardiner Electronics, 2545 E. Indian School Rd., Phoenix, Ariz.  
 Goldak Co., Inc., The Dept. E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.  
 Harworth Mfg. Co., 409 El Camino Real, Menlo Park, Calif.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Omco, U. S. 93 & Les Palomas St., Kingham, Ariz.  
**RADIO CORP. OF AMERICA ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Robotron Corp., 21300 W. Eight Mile Rd., Detroit 19, Mich.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

**DETECTORS—Null**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
**BRUNO-NEW YORK INDUSTRIES CORP.**, 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
**FREE TRANSFORMER CO., INC.**, 1736 Wierfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
**KIN TEL (KAY LAB)**, P.O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**DETECTORS—Null—r-f**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

**DETECTORS—Null—VTVM**

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 Fluke Mfg. Co., Inc., 1111 W. Nickerson St., Seattle 99, Wash.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.

**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Millivac Instrument Corp., 2315 Second Ave., Garman, P. O. Box 997, Schenectady, N. Y.

**DETECTORS—Radiation**  
 See **COUNTERS—Geiger**

**DETECTORS—Smoke, Electronic**

**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Kidde & Co., Inc., Walter, 477 Main St., Belleville 9, N. J.  
 Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Machinery Electrification Inc., Northboro, Mass.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
 Television Utilities Corp., 112-23 Colonial Ave., Corona, N. Y.  
 Worner Electronic Devices, Rankin, Ill.

**DETECTORS—Standing Wave**

**AIRCOM INC.**, 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
 Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Bruel & Kjaer, Naerum, Denmark.  
 California Technical Industries, 1421 Old Country Rd., Belmont, Calif.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly, Mass.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Graham Mfg. Co., Inc., 247 Bridge St., East Greenwich, R. I.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Johnson Co., E. F., Waseca, Minn.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveline, Inc., Box 470, Caldwell, N. J.

**DETECTORS—Vibration**

Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
 Beta Corp., P. O. Box 8625, Richmond, Va.  
 Bruel & Kjaer, Naerum, Denmark.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Crescent Engineering & Research Co., 5540 N. Peck Rd., El Monte, Calif.  
 Dubrow Development Co., 235B Penn St., Burlington, N. Y.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 109, 110, 316, 317.  
 International Research & Development Corp., 769 Thomas Lane, P. O. Box 1707, Columbus 16, Ohio.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
**MB MFG. CO., A DIV. OF TETRON AMERICAN, INC.**, 1060 State St., New Haven 11, Conn. ADV. PG. 552.

Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.

## DETECTORS—Water Leak

American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Deimhorst Instrument Co., 601 Cedar St., Boonton, N. J.  
Fisher Research Lab., Inc., 1961 University Ave., Palo Alto, Calif.  
Goldak Co., Inc., The, Dept. E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.  
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
Menlo Research Laboratory, 538 Phelan Ave., San Jose, Calif.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.

## DIAGNOSTIC EQUIPMENT—Computer

Audivox, Inc., 123 Worcester St., Boston 18, Mass.  
Electronics Manufacturing Div. of Sid Stone Radio Labs., 739 Tremont St., Boston, Mass.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54 Mass. ADV. PG. 250, 251.  
Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

## DIAL CRYSTALS

Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
Parisian Novelty Co., 3510 South Western Ave., Chicago 9, Ill.  
Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
Sillcocks-Miller Co., Maplewood, N. J.

## DIAL LIGHTS

See LIGHTS—Dial, Panel and Pilot

## DIALS—Instrument

**ACKERMAN ENGRAVERS**, 458 Broadway, New York, N. Y. ADV. PG. 642.  
Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
**ALLIED ALLEGRI, INC.**, 141 River Rd., Nutley, N. J. ADV. PG. 650.  
American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
Atlantic Engravers, Inc., 52 Ocean Ave., Amityville, N. Y.  
**BODNAR INDUSTRIES, INC.**, 238 Huguenot St., New Rochelle, N. Y. ADV. PG. 691.  
Bolling Industries, Inc., 1117 N. Main Ave., Scranton 2, Pa.  
Bristol Co., The, P.O. Box 1790 EBG, Waterbury 20, Conn.  
Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
**DALE PRODUCTS, INC.** Box 136, Columbus, Neb. ADV. PG. 438, 439.  
Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
Etched Products Corp., 3901 Queens Blvd., Long Island City 4, N. Y.  
Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
Fairfield Engineering Corp., 934 Hope St., Springfield, Conn.  
Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
Ford Engineering Co., Inc., 129 E. "A" St., Upland, Calif.  
**GENERAL COMPONENTS INC.**, 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Henry and Miller Industries Inc., 675 Garfield Ave., Jersey City 5, N. J.  
Hermes Plastics, Inc., 13-19 University Place, New York 3, N. Y.  
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.

**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
Lancaster Glass Corp., Lancaster, Ohio.  
**LEYSE ALUMINUM CO.**, Kewaunee, Wis. ADV. PG. 452.  
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
Nameplates, Inc., 425 E. 101st St., Brooklyn 36, N. Y.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
Panelgraphic Corp., P.O. Box 254, Caldwell, N. J.  
Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.  
Park Nameplate Co., Inc., 34-10 Linden Place, Flushing 54, N. Y.  
Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.  
Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
Sierra Electric Corp., 15100 S. Figueroa St., P.O. Box 85, Gardena, Calif.  
Sillcocks-Miller Co., Maplewood, N. J.  
Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
Sun Dial Corp., E. Passaic Ave., Caldwell, N. J.  
Supreme Process Corp., 44 Bond St., Westbury, N. Y.  
Tablet & Ticket Co., 1021 W. Adams St., Chicago 7, Ill.  
Technicraft Co., 1156 Commonwealth Ave., Boston 34, Mass.  
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
Vandercook & Sons, Inc., 3601 W. Touhy Ave., Chicago 45, Ill.  
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
**WESTINGHOUSE ELECTRIC CORP.**, P.O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## DIALS—Precision

**ACKERMAN ENGRAVERS**, 458 Broadway, New York, N. Y. ADV. PG. 642.  
Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
**ALLIED ALLEGRI, INC.**, 141 River Rd., Nutley, N. J. ADV. PG. 650.  
Atlantic Engravers, Inc., 52 Ocean Ave., Amityville, N. Y.  
Bolling Industries, Inc., 1117 N. Main Ave., Scranton 2, Pa.  
**BORG EQUIPMENT DIVISION, THE GEORGE W. BORG CORP.**, Janesville, Wis. ADV. PG. 142.  
Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
Cardwell Co., Allen D., The, 97 Whiting St., Plainview, Conn.  
Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
Etched Products Corp., 3901 Queens Blvd., Long Island City 4, N. Y.  
Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
Ford Engineering Co., Inc., 129 E. "A" St., Upland, Calif.  
**GENERAL COMPONENTS INC.**, 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Helipot Corp., Newport Beach, Calif.  
Hermes Plastics, Inc., 13-19 University Place, New York 3, N. Y.  
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**LEYSE ALUMINUM CO.**, Kewaunee, Wis. ADV. PG. 452.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
Nameplates, Inc., 425 E. 101st St., Brooklyn 36, N. Y.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
Panelgraphic Corp., P. O. Box 254, Caldwell, N. J.  
Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.  
Pfeffer Products, 3901 W. 54th St., Los Angeles 43, Calif.

Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
**SERVOMECHANISMS, INC., MECHATROL DIV.**, 625 Main St., Westbury, N. Y. ADV. PG. 25.  
Sillcocks-Miller Co., Maplewood, N. J.  
Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
Supreme Process Corp., 44 Bond St., Westbury, N. Y.  
Sun Dial Corp., E. Passaic Ave., Caldwell, N. J.  
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.  
Transradio, Ltd., 138A Cromwell Rd., London S.W. 7, England.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

## DIAPHRAGMS

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
**BACON INDUSTRIES, INC.**, 192 Pleasant St., Watertown, Mass. ADV. PG. 619.  
**BARNES CO. WALLACE, DIV. OF ASSOCIATED SPRING CORP.**, Bristol, Conn. ADV. PG. 311.  
**BARNES-GIBSON-RAYMOND DIVISION**, 40300 Plymouth Rd., Plymouth, Mich. ADV. PG. 311.  
Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorne, N. J.  
Bristol Co., The, P. O. Box 1790EBG, Waterbury 20, Conn.  
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.  
**CONNECTICUT HARD RUBBER CO.**, 407 East St., New Haven 9, Conn. ADV. PG. 646.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
Friez Instrument Division, Bendix Aviation Corp., Baltimore 4, Md.  
Garlock Packing Co., The, Palmyra, N. Y.  
**GIBSON CO., WILLIAM D., THE**, 1800 Clybourn Ave., Chicago 14, Ill. ADV. PG. 311.  
Goodrich Industrial Products Co., B. F., 500 S. Main St., Akron 18, Ohio.  
Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
**MILWAUKEE DIV. OF ASSOCIATED SPRING CORP.**, 341 E. Erie St., Milwaukee 2, Wis. ADV. PG. 311.  
**OHIO DIV. OF ASSOCIATED SPRING CORP.**, 1825 E. First St., Dayton 3, Ohio. ADV. PG. 311.  
Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J.  
**RAYMOND MANUFACTURING CO.**, Corry, Pa. ADV. PG. 311.  
**RESISTOFLEX CORP.**, Roseland, N. J. ADV. PG. 694.  
**SEABOARD COIL SPRING DIVISION**, 15011 S. Broadway, Gardena, Calif. ADV. PG. 311.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
Stevens Products Inc., 86-88 Main St., East Orange, N. J.  
Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

## DIATHERMY & DIATHERMY ACCESSORIES

American Diathermy Products, Inc., 11858 Mississippi Ave., Los Angeles 25, Calif.  
**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BIRTCOR CORP.**, 4371 Valley Blvd., Los Angeles 32, Calif. ADV. PG. 636.  
Fischer & Co., R. A., 517 Commercial St., Glendale 3, Calif.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
Merll Short Wave Diathermy Co., 2758 Whittier Blvd., Los Angeles 23, Calif.  
Mooradian High Frequency Labs., 13 E. Fort Lee Rd., Botoga, N. J.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
Wappler, Inc., 27-10 Astoria Blvd., Long Island City 2, N. Y.  
X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

## DIELECTRIC HEATING

See HEATING—Dielectric

## DIELECTRICS—Gas

**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV. OF ALLIED CHEMICAL & DYE CORP.**, 40 Rector St., New York, N. Y. ADV. PG. 363.

## DIELECTRICS—Liquid

Dow Corning Corp., Midland, Mich.  
Esso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.

GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Electric Co., Silicone Products Dept., Waterford, N. Y.  
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
Silicones Division, A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

**DIELECTRICS—Solid**

See **FILMS—Capacitor**  
**INSULATION MATERIALS**  
Ceramic  
Glass  
Mica  
**PLASTIC MATERIALS**

**DIES**

ABALON PRECISION MFG. CORP., 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
AMERICAN LAVA CORP., Cherokee Blvd., & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
Beryllium Corp., Reading, Pa.  
Eltran Corp., St. Anne, Ill.  
Erca Tool Die & Stamping Co., 19 Ash St., Brooklyn 22, N. Y.  
Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
Eyelet Tool Co., Inc., 236A Broadway, Cambridge 42, Mass.  
Fort Hill Plastic Letters Corp., 40 Hanover St., Boston, Mass.  
GENERAL ELECTRIC CO., MAGNETIC MATERIALS SECTION, 7780 Neff Rd., Edmore, Mich. ADV. PG. 16, 17.  
Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
Hovis Screwlock Co., 8100 E. Nine Mile Rd., Van Dyke, Mich.  
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
JOHNSON & HOFFMAN MFG. CORP., 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
KRENGEL MFG. CO., INC., 227 Fulton St., New York 7, N. Y. ADV. PG. 690.  
Metro Engineering Associates, Easthampton, Mass.  
Morris Co., J. I., Southbridge, Mass.  
O'Neil-Irwin Mfg. Co., 316 Eighth Ave., Lake City, Minn.  
Quadrifig Mfg. Co., 213 W. Grand Ave., Chicago 10, Ill.  
Repath Pacific Div. of Arnold Engineering Co., 641 E. 61st St., Los Angeles 1, Calif.  
Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
Sheffield Corp., The, Dayton 1, Ohio.  
Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
Thomas & Sons, Inc., William, Slocum Ave., Ridgefield, N. J.  
Trent Tube Co., East Troy, N. Y.  
Wales-Strippit Co., Akron, New York.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
WENCO MFG. CO., 1133 W. Hubbard St., Chicago 22, Ill. ADV. PG. 520.  
Whistler & Sons, Inc., S. B., 752 Military Rd., Buffalo 23, N. Y.  
Wiedemann Machine Co., 4272 Wissahickon Ave., Philadelphia 32, Pa.

**DIODES—Germanium**

American Elite, Inc., (Telefunken), 7 Park Ave., New York 16, N. Y.  
AMPEREX ELECTRONIC CORP., 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
Arnhold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y.  
CBS-Hytron, a Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
Clevite Transistor Products, A Div. of Clevite Corp., 241-257 Crescent St., Waltham 54, Mass.  
General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
HUGHES PRODUCTS DIVISION, HUGHES AIRCRAFT CO., Los Angeles 45, Calif. ADV. PG. 340-343.  
International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
Kemtron Electron Products, Inc., 5 Prince Place, Newbury Port, Mass.  
LANSDALE TUBE CO., DIV. OF PHILCO CORP., Church Rd., Lansdale, Pa. ADV. PG. 51.  
Nucleonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
Pacific Semiconductors, Inc., 10451 W. Jefferson, Culver City, Calif.  
Qutronic Semi-Conductor Corp., 525 Broadway, New York 12, N. Y.

RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
RADIO RECEPTOR CO., 240 Wythe Ave., Brooklyn 11, N. Y. ADV. PG. 68, 69.  
Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
Standard Telephones & Cable Ltd., Connaught House, Aldwych, London, W.C. 2, England.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
TRANSITRON ELECTRONIC CORP., 168 Albion St., Wakefield, Mass. ADV. PG. 176, 177.  
TUNG-SOL ELECTRIC INC., 95 Eighth Ave., Newark 5, N. J. ADV. PG. 361.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**DIODES—Microwave Mixer**See **MICROWAVE ACCESSORIES****DIODES—Selenium**See **RECTIFIERS—Metallic Stack****DIODES—Silicon**

AMPEREX ELECTRONIC CORP., 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
Automatic Mfg. Div. of General Instrument Corp., 65 Gouverneur St., Newark, N. J.  
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
BOMAC LABORATORIES, INC., Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
CBS-Hytron, A Div. of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
Flight Research, Inc., P. O. Box 1-F, Richmond 1, Va.  
General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
GENERAL TRANSISTOR CORP., 130-11 90th Ave., Richmond Hill 18, N. Y. ADV. PG. 243.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
HOFFMAN SEMICONDUCTOR DIV. OF HOFFMAN ELECTRONICS CORP., 930 Pitner Ave., Evanston, Ill. ADV. PG. 443.  
HUGHES PRODUCTS DIVISION, HUGHES AIRCRAFT CO., Los Angeles 45, Calif. ADV. PG. 340-343.  
INTERNATIONAL RECTIFIER CORP., 1521 E. Grand Ave., El Segundo, Calif. ADV. PG. 218.  
Kemtron Electron Products, Inc., 5 Prince Place, Newburyport, Mass.  
MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
MOTOROLA, INC., SEMICONDUCTOR PRODUCTS DIV., 5005 E. McDowell Rd., Phoenix, Ariz. ADV. PG. 639.  
Pacific Semiconductors, Inc., 10451 W. Jefferson, Culver City, Calif.  
Qutronic Semi-Conductor Corp., 525 Broadway, New York 12, N. Y.  
Radio Development & Research Corp., 100 Pennsylvania Ave., Paterson 3, N. J.  
RADIO RECEPTOR CO., 240 Wythe Ave., Brooklyn 11, N. Y. ADV. PG. 68, 69.  
Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
SARKES TARZIAN, INC., RECTIFIER DIV., 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
Sickles, F. W., Div. General Instrument Corp., 165 Front St., Chicopee, Mass.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
Thermosen, Inc., 361 W. Main St., Stamford, Conn.  
TRANSITRON ELECTRONIC CORP., 168 Albion St., Wakefield, Mass. ADV. PG. 176, 177.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**DIODES—Silicon Power**

Delco Radio Division, GM Corp., 700 E. Firmin St., Kokomo, Ind.  
INTERNATIONAL RECTIFIER CORP., 1521 E. Grand Ave., El Segundo, Calif. ADV. PG. 218.  
MICROWAVE ASSOCIATES INC., Burlington, Mass. ADV. PG. 225-228.  
Qutronic Semi-Conductor Corp., 525 Broadway, New York 12, N. Y.  
RADIO RECEPTOR CO., 240 Wythe Ave., Brooklyn 11, N. Y. ADV. PG. 68, 69.  
SARKES TARZIAN, INC., RECTIFIER DIV., 415 College Ave., Bloomington, Ill. ADV. PG. 434.  
Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira, N. Y.

**DIRECTION FINDERS**

AIRCRAFT RADIO CORP., Boonton, N. J. ADV. PG. 495.

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Collins Radio Co., Cedar Rapids, Iowa.  
Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7 Calif.  
International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
Jefferson, Inc., Ray, 40 E. Merrick Rd., Freeport, N. Y.  
KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
Marconi's Wireless Telegraph Co., Ltd., 23-25 Beaver St., New York 4, N. Y.  
Oaktron Electric Co., Tinley Park, Ill.  
Olympic Radio & Television Co., 34-01 38th Ave., Long Island City, N. Y.  
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
Sonar Radio Corp., 3050 W. 21st St., Brooklyn 24, N. Y.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

**DISCS—Blank Recording**

Allied Recording Products Co., 32-32 Greenpoint Ave., Long Island City 1, N. Y.  
Audio Devices, Inc., 444 Madison Ave., New York 22, N. Y.  
Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
Recoton Corp., 52-35 Barnett Ave., Long Island City 4, N. Y.  
Reeves Soundcraft Corp., 10 E. 52nd St., New York 22, N. Y.  
Zephyr Products Co., 129 E. 124th St., New York 55, N. Y.

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Only distributors featuring advertisements in the DISPLAY ADVERTISING SECTION appear in the following list:

ARCO ELECTRONICS, INC., 64 White St., New York 13, N. Y. ADV. PG. 180.  
GRAYBAR ELECTRIC CO., INC., 420 Lexington Ave., New York 17, N. Y. (Offices in more than 130 principle cities in the United States). ADV. PG. 740.  
METROPOLITAN DISTRIBUTORS, 1133 Broadway, New York 10, N. Y. ADV. PG. 591.  
SCHWEBER ELECTRONICS, 122 Herricks Rd., Mineola, N. Y. ADV. PG. 627.  
WESTERN INTERNATIONAL CO., 45 Vesey St., New York, N. Y. ADV. PG. 682.

**DIVIDERS—Power**See **MICROWAVE ACCESSORIES****DIVIDERS—Voltage**

ACTON LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.  
Analog Controls, Inc., 39 Roselle St., Mineola, N. Y.  
CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.  
DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
Fluke Mfg. Co., Inc., 1111 W. Nickerson St., Seattle 99, Wash.  
GIANNINI & CO., INC., G.M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
GRAY INSTRUMENT CO., 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
JENNINGS RADIO MFG. CORP., 970 McLaughlin Ave., P. O. Box 1278, San Jose 8, Calif. ADV. PG. 406, 407.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
MERCURY ELECTRONIC CO., Box 450, Red Bank, N. J. ADV. PG. 61.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.  
WacLine, Inc., 35 S. St., Claire St., Dayton 2, Ohio.

# ELECTRONIC and ALLIED PRODUCTS

# ELECTROPLETHYSMOGRAPHS

WARD LEONARD ELECTRIC CO., 31 South St., Mt. Vernon, N. Y. ADV. PG. 408.

## DOLLIES—Laboratory & Oscilloscope

AINSLIE CORP., 312 Quincy Ave., Quincy 69, Mass. ADV. PG. 589.  
Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.  
BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
P.B.R. MANUFACTURING CO., H & Luzerne Sts., Philadelphia 24, Pa. ADV. PG. 684.  
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
PRECISE MEASUREMENTS CO., R.D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
SCIENTIFIC ENGINEERING LABORATORIES, 2229 McGee Ave., Berkeley, Calif. ADV. PG. 477.  
TECHNICAL SERVICE CORP., 1404 W. Market St., Louisville 5, Ky. ADV. PG. 570.

## DOSIMETERS

ANTON ELECTRONIC LABS, INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
BJ ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.  
Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
Landsverk Electrometer Co., 550 W. Garfield Ave., Glendale 4, Calif.  
NRD Instrument Co., 6425 Etzel Ave., St. Louis 14, Mo.  
Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
Nucleonic Company of America, 196 DeGraw St., Brooklyn 31, N. Y.  
Pittsburgh Plate Glass Co., 1 Gateway Center, Pittsburgh 22, Pa.  
Servo-Recording Instruments, Inc., 1815 W. Van Buren, Phoenix, Ariz.  
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.  
UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSDUCER PRODUCTS CORP., 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

## DRAFTING EQUIPMENT

Dietzgen Co., Eugene, 2425 Sheffield Ave., Chicago, Ill.  
Bruning Co., Inc., Charles, 4700 Montrose Ave., Chicago 41, Ill.  
Chart-Pak, Inc., Leeds, Mass.  
Clearprint Paper Co., 1482 67th St., Emeryville, Calif.  
Eagle Pencil Co., 703 E. 13th St., New York, N. Y.  
E-Z Templates, P. O. Box 86424, Los Angeles 66, Calif.  
Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
Griffin Co., John, 2157 James Ave., St. Paul 5, Minn.  
Hamilton Mfg. Co., Two Rivers, Wis.  
Johnson Research Corp., Bethpage, N. Y.  
Joyro Associates, 488 Latham Rd., Mineola, N. Y.  
Karp, Lawrence A., 16 Putnam Park, Greenwich, Conn.  
Keuffel & Esser Co., Hoboken, N. J.  
Koh-I-Noor Pencil Co., Bloomsbury, N. J.  
Pease Co., C. F., 2601 W. Irving Park Rd., Chicago, Ill.  
Post Co., Frederick, 3650 N. Avondale Ave., P. O. Box 803, Chicago 90, Ill.  
PRECISE MEASUREMENTS CO., R.D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
Stacor Equipment Co., 732 E. New York Ave., Brooklyn 5, N. Y.  
Staedtler Inc., J. S., 25 Dicarolis Court, Hackensack, N. J.  
Stantpat 150-42 12th Rd., Whitestone 57, N. Y.  
Universal Drafting Machine Corp., 7960 Lorain Ave., Cleveland 2, Ohio.  
Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.  
Wilson Camera Co., Inc., 1395 Lawrence Rd., Haverstown, Pa.

## DRAFTING PAPER

Clearprint Paper Co., 1482 67th St., Emeryville, Calif.  
Keuffel & Esser Co., Hoboken, N. J.

## DRILL PRESSES—Precision

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
High Speed Hammer Co., Rochester, N. Y.  
Hillyer Instrument Co., Inc., 331 Centennial Ave., Cranford, N. J.  
Levin & Sons, Inc., Louis, 3610 S. Broadway, Los Angeles 7, Calif.

MICO INSTRUMENT CO., 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
Phillips & Hiss Co., Inc., 1155 McCadden Place, Hollywood 38, Calif.  
Wales-Strippit Co., Akron, New York.

## DRIVERS—Recording

Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

## DRIVES—Small Electric Drive Mechanisms

BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
BOWMAR INSTRUMENT CORP., 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Electric Co., Clock and Timer Dept., Ashland, Mass.  
Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.  
HAYDON CO., A. W., THE, 238 N. Elm St., Waterbury, Conn. ADV. PG. 531.  
Nemeth, Inc., 2223 S. Carmelina Ave., Los Angeles 64, Calif.  
Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
Servosped Div. of Electro Devices, Inc., 4 Godwin Ave., Paterson, N. J.  
Servo-Tek Products Co., Inc., 1086 Goffie Rd., Hawthorne, N. J.  
Transco Products, Inc., 12210 Nebraska Ave., Los Angeles 25, Calif.  
UNI-WAVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
WaLine, Inc., 35 S. St. Claire St., Dayton 2, Ohio.  
Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

## DRIVES VARIABLE SPEED

See CONTROLS—Electronic AC Motor Speed

## DRYERS, ELECTRONIC—Dehydration & Drying

Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 335 N. Newport Blvd., Newport Beach, Calif.  
Daco Instrument Co., Tillary & Prince Sts., Brooklyn 1, N. Y.  
Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
Miskella Infra-Red Co., The, E. 73rd & Grand Ave., Cleveland 4, Ohio.  
MURPHY & MILLER, INC., 1322 S. Michigan Ave., Chicago 5, Ill. ADV. PG. 677.  
New England Oven & Furnace Co., Post Rd., Orange, Conn.  
Pittsburgh Lectrodryer Div. of McGraw-Edison Co., 300 32nd St., Pittsburgh 30, Pa.  
Robbins Aviation, 1735 W. Florence Ave., Los Angeles 47, Calif.  
Stokes Co., F. J., 5500 Tabor Rd., Philadelphia 20, Pa.  
Woodwelding, Inc., 3000 W. Olive, Burbank, Calif.

## DUPLEXERS—Microwave

See MICROWAVE ACCESSORIES

## DYNAMOMETERS

Aerolab Development Co., 330 W. Holly St., Pasadena, Calif.  
Bischoff Die & Engraving, 1405 16th St., Racine, Wis.  
Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
Dalmotor Co., 1375 Clay St., Santa Clara, Calif.  
Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
Electro-Mechanical Div. of General Riveters, Inc., 785 Hertel Ave., Buffalo 7, N. Y.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
L. A. B. Corporation, Skaneateles, N. Y.  
New England Scientific Instrument Co., Box 408, Cambridge 39, Mass.  
STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.

## DYNAMOTORS

Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
Carter Motor Co., 2746 W. George St., Chicago 18, Ill.  
CONTINENTAL ELECTRIC CO., INC., 334 Ferry St., Newark 5, N. J. ADV. PG. 496.  
Eicor, Inc., 4235 W. North Ave., Chicago 39, Ill.  
ELECTRIC SPECIALTY CO., 300 South St., Stamford, Conn. ADV. PG. 490.  
Electro Engineering Products Co., 609 W. Lake St., Chicago, Ill.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.

INDUCTION MOTORS CORP., 570 Main St., Westbury, N. Y. ADV. PG. 266.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
Lesca, Via Bergamo 21, Milan, Italy.  
Motordyne Inc., 2661 S. Myrtle Ave., Monrovia, Calif.  
Redmond Co., Inc., Owosso, Mich.  
Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
Small Motors, Inc., 2076 Elston Ave., Chicago 14, Ill.  
Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.  
Wincharger Corp., E. 7th & Division Sts., Sioux City, Iowa.

## ELBOWS

See MICROWAVE ACCESSORIES

BENDS—Microwave

## ELECTROCARDIOGRAPHS

Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
Corbett Science Laboratories, F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
Edin Co., Inc., 207 Main St., Worcester, Mass.  
Electrodyn Co., Endicott St., Norwood, Mass.  
Holland Electronics, 40 Great Jones St., New York 12, N. Y.  
Levinthal Electronic Products, Inc., 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.  
RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
SANBORN CO., 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

## ELECTRODES—High Frequency

BIRTCHE CORP., 4371 Valley Blvd., Los Angeles 32, Calif. ADV. PG. 636.  
Electronic Processes Corp., 2190 Folsom St., San Francisco 10, Calif.  
VOLTARC TUBES, INC., 44 Cross St., Norwalk, Conn. ADV. PG. 699.

## ELECTROENCEPHALOGRAPHS

Edin Co., Inc., 207 Main St., Worcester, Mass.  
Electro-Medical Lab., Inc., South Woodstock 8, Vt.  
Grass Instrument Co., 101 Old Colony Ave., Quincy, Mass.  
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.

## ELECTRO MAGNETS

See MAGNETS

## ELECTROMETERS

AMERICAN TRADAIR CORP., SUB. OF EKCO ELECTRONICS, LTD., 34-01 30th St., Long Island City 6, N. Y. ADV. PG. 693.  
Applied Physics Corp., 362 W. Colorado St., Pasadena 1, Calif.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
ELECTROMATION CO., 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
KEITHLEY INSTRUMENTS, INC., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
Landsverk Electrometer Co., 550 W. Garfield Ave., Glendale 4, Calif.  
MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
Servo-Recording Instruments, Inc., 1815 W. Van Buren, Phoenix, Ariz.

## ELECTROMYOGRAPHS

Electro-Medical Lab., Inc., South Woodstock 8, Vt.  
LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
Teca Corp., 80 Main St., White Plains, N. Y.

## ELECTROPLETHYSMOGRAPHS

Grass Instrument Co., 101 Old Colony Ave., Quincy, Mass.

Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

## ELECTRO-SHOCK THERAPY APPARATUS

Lektra Laboratories, 154 11th Ave., New York 11, N. Y.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.

## ELECTRO-SURGICAL APPARATUS

**BIRTCHEER CORP.**, 4371 Valley Blvd., Los Angeles 32, Calif. ADV. PG. 636.  
**Burton Mfg. Co.**, 2520 Colorado Ave., Santa Monica, Calif.  
**Dallons Laboratories, Inc.**, 5066 Santa Monica Blvd., Los Angeles 29, Calif.  
**FARMER ELECTRIC PRODUCTS CO., INC.**, 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**Kahn & Co., Inc.**, 541 Windsor St., Hartford 1, Conn.  
**Lab-Tronics, Inc.**, 3656 N. Lincoln Ave., Chicago 13, Ill.  
**Levinthal Electronic Products, Inc.**, 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.  
**Mooradian High Frequency Labs.**, 13 E. Fort Lee Rd., Bogata, N. J.  
**Nuclear Corp. of America**, 350 Fifth Ave., New York 1, N. Y.  
**Scientific Instruments Service Co.**, 44 Bromfield St., Boston 8, Mass.  
**Wappler, Inc.**, 27-10 Astoria Blvd., Long Island City 2, N. Y.  
**X-Ray Dept., General Electric Co.**, 4855 Electric Ave., Milwaukee 1, Wis.

## ELEMENTS—Heating

**Acme Electric Heating Co.**, 1217 Washington St., Boston, Mass.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**Cox & Co., Inc.**, 115 E. 23rd St., New York 10, N. Y.  
**Cutler-Hammer, Inc.**, 411 N. 12th St., Milwaukee 1, Wis.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**Eagle Electric Mfg. Co., Inc.**, 23-10 Bridge Plaza, S., Long Island City, N. Y.  
**Electro-Flex Heat, Inc.**, 83 Woodbine St., Hartford 6, Conn.  
**Electro-Serv Co.**, 480 Johnson Ave., Brooklyn 37, N. Y.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**Goodrich Aviation Products, B. F.**, Div. of B. F. Goodrich Co., Akron, Ohio.  
**Huppert Co., K. H.**, 6864 S. Cottage Grove Ave., Chicago 37, Ill.  
**Hayes Inc., C. I.**, 800 Wellington Ave., Cranston, R. I.  
**Polymica & Insulation Co.**, 683 Main St., Willimantic, Conn.  
**Safeway Heat Element Inc.**, 680 Newfield St., Middletown, Conn.  
**States Co.**, 19 New Park Ave., Hartford 6, Conn.  
**Steward Mfg. Co., D. M.**, 3600 Jerrome Ave., Chattanooga 1, Tenn.  
**Topp Industries, Inc.**, 5255 W. 102nd St., Los Angeles 45, Calif.  
**Tuttle & Kift**, 1823 N. Monitor St., Chicago 39, Ill.  
**Vulcan Electric Co.**, Danvers, Mass.  
**Wall Mfg. Co.**, Grove City, Pa.  
**WESTINGHOUSE ELECTRIC CORP.**, P.O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## ELEMENTS, HEATING—Crystal Oven

**Cox & Co., Inc.**, 115 E. 23rd St., New York 10, N. Y.  
**Elektro-Serv Co.**, 480 Johnson Ave., Brooklyn 37, N. Y.  
**States Co.**, 19 New Park Ave., Hartford 6, Conn.

## EMBEDDED ASSEMBLIES

**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**AIRFLYTE ELECTRONICS CO.**, 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.  
**Alcor Electronics Corp.**, 180 Lafayette St., New York 13, N. Y.  
**Allied Industries, Inc.**, 25th & Woodland Ave., Louisville 10, Ky.  
**AMP INC., CHEMICALS & DIELECTRICS DIV.**, 155 Park St., Elizabethtown, Pa. ADV. PG. 255.  
**Barker & Williamson**, 235 Fairfield Ave., Upper Darby, Pa.  
**Beck's, Inc.**, 298-300 E. Fifth St., St. Paul 1, Minn.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. ADV. PG. 438, 439.  
**Decatur Electronics Industries Corp.**, 203 Ornic Drive, Brightwater, N. Y.  
**DeLuxe Coils, Inc.**, Wabash, Ind.  
**Dwyer Engineering Co., Inc.**, P. O. Box 483, Nashua, N. H.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
**Electro Winders Co., Inc.**, 854 W. Front St., Covina, Calif.

**Electronic Assembly Co., Inc.**, 5 Prescott St., Boston 19, Mass.  
**ELECTRONIC PLASTICS CORP.**, 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.  
**Electronic Service Corp.**, 2906 Birch St., Franklin Park, Ill.  
**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.  
**Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
**Fisher Engineering, Inc.**, 2060 U.S. East, P.O. Box 327, Huntington, Ind.  
**GENERAL RESISTANCE PRODUCTS CORP.**, 577 E. 156th St., New York 55, N. Y. ADV. PG. 612.  
**INSTANT CIRCUITS DIV. OF ALFRED W. BARBER LABS.**, 32-44 Francis Lewis Blvd., Flushing, N. Y. ADV. PG. 660.  
**Jacobs Instrument Co.**, 4718 Bethesda Ave., Bethesda, Md.  
**Magnavox Co., The**, 2131 Beuter Rd., Fort Wayne, Ind.  
**Millen Mfg. Co.**, James, 150 Exchange St., Malden, Mass.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
**NATIONAL COIL CO.**, P.O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
**New York Coil Co.**, Phoenixville 12, Pa.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 1, N. J. ADV. PG. 648.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**Plastics & Electronics Co., Inc.**, P. O. Box 38, Station J, Buffalo 8, N. Y.  
**Randall Inc., Douglas**, 6 Pawcatuck Ave., Westerly, R. I.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
**Sierra Electric Corp.**, 15100 S. Figueroa St., P.O. Box 85, Gardena, Calif.  
**Summit Electronics, Inc.**, 7 Industrial Place, Summit, N. J.  
**Telectro Industries Corp.**, 35-16 37th St., Long Island City 1, N. Y.  
**Telegraph Condenser Co. Ltd.**, Wales Farm Rd., Acton, London W. 3, England.  
**Telex, Inc.**, Telex Park, St. Paul 1, Minn.  
**Topper Mfg. Co., Inc.**, 43 Roselle St., Mineola, N. Y.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**Vanguard Electronics Co.**, 3384 Motor Ave., Los Angeles 34, Calif.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
**Whitney Blake Co.**, New Haven 14, Conn.  
**Wilmar Mfg. Co., Inc.**, 1110 Truman Rd., Kansas City 6, Mo.

## EMBEDDED COMPONENTS

**AIRFLYTE ELECTRONICS CO.**, 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.  
**Alcor Electronics Corp.**, 180 Lafayette St., New York 13, N. Y.  
**Barker & Williamson**, 235 Fairfield Ave., Upper Darby, Pa.  
**Beck's, Inc.**, 298-300 E. Fifth St., St. Paul 1, Minn.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. ADV. PG. 438, 439.  
**DeLuxe Coils, Inc.**, Wabash, Ind.  
**Dwyer Engineering Co., Inc.**, P. O. Box 483, Nashua, N. H.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
**Electro-Winders Co., Inc.**, 854 W. Front St., Covina, Calif.  
**Electronic Assembly Co., Inc.**, 5 Prescott St., Boston 19, Mass.  
**ELECTRONIC PLASTICS CORP.**, 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.  
**Electronic Service Corp.**, 2906 Birch St., Franklin Park, Ill.  
**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.  
**Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.  
**Fisher Engineering, Inc.**, 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.  
**GENERAL RESISTANCE PRODUCTS CORP.**, 577 E. 156th St., New York 55, N. Y. ADV. PG. 612.  
**Houghton Laboratories, Inc.**, 322 Houghton Ave., Olean, N. Y.  
**INSTANT CIRCUITS DIV. OF ALFRED W. BARBER LABS.**, 32-44 Francis Lewis Blvd., Flushing, N. Y. ADV. PG. 660.  
**Jacobs Instrument Co.**, 4718 Bethesda Ave., Bethesda, Md.  
**Magnavox Co., The**, 2131 Beuter Rd., Fort Wayne, Ind.  
**Millen Mfg. Co.**, James, 150 Exchange St., Malden, Mass.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
**New York Coil Co.**, Phoenixville 12, Pa.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.

**Randall Inc., Douglas**, 6 Pawcatuck Ave., Westerly, R. I.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
**Sierra Electric Corp.**, 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
**Telectro Industries Corp.**, 35-16 37th St., Long Island City 1, N. Y.  
**Telegraph Condenser Co. Ltd.**, Wales Farm Rd., Acton, London W. 3, England.  
**Telex, Inc.**, Telex Park, St. Paul 1, Minn.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**Whitney Blake Co.**, New Haven 14, Conn.

## ENCAPSULATION SERVICES

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
**AIRFLYTE ELECTRONICS CO.**, 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.  
**Alcor Electronics Corp.**, 180 Lafayette St., New York 13, N. Y.  
**Allied Industries, Inc.**, 25th & Woodland Ave., Louisville 10, Ky.  
**Applied Resins Corp.**, 304 Oraton St., Newark 4, N. J.  
**Aries Laboratories, Inc.**, 45-33 Davis St., Long Island City 1, N. Y.  
**Biggs Co., Carl H.**, 2255 Barry Ave., West Los Angeles 64, Calif.  
**Boonton Molding Co.**, Boonton, N. J.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. ADV. PG. 438, 439.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**De Luxe Coils, Inc.**, Wabash, Ind.  
**DeWitt Development Co.**, 308 W. 127th St., Blue Island, Ill.  
**Dwyer Engineering Co., Inc.**, Box 483, Nashua, N. H.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
**Electro-Winders Co., Inc.**, 854 W. Front St., Covina, Calif.  
**Electronic Assembly Co., Inc.**, 5 Prescott St., Boston 19, Mass.  
**ELECTRONIC PLASTICS CORP.**, 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.  
**Electronic Service Corp.**, 2906 Birch St., Franklin Park, Ill.  
**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.  
**Electronics & Avionics Div. of the Emerson Electric Mfg. Co.**, 8100 Florissant Ave., St. Louis 21, Mo.  
**Ellanar Chemical Co.**, 2308 Oakton St., Evanston, Ill.  
**Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.  
**Epoxy Products, Inc.**, 137 Coit St., Irvington, N. J.  
**Essex Electronics**, Berkeley Heights, N. J.  
**Fisher Engineering, Inc.**, 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.  
**GENERAL RESISTANCE PRODUCTS CORP.**, 577 E. 156th St., New York 55, N. Y. ADV. PG. 612.  
**Houghton Laboratories, Inc.**, 322 Houghton Ave., Olean, N. Y.  
**INSTANT CIRCUITS DIV. OF ALFRED W. BARBER LABS.**, 32-44 Francis Lewis Blvd., Flushing, N. Y. ADV. PG. 660.  
**Jacobs Instrument Co.**, 4718 Bethesda Ave., Bethesda, Md.  
**KAHLE ENGINEERING CO.**, 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
**Louis Laboratories**, 1947 Broadway, New York 23, N. Y.  
**MacLeod & Hanopol, Inc.**, 10 Roland St., Charlestown 29, Mass.  
**Metaplast Corp.**, Davisville Rd. at Pa. Turnpike, Hatboro, Pa.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
**Minneapolis-Honeywell Regulator Co.**, Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
**National Engineering Products, Inc.**, 435 Washington Bldg., Washington 5, D. C.  
**New York Coil Co.**, Phoenixville 12, Pa.  
**Nopco Chemical Co.**, Plastics Div., Harrison, N. J.  
**Nuclear Corp. of America**, 350 Fifth Ave., New York 1, N. Y.  
**Nureco, Inc.**, 1100 Pontiac Ave., Cranston 10, R. I.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**Plastronics**, P. O. Box 96, Winter Hill 45, Mass.  
**Randall Inc., Douglas**, 6 Pawcatuck Ave., Westerly, R. I.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
**Silicone Seals Inc.**, 3125 Milwaukee Ave., Chicago 18, Ill.  
**Smooth-On Mfg. Co.**, 572 Communipaw Ave., Jersey City 4, N. J.  
**Summit Electronics, Inc.**, 7 Industrial Place, Summit, N. J.  
**Technicraft Co.**, 1156 Commonwealth Ave., Boston 34, Mass.  
**Telex, Inc.**, Telex Park, St. Paul 1, Minn.  
**Topper Mfg. Co., Inc.**, 43 Roselle St., Mineola, N. Y.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
**Viking Industries, Inc.**, 21343 Roscoe Blvd., Canoga Park, Calif.

# ELECTRONIC and ALLIED PRODUCTS

# FASTENERS & FASTENING DEVICES

WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

## ENCAPSULATORS OF PLASTIC MATERIALS

See ENCAPSULATION SERVICES

## ENCLOSURES

See CABINETS HOUSINGS

## ENGRAVING & PROFILING—Services

ACKERMAN ENGRAVERS, 458 Broadway, New York, N. Y. ADV. PG. 642.  
Acme Electronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
Bolling Industries, Inc., 1117 N. Main Ave., Scranton 2, Pa.  
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
Diamond-Union Stamp Works, 81 Washington St., Boston 8, Mass.  
Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
Fort Hill Plastic Letters Corp., 40 Hanover St., Boston, Mass.  
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.  
Hermes Plastics, Inc., 13-19 University Place, New York 3, N. Y.  
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
MICO INSTRUMENT CO., 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
Nameplates, Inc., 425 E. 101st St., Brooklyn 36, N. Y.  
NEW HERMES ENGRAVING MACHINE CORP., 13-19 University Place, New York 3, N. Y. ADV. PG. 687.  
Panelite Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y.  
Pfeifer Products, 3901 W. 54th St., Los Angeles 43, Calif.  
ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
SONEX, INC., 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
Strickland Engineering Co., Inc., 117 Austin St., Newtonville, Mass.  
Technicraft Co., 1156 Commonwealth Ave., Boston 34, Mass.  
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.  
WESTLAKE PLASTICS CO., 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.

## ENVIRONMENTAL TEST EQUIPMENT

See TEST EQUIPMENT—Environmental

## ESCUTCHEONS

Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
Chicago Die Mold Div. of U. S. Rubber Co., 4300 New Haven Ave., Fort Wayne 4, Ind.  
Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.  
Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171.  
Etched Products Corp., 39-01 Queens Blvd., Long Island City 4, N. Y.  
Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
Lancaster Glass Corp., Lancaster, Ohio.  
LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
NORTH SHORE NAMEPLATE INC., 214-27 Northern Blvd., Bayside 61, N. Y. ADV. PG. 486.  
Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.

Park Nameplate Co., Inc., 34-10 Linden Place, Flushing 54, N. Y.  
Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.  
Sillcock-Miller Co., Maplewood, N. J.  
Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

## ETCHED CIRCUITS

See CIRCUITS—Printed, Stamped or Etched

## EXTRUDERS OF PLASTIC MATERIALS

See INSULATION PARTS  
Plastic Insulation Parts—Extruded

## FABRICATORS OF PLASTIC MATERIALS

See INSULATION PARTS  
Plastic Insulation Parts—Fabricated

## EYELETS

American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
AMERICAN LAVA CORP., Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
Continental Felt Co., 22 W. 15th St., New York 11, N. Y.  
Eyelet Tool Co., Inc., 236A Broadway, Cambridge 42, Mass.  
FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
Goe Engineering Co., 219 S. Mednik Ave., Los Angeles 22, Calif.  
GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
JOHNSON & HOFFMAN MFG. CORP., 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
LERO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664.  
Metpro, Inc., R. I., 230 Toronto Ave., Providence, R. I.  
PIX MFG. CO., INC., 81A Hudson St., Newark, N. J. ADV. PG. 670.  
Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.  
Scovill Manufacturing Co., Waterbury 20, Conn.  
Segal, Edward, 72 Spring St., New York 12, N. Y.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
Stimpson Co., Inc., Edwin B., 74 Franklin Ave., Brooklyn 5, N. Y.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
UNITED-CARR FASTENER CORP., Cambridge 42, Mass. ADV. PG. 64.  
United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.  
Waterbury Companies, Inc., Waterbury 20, Conn.  
Waterbury Pressed Metal Co., P-M Nut Div., 300 Chase Ave., Waterbury 14, Conn.

## FABRIC

See INSULATION MATERIALS

## FACSIMILE

See RECORDERS—Facsimile

## FACSIMILE RECORDING PAPERS

See RECORDERS—Facsimile

## FANS—Cooling

See BLOWERS—Small

## FASTENERS & FASTENING DEVICES

Ackerman-Johnson Co., 625 W. Jackson Blvd., Chicago 6, Ill.  
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles 44, Calif.  
AIRCRAFT RADIO CORP., Boonton, N. J. ADV. PG. 495.  
ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
American Screw Co., Willimantic, Conn.  
Anti-Corrosive Metal Products Co., Castleton-on-Hudson, N. Y.  
Autoscrew Co., 216-222 W. 18th St., New York, N. Y.

Blake & Johnson Co., 1495 Thomaston Ave., Waterville 48, Conn.  
Boots Aircraft Nut Corp., Newton Ave., Norwalk, Conn.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
BURNDY CORPORATION, Norwalk, Conn. ADV. PG. 441.  
Camcar Screw & Mfg. Co., Div. of Textron Inc., 600 18th Ave., Rockford, Ill.  
CAMLOC FASTENER CORP., 22 Spring Valley Rd., Paramus, N. J. ADV. PG. 241.  
Central Screw Co., 1501 Shields Ave., Chicago 9, Ill.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
Chicago Expansion Bolt Co., 1338 W. Concord Place, Chicago 22, Ill.  
Chicago Rivet & Machine Co., Bellwood, Ill.  
Chicago Screw Co., The, Bellwood, Ill.  
CINCH MFG. CO., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
Derringer Metallurgical Corp., 8127 Monticello Ave., Skokie, Ill.  
DIMCO-GRAY CO., 207 E. Sixth St., Dayton, Ohio. ADV. PG. 638.  
Dzus Fastener Co., Inc., Box 185, Babylon, N. Y.  
Eaton Mfg. Co., Reliance Div., 25 Charles Ave., S.E., Massillon, Ohio.  
Elastic Stop Nut Corp., 2330 Vauxhall Rd., Union, N. J.  
Exacto Industries, Inc., 8730-36 Santa Monica Blvd., Los Angeles 46, Calif.  
Eyelet Tool Co., Inc., 236A Broadway, Cambridge 42, Mass.  
Fasteners, Inc., 580 Fifth Ave., New York 36, N. Y.  
Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
General Tire & Rubber Co., Akron, Ohio.  
Goodrich Aviation Products, B. F., Div. of B. F. Goodrich Co., Akron, Ohio.  
Greer Stop Nut Co., 2620 W. Fluornoy St., Chicago 12, Ill.  
GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
Groov-Pin Corp., 1125 Hendricks Causeway, Ridgefield, N. J.  
Harper Co., H. M., 8200 Lehigh Ave., Morton Grove, Ill.  
Hassell, Inc., John, P. O. Box 2242, Westbury, N. Y.  
Heli-Coil Corp., Shelter Rock Rd., Danbury, Conn.  
Holub Industries, Inc., 414 DeKalb Ave., Sycamore, Ill.  
Huck Mfg. Co., 2480 Bellevue Ave., Detroit 7, Mich.  
Industrial Retaining Ring Co., 57 Cordier St., Irvington 11, N. J.  
Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill.  
Jacobson Nut Mfg. Corp., Market St., Kenilworth 2, N. J.  
Lion Fastener, Inc., c/o Southco, Lester, Pa.  
Morris Co., J. I., Southbridge, Mass.  
National Screw & Mfg. Co., The, Cleveland 4, Ohio.  
Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
NIELSEN HARDWARE CORP., 770 Wethersfield Ave., Hartford 14, Conn. ADV. PG. 539.  
Nugent Electronics Co., New Albany, Ind.  
Nylok Corp., The, 611 Industrial Ave., Paramus, N. J.  
Nyltite Corp. of America, 2331 Morris Ave., Union, N. J.  
Palnut Co., The, 77 Glen Rd., Mountaintside, N. J.  
Parker-Kalon Division of General American Transportation Corp., Clifton, N. J.  
Penn Engineering & Mfg. Corp., Box 311, Doylestown, Pa.  
Pheoil Mfg. Co., 5700 Roosevelt Rd., Chicago 50, Ill.  
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
Rosan Inc., 2901 West Coast Highway, Newport Beach, Calif.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Scovill Manufacturing Co., Waterbury 20, Conn.  
Set Screw Mfg. Co., 470 Main St., Bartlett, Ill.  
Shakeproof, Div. of Illinois Tool Works, St. Charles Rd., Elgin, Ill.  
Simmonds Aeroaccessories, Inc., Tarrytown, N. Y.  
Simmons Fastener Corp., 1752 N. Broadway, Albany 1, N. Y.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
SOUTHCOR DIVISION, SOUTH CHESTER CORP., 233 Industrial Highway, Lester, Pa. ADV. PG. 254.  
Standard Pressed Steel Co., Box 775, Jenkintown 10, Pa.  
STAR EXPANSION PRODUCTS CO., INC., 142 Liberty St., New York 6, N. Y. ADV. PG. 588.  
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
Stimpson Co., Inc., Edwin B., 74 Franklin Ave., Brooklyn 5, N. Y.  
Thompson-Bremer & Co., 520 N. Dearborn, Chicago 10, Ill.  
Tinnerman Products, Inc., P. O. Box 6688, Dept. No. 16, Cleveland 1, Ohio.  
Torrington Co., 59 Field St., Torrington, Conn.  
Tubular Rivet & Stud Co., Weston Ave., Wollaston (Quincy) 70, Mass.  
UNITED-CARR FASTENER CORP., Cambridge 42, Mass. ADV. PG. 64.  
United Screw & Bolt Corp., 2513 W. Cullerton St., Chicago 8, Ill.

United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.  
 Vibrex Fastener Corp., Mount Kisco, N. Y.  
 Waldes Kohinor Inc., 47-16 Austel Place, Long Island City 1, N. Y.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
 Waterbury Pressed Metal Co., P-M Nut Div., 300 Chase Ave., Waterbury 14, Conn.  
 Weckesser Co., 5701 Northwest Highway, Chicago 50, Ill.

**FELT & FELT PARTS**

American Felt Co., Glenville, Conn.  
 Armstrong Cork Co., Lancaster, Pa.  
 Auburn Mfg. Co., The Pease Ave. & Stack St., Middletown, Conn.  
 Boston Felt Co., 210 South St., Boston 11, Mass.  
 Brady Co., W. H., 727 W. Glendale Ave., Milwaukee 12, Wis.  
 Continental Felt Co., 22 W. 15th St., New York 11, N. Y.  
 Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
 Felters Co., 210 South St., Boston, Mass.  
 Mechanical Felt & Textiles Co., 50 W. 18th St., Weehawken, N. J.  
 National Felt Co., 76 Summer St., Boston 10, Mass.  
 Quaker City Felt Co., 1734 Ludlow St., Philadelphia 3, Pa.  
 Standard Felt Co., 29 S. Palm Ave., Alhambra, Calif.  
 Supreme Industrial Products Co., 367 N. Karlov Ave., Chicago 24, Ill.  
 Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

**FERRITES**

ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 COLUMBIAN CARBON CO., MAPICO COLOR UNIT, 380 Madison Ave., New York 17, N. Y. ADV. PG. 667.  
 Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
 Ferrocube Corp. of America, 125 E. Bridge St., Saugerties, N. Y.  
 GENERAL CERAMICS CORP., Keasbey, N. J. ADV. PG. 28.  
 NATIONAL MOLDITE CO., 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 9, Tenn.  
 Yale & Towne Mfg. Co., Powdered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.

**FILMS—Capacitor**

AMP INC., 2100 Paxton St., Harrisburg, Pa. ADV. PG. 339.  
 AMP INC., CHEMICALS & DIELECTRICS DIV., 155 Park St., Elizabethtown, Pa. ADV. PG. 255.  
 Asheville-Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.  
 Bonny Mfg. Corp., 339 Auburn St., Auburndale, Mass.  
 DIELECTRIX CORP., Allen Blvd. & Grant Ave., Farmingdale, N. Y. ADV. PG. 616.  
 Ford Radio & Mica Corp., 538 63rd St., Brooklyn 20, N. Y.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
 NATVAR CORP., Woodbridge, N. J. ADV. PG. 568.  
 POLYMER CORPORATION, THE, Reading, Pa. ADV. PG. 502.  
 RELIANCE MICA CO., INC., 341 39th St., Brooklyn 32, N. Y. ADV. PG. 695.

**FILMS—Plastic for Wound Insulation**

Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Bonny Mfg. Corp., 339 Auburn St., Auburndale, Mass.  
 Celanese Corp. of America, Plastics Div., 290 Ferry St., Newark 5, N. J.  
 CRYSTAL-X CORP., 403 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Enffo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Gering Products, Inc., N. Seventh St. at Monroe Ave., Kenilworth, N. J.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
 New England Tape Co., Hudson, Mass.  
 Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.  
 Polyken Sales Div. of The Kendall Co., 309 W. Jackson Blvd., Chicago 6, Ill.  
 POLYMER CORPORATION, THE, Reading, Pa. ADV. PG. 502.  
 Shamban & Co., W. S., 11617 W. Jefferson Blvd., Culver City, Calif.  
 Silicones Div., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Tri-Point Plastics, Inc., 177 I.U. Willets Rd., Alberton, N. Y.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 WESTLAKE PLASTICS CO., 133 W. Lenni Rd., Lenni, Pa. ADV. PG. 557.

**FILTERS—Antenna**

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
 ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
 Balco Research Laboratories, 49-53 Edison Place, Newark 2, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
 BURNELL & CO., INC., 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 Channel Master Co., Ellenville, N. Y.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. ADV. PG. 111.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 FILTER NETWORKS, INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 FILTRON CO., INC., 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 Grallen Electronic Div. of Clegg, Inc., Hanover & Ridgedale Aves., Morristown, N. J.  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
 Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7, Calif.  
 HOULIHAN CO., T. J., 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Johnson Co., E. F. Waseca, Minn.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
 MICROLAB, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
 MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 Polytron Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Production Research Corp., Thornwood, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 SPENCER-KENNEDY LABS., INC., 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
 Ta-Mar, Inc., 11571 W. Jefferson Blvd., Culver City, Calif.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 TOBE DEUTSCHMANN CORP., 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
 U. S. ELECTRONICS CORP., 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
 Victor R.F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

**FILTERS—Band Elimination**

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J.  
 Airdesign, Inc., 241 Fairfield Ave., Upper Darby, Pa.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
 American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
 APPLIED RESEARCH INC., 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.

Audio Development Co., 2833 13th Ave., S. Minneapolis 7, Minn.  
 BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Balco Research Laboratories, 49-53 Edison Place, Newark 2, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
 BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
 BURNELL & CO., INC., 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 CALEDONIA ELECTRONICS & TRANSFORMER CO., Caledonia, N. Y. ADV. PG. 50.  
 Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill.  
 CHICAGO ELECTRONIC ENGINEERING CO., 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.  
 CHICAGO MAGNETIC CONTROL CO., 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. ADV. PG. 111.  
 D & R, LTD., 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 DeCoursey Engineering Lab., 11828 W. Jefferson Blvd., Culver City, Calif.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 FILTER NETWORKS, INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 FILTRON CO., INC., 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 FugleMiller Labs., Inc., 301 Central Ave., Clark, N. J.  
 Grallen Electronic Div. of Clegg, Inc., Hanover & Ridgedale Aves., Morristown, N. J.  
 HERMETIC SEAL TRANSFORMER CO., 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
 HYGON EASTERN, INC., Dept. EBG, 75 Cambridge Parkway, Cambridge, Mass. ADV. PG. 400, 401.  
 HYGON DIV. OF INTERNATIONAL RESISTANCE CO., 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.  
 KROHN-HITE CORP., 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
 LABORATORY FOR ELECTRONICS, INC., 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 LING ELECTRONICS, INC., 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco 7, Calif.  
 Magnadyne Co., 84 S. Water St., Port Chester, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 MICAMOLD ELECTRONICS MFG. CORP., 1087 Flushing Ave., Brooklyn 6, N. Y. ADV. PG. 301.  
 MICROLAB, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
 MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 MICROTRAN CO., INC., 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass.  
 Miller Co., J. W. 5917 S. Main St., Los Angeles 3, Calif.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J.  
 ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Polytron Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 PULSE ENGINEERING, INC., 2657 Spring St., Redwood City Calif. ADV. PG. 607.

SPENCER-KENNEDY LABS., INC., 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 STANDARD CRYSTAL CO., 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Televiso Corp., 1415 Golf Rd., Des Plaines, Ill.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
 TOBE DEUTSCHMANN CORP., 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
 TOROTEL, INC., 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539.  
 Transformer Engineers, 161 E. California, Pasadena 1, Calif.  
 TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
 VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 WHITE INSTRUMENT LABORATORIES, Box 9006, Allandale Station, Austin 17, Texas. ADV. PG. 501.

## FILTERS—Band Pass

Acme Electronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
 Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 Aerocoll, Inc., 24 Cliff St., Jersey City, N. J.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 AEROVOX CORP., PACIFIC COAST DIV., 2724 So. Peck Rd., Monrovia, Calif. ADV. PG. 688.  
 AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J.  
 Airdesign, Inc., 241 Fairfield Ave., Upper Darby, Pa.  
 Aladdin Electronics, A Div. of Aladdin Industries, Inc., 711 Murfreesboro Rd., Nashville 2, Tenn.  
 Allison Laboratories, Inc., 14185 Skyline Drive, Puente, Calif.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
 American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
 APPLIED RESEARCH INC., 165-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 ASTRON CORP., 255 Grant Ave., East Newark, N. J. ADV. PG. 329.  
 ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Audio Development Co., 2833 13th Ave. S., Minneapolis 7, Minn.  
 BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Balco Research Laboratories, 49-53 Edison Place, Newark 2, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
 BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
 BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
 BURNELL & CO., INC., 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 CALEDONIA ELECTRONICS & TRANSFORMER CO., Caledonia, N. Y. ADV. PG. 50.  
 CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill.  
 Channel Master Co., Ellenville, N. Y.  
 CHICAGO ELECTRONIC ENGINEERING CO., 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.  
 CHICAGO MAGNETIC CONTROL CO., 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
 CHICAGO STANDARD TRANSFORMER CORP., 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London S.E. 26, England.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 Community Engineering Corp., Box 824, State College, Pa.

CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. ADV. PG. 111.  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.  
 D & R LTD., 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 De Coursey Engineering Lab., 11828 W. Jefferson Blvd., Culver City, Calif.  
 DeFrance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DEMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595.  
 DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Dubrov Development Co., 235 B Penn St., Burlington, N. J.  
 ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electro-Mechanical Research, Inc., Ridgefield, N. J.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Electronic Transformer Corp., 70 Washington St., Brooklyn 1, N. Y.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 EPCO PRODUCTS, INC., 2500 Atlantic Ave., Brooklyn, 17, N. Y. ADV. PG. 674.  
 EPSCO, INCORPORATED, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235.  
 FILTER NETWORKS, INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 FILTRON CO., INC., 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Fugle-Miller Labs, Inc., 301 Central Ave., Clark, N. J.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Graffen Electronic Div. of Clegg, Inc., Hanover & Ridge-dale Aves., Morristown, N. J.  
 Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y.  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
 HERMETIC SEAL TRANSFORMER CO., 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 HYCON EASTERN, INC., Dept. EBG, 75 Cambridge Parkway, Cambridge, Mass. ADV. PG. 400, 401.  
 HYCOR DIV. OF INTERNATIONAL RESISTANCE CO., 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
 INDUSTRIAL TRANSFORMER CORP., Gouldsboro, Pa. ADV. PG. 454, 455.  
 J-V-M ENGINEERING CO., 4633 S. Laundale Ave., Lyons, Ill. ADV. PG. 640.  
 JERROLD ELECTRONICS CORP., 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
 Johnson Co., E. F., Waseca, Minn.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.  
 Keystone Products Co., 904-6 23rd St., Union City, N. J.  
 KROHN-HITE CORP., 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
 LABORATORY FOR ELECTRONICS, INC., 75 Pkts St., Boston 14, Mass. ADV. PG. 358.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 LING ELECTRONICS, INC., 5170 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco 7, Calif.  
 Mack Electronics A. Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Magnadyne Co., 84 S. Water St., Port Chester, N. Y.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
 MICAMOLD ELECTRONICS MFG. CORP., 1087 Flushing Ave., Brooklyn 6, N. Y. ADV. PG. 301.  
 MICROLAB, 71 Obner Parkway, Livingston, N. J. ADV. PG. 284.  
 MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 MICROTRAN CO., INC., 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass.  
 Mid-West Coil & Transformer Co., 1642 N. Halstead St., Chicago 14, Ill.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.

NATIONAL COIL CO., P.O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J.  
 ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 POLARAD ELECTRONICS CORP., 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
 POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 PULSE ENGINEERING, INC., 2657 Spring St., Redwood City, Calif. ADV. PG. 607.  
 Pulse Techniques, Inc., 1411 Palisades Ave., West Englewood, N. J.  
 RADAR DESIGN CORP., 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
 RADIO FREQUENCY LABS., INC., Boonton 2, N. J. ADV. PG. 595.  
 Scott, Inc., Herman Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
 Sickler, F. W., Div. General Instrument Corp., 165 Front St., Chicopee, Mass.  
 Spectrum Instruments, Inc., 44-09 30th Ave., Long Island City 3, N. Y.  
 SPENCER-KENNEDY LABS., INC., 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 STANDARD CRYSTAL CO., 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
 Standard Electronics Corp., 207 Emmet St., Newark 5, N. J.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
 TECHNICRAFT LABORATORIES, INC., Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 549.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Televiso Corp., 1415 Golf Rd., Des Plaines, Ill.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
 TOBE DEUTSCHMANN CORP., 921 Providence Highway, Norwood, Mass. ADV. PAGE 645.  
 TOROTEL, INC., 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539.  
 TORVICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405.  
 Transformer Engineers, 161 E. California, Pasadena 1, Calif.  
 TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
 U. S. ELECTRONICS CORP., 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
 VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Victor R. F. & Microwave Co., 36 W. Water St., Waterfield, Mass.  
 Warren Transformer Co., Inc., 103 Warren St., Tun-hannock, Pa.  
 Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.  
 WHITE INSTRUMENT LABORATORIES, Box 9006, Allandale Station, Austin 17, Texas. ADV. PG. 501.

## FILTERS—Continuously Variable

Aerocoll, Inc., 24 Cliff St., Jersey City, N. J.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Allison Laboratories, Inc., 14185 Skyline Drive, Puente, Calif.  
 CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. ADV. PG. 111.  
 DeFrance Engineering Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electro-Mechanical Research, Inc., Ridgefield, Conn.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 FILTER NETWORKS, INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 General Apparatus Co., 1344-6 E. 32nd St., New York 16, N. Y.  
 International Research & Development Corp., 769 Thomas Lane, P. O. Box 1707, Columbus 16, Ohio.  
 KROHN-HITE CORP., 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
 LING ELECTRONICS, INC., 5170 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 MICROLAB, 71 Obner Parkway, Livingston, N. J. ADV. PG. 284.  
 MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.



NATIONAL COIL CO., P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Spectrum Instruments, Inc., 44-05 30th Ave., Long Island City 3, N. Y.  
 SPENCER-KENNEDY LABS., INC., 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.

**FILTERS—Crystal**

American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
 BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 BLILEY ELECTRIC CO., Union Station Bldg., Erie, Pa. ADV. PG. 178, 179.  
 BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
 BURNELL & CO., INC., 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595.  
 Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
 HYCON EASTERN, INC., Dept. EBG, 75 Cambridge Parkway, Cambridge, Mass. ADV. PG. 400, 401.  
 Hycon Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
 KNIGHTS CO., JAMES, THE, Sandwich, Ill. ADV. PG. 521.  
 Lewis Co., Inc., E.B., 11 Bragg St., East Hartford 8, Conn.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J.  
 ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
 SCIENTIFIC RADIO PRODUCTS, INC., 215 S. 11th, Omaha, Neb. ADV. PG. 657.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 STANDARD CRYSTAL CO., 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.

**FILTERS—Detonation**

FILTER NETWORKS, INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.

**FILTERS—Electric Wave Section**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Audio Development Co., 2833 13th Ave., S., Minneapolis 7, Minn.  
 CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill.  
 CHICAGO MAGNETIC CONTROL CO., 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
 CHICAGO STANDARD TRANSFORMER CORP., 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467.  
 COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595.  
 FILTER NETWORKS, INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 HERMETIC SEAL TRANSFORMER CO., 555 N. Fifth St., Garland, Texas. ADV. PG. 410.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
 ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 PULSE ENGINEERING, INC., 2657 Spring St., Redwood City, Calif. ADV. PG. 607.

TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 TOBE DEUTSCHMANN CORP., 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 WHITE INSTRUMENT LABORATORIES, Box 9006, Alandale Station, Austin 17, Texas. ADV. PG. 501.

**FILTERS—Equalizer**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 APPLIED RESEARCH INC., 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 Audio Development Co., 2833 13th Ave., S. Minneapolis 7, Minn.  
 BURNELL & CO., INC., 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 Central Transformer Co., 910 W. Jackson Ave., Chicago, Ill.  
 CINEMA ENGINEERING DIV. OF AEROVOX CORP., 1100 Chestnut St., Burbank, Calif. ADV. PG. 688.  
 COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 De Coursey Engineering Lab., 11828 W. Jefferson Blvd., Culver City, Calif.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595.  
 ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 EPCO PRODUCTS, INC., 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674.  
 FILTER NETWORKS, INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 Fisher Radio Corp., 21-21 Forty Fourth Drive, Long Island City 1, N. Y.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Gray Research & Development Co., Inc., 685 Hilliard St., Manchester, Conn.  
 HERMETIC SEAL TRANSFORMER CO., 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.  
 LING ELECTRONICS, INC., 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
 New York Transformer Co., Inc., Third Ave., Alpha, N. Y.  
 ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 PULSE ENGINEERING, INC., 2657 Spring St., Redwood City, Calif. ADV. PG. 607.  
 Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.  
 SPENCER-KENNEDY LABS., INC., 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.

**FILTERS—High Pass**

Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 AEROVOX CORP., PACIFIC COAST DIV., 2724 So. Peck Rd., Monrovia, Calif. ADV. PG. 688.  
 AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J.  
 Airdesign, Inc., 241 Fairfield Ave., Upper Darby, Pa.  
 Allison Laboratories, Inc., 14185 Skyline Drive, Puente, Calif.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.

American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
 AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 APPLIED RESEARCH INC., 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Audio Development Co., 2833 13th Ave., S., Minneapolis 7, Minn.  
 BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Balco Research Laboratories, 49-53 Edison Place, Newark 2, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
 BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
 BURNELL & CO., INC., 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 CALEDONIA ELECTRONICS & TRANSFORMER CO., Caledonia, N. Y. ADV. PG. 50.  
 CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill.  
 CHICAGO ELECTRONIC ENGINEERING CO., 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.  
 CHICAGO MAGNETIC CONTROL CO., 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
 CHICAGO STANDARD TRANSFORMER CORP., 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467.  
 Oil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. ADV. PG. 111.  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.  
 D & R, LTD., 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 De Coursey Engineering Lab., 11828 W. Jefferson Blvd., Culver City, Calif.  
 DeFrance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electrón Products, Inc., 430 N. Halstead St., Pasadena, Calif.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Electronic Transformer Corp., 70 Washington St., Brooklyn 1, N. Y.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 EPCO PRODUCTS, INC., 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674.  
 FILTER NETWORKS, INC., 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 FILTRON CO., INC., 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
 Gates Radio Co., Quincy, Ill.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Grallen Electronic Div. of Clegg, Inc., Hanover & Ridgedale Aves., Morristown, N. J.  
 Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y.  
 HERMETIC SEAL TRANSFORMER CO., 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
 Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
 HYCOR DIV. OF INTERNATIONAL RESISTANCE CO., 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
 I.D.E.A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind.  
 INDUSTRIAL TRANSFORMER CORP., Gouldboro, Pa. ADV. PG. 454, 455.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 JFD MANUFACTURING CO., INC., 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.

KROHN-HITE CORP., 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco 7, Calif.  
 Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
**MB MFG. DIV. OF TEXTRON AMERICAN, INC.**, 1060 State St., New Haven 11, Conn. ADV. PG. 552.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
**MICAMOLD ELECTRONICS MFG. CORP.**, 1087 Flushing Ave., Brooklyn 6, N. Y. ADV. PG. 301.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**MICROPHASE CORP.**, P.O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
**MULLARD OVERSEAS LTD.**, Equipment Div., Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
**PACKARD-BELL CO.**, 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Springs, Md.  
**PULSE ENGINEERING, INC.**, 2657 Spring St., Redwood City, Calif. ADV. PG. 607.  
 Pulse Technique, Inc., 1411 Palisade Ave., West Englewood, N. J.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
**RADIO FREQUENCY LABS., INC.**, Boonton 2, N. J. ADV. PG. 555.  
 Spectrum Instruments, Inc., 44-05 30th Ave., Long Island City 3, N. Y.  
**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton, London W. 3, England.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
 Televiso Corp., 1415 Golf Rd., Des Plaines, Ill.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
**TOBE DEUTSCHMANN CORP.**, 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
**TOROTEL, INC.**, 11505 Bellmont Ave., Hickman Mills, Mo. ADV. PG. 539.  
**TORWICO ELECTRONICS, INC.**, 1090 Morris Ave., Union, N. J. ADV. PG. 405.  
 Transformer Engineers, 161 E. California, Pasadena 1, Calif.  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.

Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.  
**WHITE INSTRUMENT LABORATORIES**, Box 9006, Allendale Station, Austin 17, Texas. ADV. PG. 501.

**FILTERS—Lighting (for Radio Towers)**  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
 Gates Radio Co., Quincy, Ill.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
**TOBE DEUTSCHMANN CORP.**, 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.

**FILTERS—Low Pass**  
 Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**AEROVOX CORP., PACIFIC COAST DIV.**, 2724 So. Peck Rd., Monrovia, Calif. ADV. PG. 688.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Airdesign, Inc., 241 Fairfield Ave., Upper Darby, Pa.  
 Allison Laboratories, Inc., 14185 Skyline Drive, Puente, Calif.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
 American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
**ASTRON CORP.**, 255 Grant Ave., East Newark, N. J. ADV. PG. 329.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 Audio Development Co., 2833 13th Ave., S., Minneapolis 7, Minn.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Balco Research Laboratories, 49-53 Edison Place, Newark 2, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
**BIRD ELECTRONIC CORP.**, 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
**BULOVA WATCH CO., INC., ELECTRONICS DIV.**, 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
**BURNELL & CO., INC.**, 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
**CALEDONIA ELECTRONICS & TRANSFORMER CO.**, Caledonia, N. Y. ADV. PG. 50.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill.  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
 De Coursey Engineering Lab., 11828 W. Jefferson Blvd., Culver City, Calif.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 Double "E" Products Co., 216 Standard St., El Segundo, Calif.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Electro-Mechanical Research Inc., Ridgefield, Conn.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Electronic Transformer Corp., 70 Washington St., Brooklyn 1, N. Y.  
**EPCO PRODUCTS, INC.**, 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674.  
**EPSCO, INCORPORATED**, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235.

**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Essex Electronics, Berkeley Heights, N. J.  
**FILTER NETWORKS, INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
 Gates Radio Co., Quincy, Ill.  
 General Coil Products Corp., 43 Rosele St., Mineola, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Grallen Electronic Div. of Clegg, Inc., Hanover & Ridgedale Aves., Morristown, N. J.  
 Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y.  
**HERMETIC SEAL TRANSFORMER CO.**, 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
 Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.  
**HYCOR DIV. OF INTERNATIONAL RESISTANCE CO.**, 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
**INDUSTRIAL TRANSFORMER CORP.**, Goulsboro, Pa. ADV. PG. 454, 455.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Johnson Co., E. F., Waseca, Minn.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.  
 Keystone Products Co., 90-1-6 23rd St., Union City, N. J.  
**KROHN-HITE CORP.**, 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Lesa, Via Bergamo 21, Milan, Italy.  
**LING ELECTRONICS, INC.**, 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco 7, Calif.  
 Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Magnadyne Co., 84 S. Water St., Port Chester, N. Y.  
**MICAMOLD ELECTRONICS MFG. CORP.**, 1087 Flushing Ave., Brooklyn 6, N. Y. ADV. PG. 301.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**MICROPHASE CORP.**, P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass.  
 Mid-West Coil & Transformer Co., 1642 N. Halstead St., Chicago 14, Ill.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.  
**NJE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
**PACKARD-BELL CO.**, 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Springs, Md.  
 Potter Co., The, 1950 Sheridan Rd., North Chicago, Ill.  
**PULSE ENGINEERING, INC.**, 2657 Spring St., Redwood City, Calif. ADV. PG. 607.  
 Palmer, Inc., M.V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Pulse Techniques, Inc., 1411 Palisades Ave., West Englewood, N. J.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
**RADIO FREQUENCY LABS., INC.**, Boonton 2, N. J. ADV. PG. 555.  
 Servonics, Inc. 822 N. Henry St., Alexandria, Va.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 Spectrum Instruments, Inc., 44-05 30th Ave., Long Island City 3, N. Y.  
**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

Suprex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton London W.E., England.  
 Televiso Corp., 1415 Golf Rd., Des Plaines, Ill.  
**TELON INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
**TOBE DEUTSCHMANN CORP.**, 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
**TOROTEL, INC.**, 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539.  
**TORWICO ELECTRONICS, INC.**, 1090 Morris Ave., Union, N. J. ADV. PG. 405.  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.  
**WHITE INSTRUMENT LABORATORIES**, Box 9006, Airlandale Station, Austin 17, Texas. ADV. PG. 501.

**FILTERS—Microwave**  
 See **MICROWAVE ACCESSORIES**

**FILTERS—Needle Scratch**

Audio Development Co., 2833 13th Ave., S., Minneapolis 7, Minn.  
 Axel Bros., Electronics Div., 134-20 Jamaica Ave., Jamaica, N. Y.  
 Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
**FILTER NETWORKS, INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 Fisher Radio Corp., 21-21 Forty Fourth Drive, Long Island City 1, N. Y.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
**MICAMOLD ELECTRONICS MFG. CORP.**, 1087 Flushing Ave., Brooklyn 6, N. Y. ADV. PG. 301.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 Pulse Techniques Inc., 1411 Palisade Ave., West Englewood N. J.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.

**FILTERS—Radio Interference**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**AEROVOX CORP., PACIFIC COAST DIV.**, 2724 So. Peck Rd., Monrovia, Calif. ADV. PG. 688.  
 Airborne Accessories Corp., 1414 Chestnut Ave., Hillside, N. J.  
 All-Tronics, Inc., 45 Bond St., Westbury, N. Y.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
**ASTRON CORP.**, 255 Grant Ave., East Newark, N. J. ADV. PG. 329.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
**.DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 Double 'E' Products Co., 216 Standard St., El Segundo, Calif.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 Erdo Engineering Corp., Addison, Ill.  
**FILTER NETWORKS, INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Grallen Electronic Div. of Clegg, Inc., Hanover & Ridgedale Aves., Morristown, N. J.

Gudeman Co., 340 W. Huron St., Chicago 10, Ill.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
**HERMETIC SEAL TRANSFORMER CO.**, 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
 Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.  
 Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.  
 Interference Measurement Lab., Inc., 907 E. 51st St., Brooklyn 3, N. Y.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
**MICAMOLD ELECTRONICS MFG. CORP.**, 1087 Flushing Ave., Brooklyn 6, N. Y. ADV. PG. 301.  
**MICROPHASE CORP.**, P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Potter Co., The, 1950 Sheridan Rd., North Chicago, Ill.  
**PYRAMID ELECTRIC CO.**, 1445 Hudson Blvd., North Bergen, N. J. ADV. PG. 463.  
 Sage-Craft, Inc., Norwich, N. Y.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W.C. 2, England.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
 Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton, London W.E., England.  
 Televiso Corp., 1415 Golf Rd., Des Plaines, Ill.  
**TOBE DEUTSCHMANN CORP.**, 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.

**FILTERS—Radio Range**

**APPLIED RESEARCH, INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 Audio Development Co., 2833 13th Ave., S., Minneapolis 7, Minn.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BURNELL & CO., Inc.**, 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
**FILTER NETWORKS, INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Potter Co., The, 1950 Sheridan Rd., North Chicago, Ill.  
 Sage-Craft, Inc., Norwich, N. Y.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
**TOBE DEUTSCHMANN CORP.**, 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.

**FILTERS—Television**

**APPLIED RESEARCH, INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 Channel Master Co., Ellenville, N. Y.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 Community Engineering Corp., Box 824, State College, Pa.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.

DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
 Entron Inc., 4902 Lawrence St., Bladensburg, Md.  
**FILTER NETWORKS, INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 Grallen Electronic Div. of Clegg, Inc., Hanover & Ridgedale Aves., Morristown, N. J.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 Potter Co., The, 1950 Sheridan Rd., North Chicago, Ill.  
 Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
 Sage-Craft, Inc., Norwich, N. Y.  
**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Suprex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton, London W.E., England.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 23, N. Y.  
**TOBE DEUTSCHMANN CORP.**, 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.

**FILTERS—uhf & vhf**

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**AEROVOX CORP., PACIFIC COAST DIV.**, 2724 So. Peck Rd., Monrovia, Calif. ADV. PG. 688.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
**BIRD ELECTRONIC CORP.**, 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
**FILTER NETWORKS, INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Grallen Electronic Div. of Clegg, Inc., Hanover & Ridgedale Aves., Morristown, N. J.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**MICROPHASE CORP.**, P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
**NATIONAL COIL CO.**, P.O. Box 1237, Sheridan, Wyo. ADV. PG. 647.

**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
**Polytronic Research, Inc.**, 7660 Woodbury Drive, Silver Spring, Md.  
**Sage-Craft, Inc.**, Norwich, N. Y.  
**Sickles, F. W., Div.**, General Instrument Corp., 165 Front St., Chicopee, Mass.  
**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
**Standard Coil Products Co.**, 2085 N. Hawthorne St., Melrose Park, Ill.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
**TOBE DEUTSCHMANN CORP.**, 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
**Wilmar Mfg. Co., Inc.**, 1110 Truman Rd., Kansas City 6, Mo.

### FILTERS—Variable Electronic

**Electro-Mechanical Research Inc.**, Ridgefield, Conn.  
**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.  
**Internat'ional Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**Interstate Electronics Div.** of Interstate Engineering Corp., 875 S. East St., Anaheim, Calif.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.

### FINISHES—Crystal

**George Co., P. D.**, 5200 N. Second St., St. Louis, Mo.  
**Maas & Waldstein Co.**, 2121 McCarter Highway, Newark 4, N. J.

### FINISHES—Luminous Materials

**CANADIAN RADIUM & URANIUM CORP.**, 630 Fifth Ave., New York 20, N. Y. ADV. PG. 665.  
**du Pont de Nemours & Co., Inc.**, E. I., Wilmington 98, Del.  
**George Co., P. D.**, 5200 N. Second St., St. Louis, Mo.  
**Maas & Waldstein Co.**, 2121 McCarter Highway, Newark 4, N. J.  
**Photo Chemical Products, Inc.**, 999A Stewart Ave., Garden City, N. Y.  
**Supreme Process Corp.**, 44 Bond St., Westbury, N. Y.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.

### FINISHES—Ripple

**George Co., P. D.**, 5200 N. Second St., St. Louis, Mo.  
**Henry and Miller Industries, Inc.**, 675 Garfield Ave., Jersey City 5, N. J.  
**Maas & Waldstein Co.**, 2121 McCarter Highway, Newark 4, N. J.  
**Standard-Toch Chemicals, Inc.**, 2600 Richmond Terrace, Staten Island 3, N. Y.  
**Supreme Process Corp.**, 44 Bond St., Westbury, N. Y.  
**Walsco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.

### FIRE

See DETECTORS

### FLANGES—Microwave

See MICROWAVE ACCESSORIES

### FLOCK & FLOCKED PAPER

**Cellusuede Products, Inc.**, 540 N. Madison St., Rockford, Ill.  
**Flock Process Co., Inc.**, 373 Main Ave., Norwalk, Conn.  
**Walsco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.

### FLOWMETERS

See CONTROLS

### FLUID FLOW

See INDICATORS

### FLUORESCENT COMPOUNDS—Phosphors

**Associated Engineering & Mfg. Co.**, Glen Ridge, N. J.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**Burton Mfg. Co.**, 2520 Colorado Ave., Santa Monica, Calif.  
**CANADIAN RADIUM & URANIUM CORP.**, 630 Fifth Ave., New York 20, N. Y. ADV. PG. 665.  
**du Pont de Nemours & Co., Inc.**, E. I., Wilmington 98, Del.  
**General Electric Co.**, Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
**Photo Chemical Products, Inc.**, 999A Stewart Ave., Garden City, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
**VOLTARC TUBES, INC.**, 44 Cross St., Norwalk, Conn. ADV. PG. 699.

### FLUOROMETERS

**Coleman Instruments, Inc.**, 318 Madison St., Maywood, Ill.  
**Farrand Optical Co., Inc.**, Bronx Blvd., at 238th St., New York 70, N. Y.  
**Jarrell-Ash Co.**, 26 Farwell St., Newtonville, Mass.  
**Mt. Sopris Instrument Corp.**, 1320 Pearl St., Boulder, Colo.  
**Photovolt Corp.**, 95 Madison Ave., New York 16, N. Y.

### FLUX—Brazing or Soldering

**Accurate Specialties Co., Inc.**, 9-01 43rd Ave., Long Island City, N. Y.  
**All-State Welding Alloys Co., Inc.**, 249 Ferris Ave., White Plains, N. Y.  
**Allen Co., Inc.**, L. B., 6751 Bryn Mawr Ave., Chicago 31, Ill.  
**Alpha Metals, Inc.**, 60 Water St., Jersey City, N. J.  
**American Platinum Works, N. J.**, R. R. Ave. at Oliver St., Newark 5, N. J.  
**American Silver Co., Inc.**, 36-07 Prince St., Flushing 54, N. Y.  
**American Solder & Flux Co.**, 19th & Willard Sts., Philadelphia 40, Pa.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
**Bow Solder Products Co., Inc.**, 251 Freeman St., Brooklyn 22, N. Y.  
**Burnley Battery & Mfg. Co.**, Clay St., North East, Pa.  
**Chase Brass & Copper Co., Inc.**, 236 Grand St., Waterbury 20, Conn.  
**Division Lead Co.**, 7742 W. 61st Place, Summit, Ill.  
**Dunton Co., M. W.**, 7 Goff St., Providence 3, R. I.  
**duPont de Nemours & Co., Inc.**, E. I., Wilmington 98, Del.  
**Elihan Chemical Co.**, 2308 Oakton St., Evanston, Ill.  
**Federated Metals Div.**, American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
**Glaser Lead Co., Inc.**, 31 Wyckoff Ave., Brooklyn 37, N. Y.  
**Goldsmith Bros. Smelting Refining Co.**, 111 N. Wabash Ave., Chicago 2, Ill.  
**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
**International Nickel Co., Inc.**, 67 Wall St., New York 5, N. Y.  
**Johnson Mfg. Co., Inc.**, Mount Vernon, Iowa.  
**KESTER SOLDER COMPANY**, 4212 Wrightwood Ave., Chicago 39, Ill. ADV. PG. 435.  
**Lake Chemical Co.**, 3052 W. Carroll St., Chicago 12, Ill.  
**LINDE AIR PRODUCTS CO., DIV. OF UNION CARBIDE & CARBON CORP.**, 30 E. 42nd St., New York 17, N. Y. ADV. PG. 636.  
**London Chemical Co.**, 1535 N. 31st Ave., Melrose Park, Ill.  
**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**MICO INSTRUMENT CO.**, 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
**Multicore Solders, Ltd.**, Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
**National Lead Co.**, 111 Broadway, New York 6, N. Y.  
**Osborn Products**, Glen Elyn, Ill.  
**Ruby Chemical Co.**, 68 McDowell St., Columbus 16, Ohio.  
**Soldering Specialties Co.**, 18 Chattham Rd., Summit, N. J.  
**Superior Flux & Mfg. Co.**, 1302 Ontario St., Cleveland 13, Ohio.  
**Tricon Mfg. Co.**, 8012 S. Wallace St., Chicago 20, Ill.  
**United Wire & Supply Corp.**, Providence 7, R. I.

### FLUXMETERS

**Cambridge Instrument Co., Inc.**, 3633 Grand Central Terminal, New York 17, N. Y.  
**DYNA-EMPIRE, INC.**, 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1** River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**Howe International**, 431 Danfort, Dept. E-7, Jersey City 5, N. J.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**Marion Electrical Instrument Co.**, 402 Canal St., Manchester, N. H.  
**Nuclear Magnetics Corp.**, Box A, 154 Boylston St., Boston 16, Mass.  
**Pimex Inc.**, 18 E. 60th St., New York 22, N. Y.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
**Republic Electronic Industries Corp.**, 31 W. 27th St., New York 1, N. Y.  
**Rubicon Co.**, Ridge Ave. at 35th St., Philadelphia 29, Pa.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.

### FOCUS COILS

See COILS—Television Focusing

### FORKS—Electrically Driven Tuning

**Acme Teletronix Div. of NEA Service, Inc.**, W. Third & Lakeside, Cleveland 13, Ohio.  
**Allied Products Div.**, Hamilton Watch Co., Lancaster, Pa.

**AMERICAN TIME PRODUCTS, INC.**, 580 Fifth Ave., New York 36, N. Y. ADV. PG. 440.  
**Chatillon & Sons, John**, 85 Cliff St., New York, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**Miller Instruments, Inc.**, William 325 N. Halstead Ave., Pasadena 8, Calif.  
**Muirhead & Co., Ltd.**, Beckenham, Kent, England.  
**PHILAMON LABORATORIES, INC.**, 90 Hopper St., Westbury, N. Y. ADV. PG. 95.  
**Riverbank Laboratories, Dept. of Engineering**, P. O. Box 65, Geneva, Ill.  
**Summit Electronics, Inc.**, 7 Industrial Place, Summit, N. J.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Tex. ADV. PG. 564.  
**Welch Scientific Co., W. M.**, 1515 Sedgwick St., Chicago 10, Ill.

### FORMS—Antenna

**Defiance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**Isolantite Mfg. Corp.**, Stirling, N. J.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
**Titchener & Co., E. H.**, 67 Clinton St., Binghamton, N. Y.

### FORMS—Coil

See Also BOBBINS

**ACCURATE PAPER TUBE CO.**, 801 N. Peoria St., Chicago 22, Ill. ADV. PG. 416.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
**AMERICAN MOLDED PRODUCTS CO.**, 2727 W. Chicago Ave., Chicago 22, Ill. ADV. PG. 580.  
**ANCHOR INDUSTRIAL CO., DIV. OF ANCHOR PLASTICS CO., INC.**, 36-36 36th St., Long Island City 6, N. Y. ADV. PG. 613.  
**Barwood Mfg. Co., Inc.**, L. J., 22 Williams St., Everett 49, Mass.  
**CENTRALAB DIV., GLOBE-UNION, INC.**, 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**CLEVELAND CONTAINER CO., THE**, 6201 Barberton Ave., Cleveland 2, Ohio. ADV. PG. 160.  
**Colber Corp.**, The, 26 Buffington St., Irvington, N. J.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
**Coors Porcelain Co.**, 600 Ninth St., Golden, Colo.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**EPM Corp.**, 570 Van Sicten Ave., Brooklyn, N. Y.  
**Electronic Service Corp.**, 2906 Birch St., Franklin Park, Ill.  
**Emerson Plastics Corp.**, 1383 Seabury Ave., Bronx 61, N. Y.  
**Enflo Corp.**, Route 38 at Airport Circle, Pensauken, N. J.  
**Ferricore, Inc.**, 303 Railroad Place, Orange, N. J.  
**Garde Mfg. Co.**, 588 Eddy St., Providence 3, R. I.  
**GENERAL COMPONENTS INC.**, 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
**GRAYHILL, INC.**, 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
**GRIES REPRODUCER CORP.**, 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
**HYDRO MOLDING CO., INC.**, Plattsburgh, N. Y. ADV. PG. 397.  
**Isolantite Mfg. Corp.**, Stirling, N. J.  
**Kirchberger & Co., Inc.**, M., 250 Humphrey St., Englewood, N. J.  
**Laminated Sheet Products Corp.**, 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**LAMTEX INDUSTRIES, INC.**, 51 State St., Westbury, N. Y. ADV. PG. 596.  
**Micarta Fabricators Inc.**, 54 N. Clark St., Chicago 40, Ill.  
**Millen Mfg. Co.**, James, 150 Exchange St., Malden, Mass.  
**Miller Co., J. W.**, 5917 S. Main St., Los Angeles 3, Calif.  
**Milman Engineering Co.**, 1831 Pontius, West Los Angeles, Calif.  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
**National Co., Inc.**, 61 Sherman St., Malden 48, Mass.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
**National Vulcanized Fibre Co.**, Wilmington, Del.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
**NORTH HILLS ELECTRIC CO., INC.**, 402 Sagamore Ave., Mineola, N. Y. ADV. PG. 428.  
**PARAMOUNT PAPER TUBE CORP.**, 614 Lafayette St., Fort Wayne, Ind. ADV. PG. 554.  
**Permonite Mfg. Co.**, 444 N. Lake Shore Drive, Chicago 11, Ill.  
**Peerless Products Industries**, 812 N. Pulaski St., Chicago 51, Ill.  
**Pfeger Products**, 3901 W. 54th St., Los Angeles 43, Calif.  
**PRECISION PAPER TUBE CO.**, 2041 W. Charleston St., Chicago 47, Ill. ADV. PG. 673.  
**Printloid, Inc.**, 93 Mercer St., New York 12, N. Y.  
**Quality Components, Inc.**, St. Marys, Pa.  
**Resinite Corp. Sub. of Precision Paper Tube Co.**, 6981 N. Central Park Ave., Chicago 45, (Lincolnwood), Ill.

ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
Speer Resistor Division, Speer Carbon Co., St. Marys, Pa. Stone Paper Tube Co., Inc., 900 Franklin St., N. E., Washington 17, D. C.  
STUPAKOFF, DIV. OF THE CARBORUNDUM CO., Latrobe, Pa. ADV. PG. 108, 109.  
Superelectronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
SUPERIOR STEATITE & CERAMIC CORP., 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
SYNCOR PRODUCTS CO., 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
Synthane Corp., Oaks, Pa.  
Taylor Fibre Co., Norristown, Pa.  
Telex, Inc., Telex Park, St. Paul 1, Minn.  
Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
THOR CERAMICS, INC., 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.  
WESTLAKE PLASTICS CO., 133 W. Lenni Rd., Lenni, Pa. ADV. PG. 557.

**FORMS—Resistor**

AMERICAN LAVA CORP., Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
Du-Co. Ceramics Co., Box 587, Butler 8, Pa.  
DESIGN TOOL CORP., 80 Washington St., New York 6, N. Y. ADV. PG. 678.  
Enfo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
HAMILTON ELECTRONICS CORP., Box 100, Bath, N. Y. ADV. PG. 507.  
Kirchberger & Co., Inc., M., 250 Humphrey St., Englewood, N. J.  
NATIONAL MOLDITE CO., 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
NORRICH PLASTICS CORP., 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
PRECISION PAPER TUBE CO., 2041 W. Charleston St., Chicago 47, Ill. ADV. PG. 673.  
Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
STUPAKOFF DIV. OF THE CARBORUNDUM CO., Latrobe, Pa. ADV. PG. 108, 109.  
SUPERIOR STEATITE & CERAMIC CORP., 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
Telex, Inc., Telex Park, St. Paul 1, Minn.  
Speer Resistor Division, Speer Carbon Co., St. Marys, Pa.

**FORMS—Wire**

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
Alloy Metal Wire Div. of H. K. Porter Co., Inc., Prospect Park, Pa.  
DESIGN TOOL CORP., 80 Washington St., New York 6, N. Y. ADV. PG. 678.  
Dudek & Bock Spring & Mfg. Co., 4018 W. Grand Ave., Chicago 51, Ill.  
Eastern Tool & Mfg. Co., 1 Montgomery St., Belleville 9, N. J.  
Exacto Industries, Inc., 8730-36 Santa Monica Blvd., Los Angeles 46, Calif.  
GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV., Attleboro, Mass. ADV. PG. 327.  
Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
Mid-West Spring Mfg. Co., Mentone, Ind.  
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y.  
NORRICH PLASTICS CORP., 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
PIX MFG. CO., INC., 81A Hudson St., Newark, N. J. ADV. PG. 670.  
Quality Components, Inc., St. Marys, Pa.  
Reliable Spring & Wire Forms Co., Fulton Rd. & Paris Ave., Cleveland 9, Ohio.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Titchener & Co., E. H., 67 Clinton St., Binghamton, N. Y.

**FRAMES—Grid**

See PARTS for COLOR TV TUBES

**FREQUENCY CALIBRATION SERVICES**

AIRCOM INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
AMERAC, INC., 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
DYNA-EMPIRE, INC., 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
Eidson Electronic Co., 1902 N. Thrd St., Temple, Tex.

ELECTROMATION CO., 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
FREQUENCY STANDARDS, INC., P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
Lewis Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.  
Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Riverbank Laboratories, Dept. of Engineering, P. O. Box 65, Geneva, Ill.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.

**FREQUENCY INDICATORS**  
See INDICATORS**FREQUENCY STANDARDS**  
See STANDARDS—Frequency**FURNACES—Electric (for Electronic Component Production)**

Blue M Electric Co., 138th & Chatham St., Blue Island, Ill.  
Despatch Oven Co., Minneapolis, Minn.  
Electric Furnace Co., Salem, Ohio.  
Forster-Teichmann Co., Clark Bldg., Pittsburgh 22, Pa.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Grieve-Hendry Co., Inc., 1401-17 W. Carroll Ave., Chicago 7, Ill.  
HARPER ELECTRIC FURNACE CORP., 48 River St., Buffalo 2, N. Y. ADV. PG. 597.  
Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
High Vacuum Equipment Corp., 2 Churchill Rd., Hingham, Mass.  
Huppert Co., K. H., 6864 Cottage Grove Ave., Chicago 37, Ill.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Leeds & Northrup Co., 4970 Stanton Ave., Philadelphia 44, Pa.  
Lepel High Frequency Labs., Inc., 55th St. & 7th Ave., Woodside 77, N. Y.  
NRC EQUIPMENT CORP., 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
National Aircraft Corp., 3411 Tulare St., Bunbank, Calif.  
Pacific Scientific Co., P. O. Box No. 22019, Los Angeles 22, Calif.  
Pimex Inc., 18 E. 60th St., New York 22, N. Y.  
SEMIMETALS, INC., 130-11 90th Ave., Richmond Hill 18, N. Y. ADV. PG. 673.  
STEWART ENGINEERING CO., Box 277, Soquel, Calif. ADV. PG. 668, 669.  
Stokes Co., F. J., 5500 Tabor Rd., Philadelphia 20, Pa.  
Torrance Glass & Color Works, Torrance, Calif.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**FURNACES—Gas Fired**

American Gas Furnace Co., 130 Spring St., Elizabeth, N. J.  
California Bent Glass Corp., Torrance, Calif.  
Despatch Oven Co., Minneapolis, Minn.  
Electric Furnace Co., Salem, Ohio.  
Forster-Teichmann Co., Clark Bldg., Pittsburgh 22, Pa.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Grieve-Hendry Co., Inc., 1401-17 W. Carroll Ave., Chicago 7, Ill.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Leeds & Northrup Co., 4970 Stanton Ave., Philadelphia 44, Pa.  
Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.  
Pacific Scientific Co., P. O. Box No. 22019, Los Angeles 22, Calif.  
SEMIMETALS, INC., 130-11 90th Ave., Richmond Hill 18, N. Y. ADV. PG. 673.  
Steiner-Ives Co., Springfield Rd., Union, N. J.  
Torrance Glass & Color Works, Torrance, Calif.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.

**FURNACES—High Frequency**

EISLER ENGINEERING CO., INC., 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
High Vacuum Equipment Corp., 2 Churchill Rd., Hingham, Mass.  
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
Induction Heating Corp., 181 Wythe Ave., Brooklyn 11, N. Y.  
International Pump & Machine Works, 81 Dorsa Ave., Livingston, N. J.  
Lepel High Frequency Labs., Inc., 55th & 37th Ave., Woodside 77, N. Y.  
Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.

McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
Mytron Mfg. Co., 4528 Brazil St., Los Angeles 39, Calif.  
NRC EQUIPMENT CORP., 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
Ohio Crankshaft Co., Tocco Div., 3800 Harvard Ave., Cleveland 5, Ohio.  
SEMIMETALS, INC., 130-11 90th Ave., Richmond Hill 18, N. Y. ADV. PG. 673.  
Stokes Co., F. J., 5500 Tabor Rd., Philadelphia 20, Pa.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.

**FURNITURE—Electronic, Laboratory**  
See STOOLS & BENCHES for Work Assembly**FUSE HOLDERS**  
See BLOCKS**FUSES**

Bel-Fuse, Inc., 311 Mountain Road, Union City, N. J.  
British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
BUSSMANN MFG. CO., St. Louis 7, Mo. ADV. PG. 60.  
Chase-Shawmut Co., Box 390, Newburyport, Mass.  
Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza S, Long Island City, N. Y.  
Economy Fuse & Mfg. Co., 2717 Greenview Ave., Chicago 14, Ill.  
GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
LITTELFUSE INC., Des Plaines, Ill. ADV. PG. 459.  
Miller Electric Co., 120 Main St., Pawtucket, R. I.  
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee 4, Wis.  
O K Electronics Corp., 7 Hunt Place, Nutley, N. J.  
Royal Electric Corp., Pawtucket, R. I.  
Sightmaster Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
Trico Fuse Mfg. Co., 2948 N. Fifth, Milwaukee 12, Wis.

**GAGES—Beta**

AMERICAN TRADAIR CORP., SUB. OF EKCO ELECTRONICS, LTD., 34-01 30th St., Long Island City 6, N. Y. ADV. PG. 693.  
ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
Nucleonic Company of America, 196 DeGraw St., Brooklyn 31, N. Y.  
Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.  
Saratoga Scientific, P. O. Box 488, Saratoga, Calif.  
Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.  
X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

**GAGES—Comparator**

AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
Link Aviation, Inc., Binghamton, N. Y.  
Metron Instrument Co., 432 Lincoln St., Denver 3, Colo.  
Missouri Research Labs., Inc., 2109 Locust St., St. Louis 3, Mo.  
Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.  
Saratoga Scientific, P. O. Box 488, Saratoga, Calif.  
Taft-Peirce Mfg. Co., The, Woonsocket, R. I.

**GAGES—Displacement Measuring**

AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Daytronic Corp., 216 E. Main St., Dayton, Ohio.  
Foxboro Co., The, Foxboro, Mass.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
Link Aviation, Inc., Binghamton, N. Y.  
Minatron Corp., 14 Cliveden Place, Belle Mead, N. J.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Omega Instrument Co., Box 495M, Pasadena, Calif.  
Optron Corp., 3526 State St., Santa Barbara, Calif.  
Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.  
Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.

Rockwell Engineering Co., 2125 E. 45th St., Indianapolis 5, Ind.  
 Statham Laboratories, Inc., 12401 W. Olympic Blvd., Los Angeles 64, Calif.

### GAGES—Electronic Fuel Indicator

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Electronic Control Systems, Inc., 2136-38 Westwood Blvd., Los Angeles 25, Calif.  
 Liquidometer Corp., The, Skillman Ave. at 36th St., Long Island City 1, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 POTTER AERONAUTICAL CORP., Route #22, Union, N. J. ADV. PG. 372, 373.  
 Simmonds Aerocessories, Inc., Tarrytown, N. Y.  
 WAUGH ENGINEERING CO., 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.

### GAGES—Electronic Inspection

AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Branson Instruments, Inc., 1 Brown House Rd., Stamford, Conn.  
 BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 COOK CO., FRANK R., 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dice Co., J. W. Englewood, N. J.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Electronic Control Systems, Inc., 2136-38 Westwood Blvd., Los Angeles 25, Calif.  
 Link Aviation, Inc., Binghamton, N. Y.  
 Nuclear Research Corp., Southampton, Pa.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.  
 Saratoga Scientific, P. O. Box 488, Saratoga, Calif.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 STAR EXPANSION PRODUCTS CO., INC., 142 Liberty St., New York 6, N. Y. ADV. PG. 588.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### GAGES—Electronic Spring Checking

Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Rockwell Engineering Co., 2125 E. 45th St., Indianapolis 5, Ind.

### GAGES—Ionization

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
 Consolidated Electrodynamics Corp., Rochester Div., Rochester 3, N. Y.  
 CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 EITEL-MCCULLOUGH, INC., San Bruno, Calif. ADV. PG. 128, 129.  
 Electronic Research Labs., 85 Surrey St., Brighton 35, Mass.  
 Kinney Mfg. Div. of The New York Air Brake Co., 3529 Washington St., Boston, Mass.  
 NRC EQUIPMENT CORP., 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Research Electronics Laboratories, Roslyn, Pa.  
 Servo-Recording Instruments, Inc., 1815 W. Van Buren, Phoenix, Ariz.  
 SIERRA ELECTRONICS CORP., 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSISTOR PRODUCTS CORP., 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
 Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
 VEECO VACUUM CORP., 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.

### GAGES—Paint Depth

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 BOONTON RADIO CORP., Boonton, N. J. ADV. PG. 427.  
 Branson Instruments, Inc., 1 Brown House Rd., Stamford, Conn.  
 CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Gardner Lab., Inc., 4723 Elm St., Bethesda 14, Md.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Unit Process Assemblies, Inc., 61 E. 4th St., New York 3, N. Y.

### GAGES—Photoelectric Dimension

Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

### GAGES—Pirani

Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Consolidated Electrodynamics Corp., Rochester Div., Rochester 3, N. Y.  
 Electronic Research Labs., 85 Surrey St., Brighton 35, Mass.  
 CONTINENTAL ELECTRIC CO., 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
 NRC EQUIPMENT CORP., 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
 VEECO VACUUM CORP., 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.

### GAGES—Pressure, Electronic

Alfred Electronics, 897 Commercial St., Palo Alto, Calif.  
 BJ ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Chesapeake Instrument Corp., Shadyside, Md.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Crescent Engineering & Research Co., 5540 N. Peck Rd., El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Electronic Research Labs., 85 Surrey St., Brighton 35, Mass.  
 Endevo Corp., 161 E. California St., Pasadena, Calif.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Pa.  
 GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
 Hastings-Raydist, Inc., Hampton 9, Va.  
 Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
 Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.  
 Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles 8, Calif.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Photocron Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
 Statham Laboratories, Inc., 12401 W. Olympic Blvd., Los Angeles 64, Calif.  
 Ultradyme Engineering Labs., Inc., P. O. Box 8007, Albuquerque, N. M.

### GAGES—Spring Tension

Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
 Endevo Corp., 161 E. California St., Pasadena, Calif.  
 General Electric Co., Ltd., of England (Imtra Corp.), 58 Charles St., Cambridge, Mass.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.

### GAGES—Strain

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
 American Instrument Co., Inc., 8030 Georgia Ave., Silver Springs, Md.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
 Crescent Engineering & Research Co., 5540 N. Peck Rd., El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
 Electronic Tube Corp., 1200 E. Mermald Ave., Philadelphia 18, Pa.  
 Endevo Corp., 161 E. California St., Pasadena, Calif.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Hathaway Instrument Div., Hamilton Watch Co., 5800 E. Jewell Ave., Denver 22, Colo.  
 KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Statham Laboratories, Inc., 12401 W. Olympic Blvd., Los Angeles 64, Calif.  
 TRANS-SONICS, INC., P. O. Box 328, Lexington 73, Mass. ADV. PG. 525.

### GAGES—Thickness, Electronic

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Crescent Engineering & Research Co., 5540 N. Peck Rd., El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dice Co., J. W., Englewood, N. J.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Industrial Electronics Co., Inc., Hanover, Mass.  
 Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Nuclear Research Corp., Southampton, Pa.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
 Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
 Unit Process Assemblies, Inc., 61 E. 4th St., New York 3, N. Y.  
 X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

### GAGES—Ultrasonic Thickness

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
 Branson Instruments, Inc., 1 Brown House Rd., Stamford, Conn.  
 Dice Co., J. W., Englewood, N. J.  
 GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
 Kahn & Co., Inc., 541 Windsor St. Hartford 1, Conn.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Photocron Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

### GAGES—Vacuum

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
 Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Consolidated Electrodynamics Corp., Rochester Div., Rochester 3, N. Y.  
 CONTINENTAL ELECTRIC CO., 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
 Electronic Research Labs., 85 Surrey St., Brighton 35, Mass.  
 Foxboro Co., The, Foxboro, Mass.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
 Hastings-Raydist, Inc., Hampton 9, Va.  
 High Vacuum Equipment Corp., 2 Church Hill Rd., Hingham, Mass.  
 International Pump & Machine Works, Inc., 81 Dorsa Ave., Livingston, N. J.  
 Kinney Mfg. Div. of The New York Air Brake Co., 3529 Washington St., Boston, Mass.

Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 NRC EQUIPMENT CORP., 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 Research Electronics Laboratories, Roslyn, Pa.  
 Stokes Co., F. J., 5500 Tabor Rd., Philadelphia 20, Pa.  
 U. S. Gauge Div., American Machine & Metals, Inc., Sellersville, Pa.  
 Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
 VEECO VACUUM CORP., 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**GALVANOMETERS**See **INSTRUMENTS—Electrical Measuring****GASES—Nitrogen**

BAKER & CO., INC., 113 Astor St., Newark, N. J. ADV. PG. 313.  
 LINDE AIR PRODUCTS CO., DIVISION OF UNION CARBIDE AND CARBON CORP., 30 E. 42nd St., New York 17, N. Y. ADV. PG. 636.

**GASES—Rare**

LINDE AIR PRODUCTS CO., DIVISION OF UNION CARBIDE AND CARBON CORP., 30 E. 42nd St., New York 17, N. Y. ADV. PG. 636.  
 VOLTARC TUBES, INC., 44 Cross St., Norwalk, Conn. ADV. PG. 699.

**GASKETS**

AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 American Felt Co., Glenville, Conn.  
 Armstrong Cork Co., Lancaster, Pa.  
 Auburn Mfg. Co., The Pease Ave. & Stack St., Middletown, Conn.  
 BACON INDUSTRIES, INC., 192 Pleasant St., Water-Town, Mass. ADV. PG. 619.  
 Boston Felt Co., 210 South St., Boston 11, Mass.  
 Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorn, N. J.  
 CONNECTICUT HARD RUBBER CO., 407 East St., New Haven, Conn. ADV. PG. 646.  
 Continental Felt Co., 22 W. 15th St., New York 11, N. Y.  
 Dewey & Almy Chemical Co., Div. of W. R. Grace & Co., 62 Whittemore Ave., Cambridge 40, Mass.  
 Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
 Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Enfo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
 Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
 Garlock Packing Co., The Palmyra, N. Y.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 METAL TEXTILE CORP., 647 E. First Ave., Roselle, N. J. ADV. PG. 450.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 National Vulcanized Fibre Co., Wilmington, Del.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
 Panelyte Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 POLYMER CORPORATION, THE, Reading, Pa. ADV. PG. 502.  
 Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J.  
 Rogers Corp., Goodyear, Conn.  
 ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.  
 Shielding, Inc., Dept. LB, Riverton, N. J.  
 Stahlin Brothers, Inc., 103 Maple St., Belding, Mich.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Taylor Fibre Co., Norristown, Pa.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 U. S. Stoneware Co., The, Akron 9, Ohio.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

Western Felt Works, 4029 Ogden Ave., Chicago, Ill.  
 WESTLAKE PLASTICS CO., 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.  
 Wilmington Fibre Specialty Co., New Castle, Del.

**GAUSSMETERS—Rotating Coil**  
See **FLUXMETERS****GEARS—Precision**

American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
 Arch Gear Works, Inc., 97 Holmes St., North Quincy (71), Mass.  
 Atlas Precision Products Co., 3802 Castor Ave., Philadelphia 24, Pa.  
 Beaver Gear Works, Inc., 1034 Parmelee St., Rockford, Ill.  
 Belock Instrument Corp., 111-01 14th Ave., College Point, N. Y.  
 BOEHME, INC., H. O., 915 Broadway, New York 10, N. Y. ADV. PG. 556.  
 BOWMAR INSTRUMENT CORP., 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
 CUNNINGHAM INDUSTRIES, INC., 56 Hubbard Ave., Stamford, Conn. ADV. PG. 538.  
 Custom Gear Co., 648 College St., South Bend 28, Ind.  
 Daco Instrument Co., Tillary & Prince Sts., Brooklyn 1, N. Y.  
 Dynamic Gear Co., Inc., 20 Merrick Rd., Amityville, N. Y.  
 Fairchild Camera & Instrument Corp., Reconnaissance Systems Div., Robbins Lane, Syosset, N. Y.  
 Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
 Feedback Controls, Inc., 899 Main St., Waltham 54, Mass.  
 Franke Gear Works, Inc., 1932 W. Columbia Ave., Chicago 26, Ill.  
 Gear Specialties, Inc., 2635 W. Medill Ave., Chicago 47, Ill.  
 Gear Supply Co., 880 El Camino Real, Belmont, Calif.  
 Gear Systems Inc., Div. of Geartronics Corp., Main St., West Concord, Mass.  
 General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis 13, Minn.  
 Grant Gear Works, Inc., 154 W. Second St., South Boston, Mass.  
 GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
 Heliport Corp., Newport Beach, Calif.  
 Instru-Lec Corp., 520 Hemstead Ave., Mt. Vernon, N. Y.  
 Link Aviation, Inc., Binghamton, N. Y.  
 Litton Industries of Maryland, Inc., 4910 Calvert Rd., Cottage Park, Md.  
 Massachusetts Gear & Tool Div. of Geartronics Corp., 30 Nashua St., Woburn, Mass.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Missouri Research Labs., Inc., 2109 Locust St., St. Louis 3, Mo.  
 National Vulcanized Fibre Co., Wilmington, Del.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
 Perkin Machine & Gear Co., Specialty Machinery Div., West Springfield, Mass.  
 Quaker City Gear Works, Red Lion & Philmont Rd., Bethayres, Pa.  
 REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
 Research Development Manufacture, Inc., 429 E. Collom St., Philadelphia 44, Pa.  
 Sterling Precision Corp., Instrument Div., 34-17 Lawrence St., Flushing 54, N. Y.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 U. S. GEAR CORP., 71 Broadway, Wakefield, Mass. ADV. PG. 622.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
 Washington Machine & Tool Works, 1001 Washington Ave., S., Minneapolis 15, Minn.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.  
 Winzeler Mfg. & Tool Co., 1716 W. Arcade Place, Chicago 12, Ill.  
 Zagora Gears, Inc., 1327 S. Mint St., Charlotte 3, N. C.

**GENERATORS, ELECTRONIC**

1. AM-FM
2. Harmonic Frequency
3. Microwave
4. Pulse
5. Noise
6. Variable Frequency
7. Ultrasonic
8. Waveform
9. Picture Signal
10. Square Wave
11. Signal, a-f
12. Signal, f-m
13. Signal, r-f
14. Signal, shf
- 14a. Signal, Single Sideband
15. Signal, Sweeping
16. Signal, Television Synchronizing
17. Signal, uhf or vhf

A. R. F. Products, Inc., 7627 Lake St., River Forest, Ill. 4-10-12.  
 Acme Electronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio. 9.

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y. 7.  
 Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y. 13-17.  
 AeroProjects Incorporated, 310 E. Rosedale Ave., West Chester, Pa. 7.  
 AIRBORNE INSTRUMENTS LAB., INC. 160 Old County Rd., Mineola, N. Y. 3-5-6-13. ADV. PG. 253.  
 AIRCOM INC., 354 Main St., Winthrop 52, Mass. 3. ADV. PG. 652.  
 AIRCRAFT RADIO CORP., Boonton, N. J. 3-13-17. ADV. PG. 495.  
 Airmec Ltd., High Wycombe, Buckinghamshire, England. 11-12-13.  
 Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J. 7.  
 Alpha Instrument Co., 43 Hempstead St., New London, Conn. 11-12-13.  
 Alto Scientific Co., 855 Commercial St., Palo Alto, Calif. 4.  
 AMERIC, INC., 116 Topsfield Rd., Wenham, Mass. 3. ADV. PG. 412.  
 American Diathermy Products, Inc., 11858 Mississippi Ave., Los Angeles 25, Calif. 7.  
 American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa. 4.  
 American Scientific Development Co., 334 S. Main St., Atkinson, Wis. 9.  
 Antlab, 4950 N. High St., Columbus 14, Ohio. 10.  
 APPLIED RESEARCH INC., 163-07 Depot Rd., Flushing, N. Y. 15. ADV. PG. 672.  
 BJ ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. 1-4-13-15-17. ADV. PG. 541.  
 B & K Mfg. Co., 3726 N. Southport Ave., Chicago 13, Ill. 8-9-16.  
 Babcock Radio Engineering Co., P. O. Box 3097, Van Nuys, Calif. 12-17.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa. 6-7-10-11-14a.  
 BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. 4. ADV. PG. 73-80.  
 Berkshira Laboratories, 580 Bank Village, Greenville, N. H. 4-8.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J. 2-6.  
 BOONTON RADIO CORP., Boonton, N. J. 1-15. ADV. PG. 427.  
 BRANSON ULTRASONIC CO., 1 Brown House Rd., Stamford, Conn. 7. ADV. PG. 605.  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif. 4.  
 BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. 13-17. ADV. PG. 236.  
 Bruel & Kjaer, Naerum, Denmark. 6-11-15.  
 Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz. 4-8-10.  
 Burroughs Corp., Electronic Instruments Div., 1209 Vine St., Philadelphia, Pa. 4.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif. 3.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif. 15.  
 Carlson & Nicholson, Inc., 497 Maynard Drive, Buffalo 21, N. Y. 4.  
 Cavtron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 335 N. Newport Blvd., Newport Beach, Calif. 7.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England. 4-6-8-10-11.  
 CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. 4-8-14a. ADV. PG. 632.  
 Clough-Bregle Co., 6014 N. Broadway, Chicago, Ill. 11-13-15-17.  
 Collins Radio Co., Cedar Rapids, Iowa. 6.  
 COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. 2-6. ADV. PG. 532.  
 COMMUNICATION MEASUREMENTS LAB., INC., 350 Leland Ave., Plainfield, N. J. 6-7. ADV. PG. 547.  
 Community Engineering Corp., Box 824, State College, Pa. 15-17.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn. 17.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y. 4-10.  
 CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. 2-4. ADV. PG. 680.  
 Crosby Labs., Inc., Box 233, Robbins Lane, Hicksville, N. Y. 14a.  
 CUBIC CORP., 5575 Kearny Villa Rd., San Diego 11, Calif. 4-8-10. ADV. PG. 380, 381.  
 Decade Instrument Co., Box 153, Caldwell, N. J. 6-12-15.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif. 6-11.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J. 10-12.  
 Dukane Corp., St. Charles, Ill. 6.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J. 4-6-7-10-11.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa. 4-10.  
 Electric Indicator Co., Inc., Camp Ave., Springdale, Conn. 6.  
 Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y. 4.  
 ELECTRO-PULSE, INC., 11861 Teale St., Culver City, Calif. 4. ADV. PG. 651.  
 ELECTROMATION CO., 1646 Eighteenth St., Santa Monica, Calif. 4. ADV. PG. 692.

- ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.
- Electronic Measurements Corp., 280 Lafayette St., New York 12, N. Y. 1-10-13-17.
- ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. 11-12-13-15. ADV. PG. 286.
- EMPIRE DEVICES PRODUCTS CORP., 38-15 Bell Blvd., Bayside 61, N. Y. 3-4. ADV. PG. 388.
- Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah. 4-10.
- F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. 2-3. ADV. PG. 195-198.
- FEDERAL MFG. ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. 1-2-3-4-6-10-11-12-13-14-17. ADV. PG. 594.
- Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J. 16.
- Ferris Instrument Co., 110 Cornelia St., Boonton, N. J. 12-13.
- Fischer & Co., R. A., 517 Commercial St., Glendale 3, Calif. 7.
- Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J. 4-6-8-9-10-15-16.
- Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa. 4.
- FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.
- GPS Instrument Co., Inc., 811 Boylston St., Boston 16, Mass. 5.
- GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. 3-4. ADV. PG. 563.
- GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. 7. ADV. PG. 1-12.
- General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y. 16-17.
- GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. 3-4-5-6-7-10-11-13-17. ADV. PG. 316, 317.
- Haller, Raymond & Brown, Inc., State College, Pa. 4.
- HAMNER ELECTRONICS CO., INC., Box 531, Princeton, N. J. 4-8. ADV. PG. 671.
- Harris Transducer Corp., Woodbury, Conn. 7.
- Harvey-Wells Electronics, Inc., North St., Southbridge, Mass. 4-13.
- HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. 6-10-11-12-13-15. ADV. PG. 575.
- HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. 1-3-4-6-7-8-10-11-13-14-17. ADV. PG. 29-40.
- HICKOK ELECTRICAL INSTRUMENT CO., 10514 Dupont Ave., Cleveland 8, Ohio. 1-8-9-10-11-12-13-15-17-18. ADV. PG. 66.
- Holtzer-Cabot Div. of National Pneumatic Co., Inc., 125 Armory St., Boston 19, Mass. 2.
- Hunter-Bristol Corp., Bristol, Pa. 4.
- HYCON EASTERN, INC., Dept. EBG, 75 Cambridge Parkway, Cambridge, Mass. 3. ADV. PG. 400, 401.
- Hyon Electronics, Inc., P. O. Bin D, Pasadena, Calif. 9-16.
- INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. 8-11. ADV. PG. 676.
- Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N. J. 5.
- Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y. 8-16.
- INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. 1-2-7-11. ADV. PG. 613.
- International Electronics Corp., (Mullard Equipment) 81 Spring St., New York 12, N. Y. 7.
- INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. 1-3-5-6-11-12-13-14-15-17. ADV. PG. 355-357.
- Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio. 11-13-15-16.
- Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md. 4.
- JERROLD ELECTRONICS CORP., 23rd & Chestnut Sts., Philadelphia 3, Pa. 15. ADV. PG. 574.
- Kato Engineering Co., 1415 First Ave., Mankato, Mich. 6.
- Katolight Corp., First Ave. at Chestnut, Mankato, Minn. 6.
- KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. 1-3-4-5-6-7-9-12-13-14-15-17. ADV. PG. 482, 483.
- KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. 4-16. ADV. PG. 121-123.
- Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa. 3-11-12.
- LABORATORY FOR ELECTRONICS, INC., 75 Pitts St., Boston 14, Mass. 3. ADV. PG. 358.
- LAVOIE LABORATORIES, INC., Morganville, N. J. 2-4-17. ADV. PG. 485.
- Leach Corp., Inet-Palmer Div., 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif. 6.
- LING ELECTRONICS, INC., 5170 W. Jefferson Blvd., Los Angeles 16, Calif. 6. ADV. PG. 526.
- McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J. 7.
- McKenna Laboratories, Santa Monica 6, Calif. 7.
- M F ELECTRONICS, 122 E. 25th St., New York 10, N. Y. 10. ADV. PG. 512.
- Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J. 7.
- MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. 2-4-6-13-14a-17. ADV. PG. 513.
- Manufacturers Engineering & Equipment Corp., York & Sunset Lane, Hatboro, Pa. 15.
- MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. 1-3-5-6-12-13-14-17-18. ADV. PG. 550.
- Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass. 7.
- Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y. 3-17.
- Measurement Engineering, Ltd., Arnprior Ontario, Canada. 10-11.
- MEASUREMENTS CORP., Boonton, N. J. 1-4-10-11-12-17. ADV. PG. 94.
- Meridian, Inc., 880 Main St., Stamford, Conn. 3-11-12-13-14-14a-15-16.
- Metronix, Inc., Mill Lane, Waterford, Conn. 11.
- MICROLAB, 71 Okner Parkway, Livingston, N. J. 2. ADV. PG. 284.
- MICROWAVE ASSOCIATES, INC., Burlington, Mass. 3. ADV. PG. 225-228.
- Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass. 3.
- Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N. Hopkins, Minn. 7.
- MOLONEY ELECTRIC CO., 5590 Birchler Blvd., St. Louis 20, Mo. 4. ADV. PG. 527.
- Muirhead & Co., Ltd., Beckenham, Kent, England. 6.
- MULLARD OVERSEAS LTD., EQUIPMENT DIV., Century House, Shaftesbury Ave., London, W.C. 2, England. 4-7. ADV. PG. 560.
- NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. 4-6. ADV. PG. 369, 370.
- NAVIGATION COMPUTER CORP., 1621 Snyder Ave., Philadelphia 45, Pa. 4. ADV. PG. 585.
- Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H. 11.
- New London Instrument Co., P. O. Box 189, New London, Conn. 10-11-12-17.
- NORTHEAST SCIENTIFIC CORP., 617 Concord Ave., Cambridge 38, Mass. 3. ADV. PG. 641.
- Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa. 4-6-10-17.
- Optron Corp., 3526 State St., Santa Barbara, Calif. 8.
- Orbitran Co., Lakeside, Calif. 4.
- Pacific Transducer EBG Corp., 11836 W. Pico Blvd., Los Angeles 34, Calif. 15.
- PACKARD-BELL CO., 12333 W. Olympic Blvd., Los Angeles 64, Calif. 4. ADV. PG. 268.
- PANORAMIC RADIO PRODUCTS, INC., 10 S. Second St., Mt. Vernon, N. Y. 15. ADV. PG. 360.
- Pennsylvania Testing Lab., Inc., Doylestown, Pa. 3.
- PERKIN ENGINEERING CORP., 345 Kansas St., El Segundo, Calif. 4. ADV. PG. 67.
- Piezo Products Co., Whitney St., Sherborn, Mass. 7.
- POLARAD ELECTRONICS CORP., 43-20 34th St., Long Island City 1, N. Y. 3-4-8-9-15-16. ADV. PG. 403, 404.
- POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. 2-3-5-6. ADV. PG. 164, 165.
- Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y. 13.
- Power Supplies, Inc., 1007 Olive St., Highland, Ill. 6-7.
- Precise Development Corp., 2 Neil Court, Oceanside, N. Y. 1-10-11-12-13-15-18.
- Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y. 10-11-12-13-15.
- Production Research Corp., Thornwood, N. Y. 7.
- Pulse Techniques Inc., 1411 Palisade Ave., West Englewood, N. J. 6-11.
- Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England. 4.
- RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif. 3a-5.
- RADAR ENGINEERS, 403 E. 45th St., Seattle 5, Wash. 10. ADV. PG. 462.
- Radiation Instrument Development Labs., 2337 W. 67th St., Chicago 36, Ill. 4.
- Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa. 1-10-11-12-13-15-16.
- RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. 3-6-8-13-15-16. ADV. PG. 453, Third & Fourth Covers.
- RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. 11-13-15. ADV. PG. 453, Third & Fourth Covers.
- Rutherford Electronics Co., 8944 Lindblade St., Culver City, Calif. 4-8.
- Scientific Electric Corp., 105-119 Monroe St., Garfield, N. J. 7.
- Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass. 5.
- Service Instruments Co., 171 Official Rd., Addison, Ill. 13.
- Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y. 10.
- Servomech Controls Ltd., 80 Shore Rd., Port Washington, N. Y. 4-8-10-15.
- Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif. 6-7.
- Signal Equipment Co., Inc., 2706 Third Ave., Seattle 1, Wash. 15.
- Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif. 6-10.
- SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. 11. ADV. PG. 294, 295.
- Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clinton Place, Brooklyn 38, N. Y. 4-13.
- SPENCER-KENNEDY LABS., INC., 1318 Soldiers Field Rd., Boston 35, Mass. 4. ADV. PG. 304.
- Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill. 13-14-15.
- Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London W.C. 2, England. 2-3-6.
- STODARD AIRCRAFT RADIO CO., 6644 Santa Monica Blvd., Hollywood 38, Calif. 4. ADV. PG. 498, 499.
- Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y. 11.
- Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa. 7.
- Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y. 11-12-13.
- Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y. 1-6-11-12-13.
- Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y. 9-16.
- Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y. 6.
- Technical Measurement Corp., 140-142 State St., New Haven 11, Conn. 4.
- TECHNITROL ENGINEERING CO., 1952 E. Allegheny Ave., Philadelphia 34, Pa. 4. ADV. PG. 542.
- TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. 5-8-9-10-12-13-14-14a-15-17. ADV. PG. 417.
- Tektronix, Inc., P. O. Box 831, Portland 7, Ore. 4-8-10.
- Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y. 6-12.
- Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y. 4.
- Television Utilities Corp., 112-23 Colonial Ave., Corona, N. Y. 16.
- Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J. 9-12-15-16-17.
- TELONIX INDUSTRIES, 73 N. 2nd Ave., Beech Grove, Ind. 1-2-3-4-6-11-12-13-15-17. ADV. PG. 535.
- Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill. 1-5-6-7.
- TRAD ELECTRONICS CORP., 1001 First Ave., Asbury Park, N. J. 13-17. ADV. PG. 522.
- TRANSTRON, INC., 186 Granite St., Manchester, N. H. 1-2-3-6-12-13-14-15-17. ADV. PG. 326.
- TRIO LABORATORIES, INC., 4025 Merrick Rd., Seaforth, N. Y. ADV. PG. 687.
- UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSISTOR PRODUCTS CORP., 143 E. 49th St., New York 17, N. Y. 4-5. ADV. PG. 548.
- VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. 3. ADV. PG. 174, 175, 411.
- VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. 3-6. ADV. PG. 394.
- Videon Electronic Corp., 902 E. Michigan St., Indianapolis 2, Ind. 6-10.
- WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. 4-8-10. ADV. PG. 470.
- WANG LABORATORIES, INC., 37 Hurley St., Cambridge 41, Mass. 4-6-8-10-16. ADV. PG. 630.
- Waveforms, Inc., 333 Sixth Ave., New York 14, N. Y. 6-7.
- Waveline, Inc., Box 470, Caldwell, N. J. 5.
- Webster Electric Co., 1900 Clark St., Racine, Wis. 11.
- WEINSCHEL ENGINEERING CO., INC., 10503 Metropolitan Ave., Kensington, Md. 4-10-11-13. ADV. PG. 42.
- White Electric Devices Inc., Roger, Fourth Ave., Haskell, N. J. 3.
- Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa. 2.
- GENERATORS—Engine Driven**
- American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.
- Bone Engineering Corp., 701 W. Broadway, Glendale 4, Calif.
- Buda Div. Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
- CONTINENTAL ELECTRIC CO., INC., 334 Ferry St., Newark 5, N. J. ADV. PG. 557.
- Detroit Diesel Engine Div. of General Motors Corp., 13400 W. Outer Drive, Detroit 28, Mich.
- Eicor, Inc., 4235 W. North Ave., Chicago 39, Ill.
- FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.
- Gaston Power Tools, Inc., P. O. Box 312, Harvey, Ill.
- Georator Corp., Manassas, Va.
- HOMELITE DIV. OF TEXTRON INC., Port Chester, N. Y. ADV. PG. 645.
- Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles 25, Calif.
- Howard Industries, Inc., Divisions: Cyclohm Motor Corp.; Electric Motor Corp., Racine, Wis.
- I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.
- Jack & Helntz, Inc., Cleveland 1, Ohio.
- Katolight Corp., First Ave. at Chestnut, Mankato, Minn.
- Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.
- Leach Corp., Inet-Palmer Div., 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif.
- Leece-Neville Co., 1374 E. 51st St., Cleveland 3, Ohio.
- Motoresearch Co., 1600 Junction Ave., Racine, Wis.
- Onan & Sons Inc., D. W., University Ave., at 25th St., S. E., Minneapolis 14, Minn.
- Pioneer Gen-E-Motor Corp., 5841 W. Dickens, Chicago 39, Ill.
- Ready Power Co., The Power Plant Div., 11231 Freud Ave., Detroit 14, Mich.
- RED BANK DIVISION, BENDIX AVIATION CORP., Eatontown, N. J. ADV. PG. 332.
- Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.
- TKM Electric Corp., 11600 University Ave., Rochester 7, N. Y.
- Wincharger Corp., E. 7th & Division Sts., Sioux City, Iowa.



**GENERATORS—Function**

**CUBIC CORP.**, 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
**Diehl Manufacturing Co.**, Somerville, N. J.  
**Donner Scientific Co.**, 888 Galindo St., Concord, Calif.  
**Engineering Specialty Co.**, 3100 Eldredge St., Salt Lake City, Utah.  
**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.  
**GPS Instrument Co., Inc.**, 811 Boylston St., Boston 16, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**HEATH CO. A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**Intercontinental Dynamics Corp.**, 170 Coolidge Ave., Englewood, N. J.  
**LIBRASCOPE, INC.**, 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
**Mid-Century Instrumatic Corp.**, 611 Broadway, New York 12, N. Y.  
**Optron Corp.**, 3526 State St., Santa Barbara, Calif.  
**Servomex Controls Ltd.**, 80 Shore Rd., Port Washington, N. Y.  
**TKM Electric Corp.**, 1160 University Ave., Rochester 7, N. Y.  
**Waldorf Instrument Co., Div. of F. C. Huyck & Sons**, Park Ave., Huntington Station, N. Y.

**GENERATORS—Hand Driven**

**Eicor, Inc.**, 4235 W. North Ave., Chicago 39, Ill.  
**Electric Indicator Co., Inc.**, Camp Ave., Springdale, Conn.  
**Electro Engineering Products Co.**, 609 W. Lake St., Chicago, Ill.  
**Howard Industries, Inc.**, Divisions: Cyclohm Motor Corp., Electric Motor Corp., Racine, Wis.  
**Marine Electric Co.**, 600 Fourth Ave., Brooklyn 15, N. Y.  
**Sangamo Electric Co.**, 1201 N. 11th St., Springfield, Ill.  
**Western Gear Corp.**, Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

**GENERATORS—Motor**

**Aerolab Development Co.**, 330 W. Holly St., Pasadena, Calif.  
**Allis-Chalmers Mfg. Co.**, 935 S. 70th St., Milwaukee 1, Wis.  
**Bludworth Marine Div., Kearfott Co., Inc.**, 92 Gold St., New York 38, N. Y.  
**Bogue Electric Mfg. Co.**, Iowa Ave., Paterson 3, N. J.  
**Bone Engineering Corp.**, 701 W. Broadway, Glendale 4, Calif.  
**Century Electric Co.**, 1806 Pine St., St. Louis 3, Mo.  
**CHASE ELECTRONICS INC.**, 82-31 51st Ave., Elmhurst, N. Y. ADV. PG. 601.  
**CLIFTON PRECISION PRODUCTS CO., INC.**, Broadway at Marple Ave., Clifton Heights, Pa. ADV. PG. 134, 135.  
**Columbia Electric Mfg. Co.**, 4519 Hamilton Ave., N.E., Cleveland 14, Ohio.  
**CONTINENTAL ELECTRIC CO., INC.**, 334 Ferry St., Newark 5, N. J. ADV. PG. 557.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
**Dalmator Co.**, 1375 Clay St., Santa Clara, Calif.  
**Diehl Manufacturing Co.**, Somerville, N. J.  
**EASTERN AIR DEVICES, INC.**, 385 Central Ave., Dover, N. H. ADV. PG. 312.  
**ECLIPSE-PIONEER DIV., BENDIX AVIATION CORP.**, Teterboro, N. J. ADV. PG. 333-336.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
**Eicor, Inc.**, 4235 W. North Ave., Chicago 39, Ill.  
**Electric Indicator Co., Inc.**, Camp Avenue, Springdale, Conn.  
**ELECTRIC SPECIALTY CO.**, 300 South St., Stamford, Conn. ADV. PG. 490.  
**Electro Engineering Products Co.**, 609 W. Lake St., Chicago, Ill.  
**G-M Laboratories, Inc.**, 4336 N. Knox Ave., Chicago, Ill.  
**Gaston Power Tools, Inc.**, P. O. Box 312, Harvey, Ill.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**Georator Corp.**, Manassas, Va.  
**Globe Industries, Inc.**, P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
**Great Lakes Electric Mfg. Co.**, 17 S. Desplaines St., Chicago 6, Ill.  
**Helipot Corp.**, Newport Beach, Calif.  
**Hertner Electric Co.**, 12690 Elmwood Ave., Cleveland 11, Ohio.  
**Holtzer-Cabot Div. of National Pneumatic Co., Inc.**, 125 Amory St., Boston 19, Mass.  
**HOMELITE DIV. OF TEXTRON INC.**, Port Chester, N. Y. ADV. PG. 645.  
**Hoover Electric Co.**, 2100 S. Stoner Ave., Los Angeles 25, Calif.  
**Howard Industries, Inc.**, Divisions: Cyclohm Motor Corp.; Electric Motor Corp., Racine, Wis.  
**Induction Heating Corp.**, 181 Wythe Ave., Brooklyn 11, N. Y.  
**INDUCTION MOTORS CORP.**, 570 Main St., Westbury, N. Y. ADV. PG. 266.

**Jack & Heintz, Inc.**, Cleveland 1, Ohio.  
**Katolight Corp.**, First Ave. at Chestnut, Mankato, Minn.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main St., Clifton, N. J. ADV. PG. 181.  
**Leach Corp., Inet-Palmer Div.**, 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif.  
**Leland Electric Co., The, Div. of The American Machine & Foundry Co.**, 1501 Webster St., Dayton 1, Ohio.  
**Motorsearch Co.**, 1600 Junction Ave., Racine, Wis.  
**Norden-Ketay Corp.**, 58 Commerce Rd., Stamford, Conn.  
**RED BANK DIVISION, BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
**Rotating Components, Inc.**, 269 Green St., Brooklyn 22, N. Y.  
**Sangamo Electric Co.**, 1201 N. 11th St., Springfield, Ill.  
**Servo-Tek Products Co., Inc.**, 1086 Goffle Rd., Hawthorne, N. J.  
**Small Motors, Inc.**, 2076 Elston Ave., Chicago 14, Ill.  
**Syntorque, Inc.**, 601 W. 26th St., New York 1, N. Y.  
**TKM Electric Corp.**, 1160 University Ave., Rochester 7, N. Y.  
**WacLine, Inc.**, 35 S. St. Clair St., Dayton 2, Ohio.  
**Western Gear Corp., Electro Products Div.**, 132 W. Colorado St., Pasadena 1, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
**Wincharger Corp.**, E. 7th & Division Sts., Sioux City, Iowa.

**GENERATORS—Rate**

See **TACHOMETERS**

**GENERATORS—Winddriven Generating Equipment**

**Electric Indicator Co., Inc.**, Camp Ave., Springdale, Conn.  
**Hoover Electric Co.**, 2100 S. Stoner Ave., Los Angeles 25, Calif.  
**TKM Electric Corp.**, 1160 University Ave., Rochester 7, N. Y.  
**Wincharger Corp.**, E. 7th & Division Sts., Sioux City, Iowa.

**GEOPHYSICAL APPARATUS**

**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**Benson-Lehner Corp.**, 11930 W. Olympic Blvd., Los Angeles 64, Calif.  
**Bludworth Marine Div., Kearfott Co., Inc.**, 92 Gold St., New York 38, N. Y.  
**Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co.**, Box 10, Morristown, N. J.  
**Engineering Specialty Co.**, 3100 Eldredge St., Salt Lake City, Utah.  
**Gardiner Electronics**, 2545 E. Indian School Rd., Phoenix, Ariz.  
**Georator Corp.**, Manassas, Va.  
**Harris Transducer Corp.**, Woodbury, Conn.  
**Mt. Sopris Instrument Corp.**, 1320 Pearl St., Boulder, Colo.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
**Telephonics Corp.**, Park Ave., Huntington, N. Y.  
**Texas Division, Brush Electronics Co.**, 3732 Westheimer Rd., Houston 6, Texas.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**United Electroynamics Div. of United Geophysical Co., Inc.**, 1200 S. Marengo, Pasadena, Calif.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSDUCER PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.

**GERMANIUM CRYSTALS**

See **CRYSTALS**

**GERMANIUM DIODES**

See **DIODES—Germanium**

**GERMANIUM RECTIFIERS**

See **RECTIFIERS—Germanium**

**GETTERS**

See **TUBE PARTS**

**GLASS**

See **INSULATION MATERIALS**

**GLASS BONDED MICA**

See **INSULATION MATERIALS**

**GLASS FIBRE**

See **INSULATION MATERIALS**

**GLASS—Metal-to-Glass Seals**

See **SEALS—Metal-to-Glass**

**GLASS PARTS—Precision**

**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**HAMILTON ELECTRONICS CORP.**, Box 100, Bath, N. Y. ADV. PG. 507.

**GRAPHIC RECORDING INSTRUMENTS**

See **INSTRUMENTS—Graphic Recording**

**GRAPHITE—Colloidal**

**Acheson Colloids Co.**, 1950 Washington Ave., Port Huron, Mich.  
**Grafo Colloids Corp.**, Sharon, Pa.  
**Superior Graphite Co.**, 33 S. Clark St., Chicago 3, Ill.  
**Topper Mfg. Co., Inc.**, 43 Roselle St., Mineola, N. Y.

**GRIDS AND GRID SUPPORTS**

See **TUBE PARTS**

**GRILLES—Metal**

**Chase Brass & Copper Co., Inc.**, 236 Grand St., Waterbury 20, Conn.  
**Croname, Inc.**, 1747 Grace St., Chicago 13, Ill.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
**Flock Process Co., Inc.**, 373 Main Ave., Norwalk, Conn.  
**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
**Minneapolis-Honeywell Regulator Co.**, 2753 Fourth Ave., S., Minneapolis 8, Minn.  
**Minute Man Products, Inc.**, 430 E. 102nd St., New York, N. Y.  
**Scovill Manufacturing Co.**, Waterbury 20, Conn.  
**Titchener & Co., E. H.**, 67 Clinton St., Binghamton, N. Y.  
**Walsco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.

**GRILLES—Molded Plastic**

**Bolta Products Div., General Tire & Rubber Co.**, Lawrence, Mass.  
**Felsenthal & Sons, Inc., G.**, 3500 N. Kedzie, Chicago 18, Ill.  
**Molded Fibreglas Co.**, 4401 Benefit Ave., Ashtabula, Ohio.  
**Molded Insulation Co.**, 335 E. Price St., Philadelphia 44, Pa.  
**REF Mfg. Corp.**, Jericho Turnpike, Mineola, N. Y.  
**RICHARDSON CO., THE**, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
**Romar Plastics, Inc.**, 1309 E. Main St., St. Charles, Ill.  
**Sierra Electric Corp.**, 15100 S. Figueroa St., P.O. Box 85, Gardena, Calif.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Topper Mfg. Co., Inc.**, 43 Roselle St., Mineola, N. Y.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.

**GRILLES—Speaker**

**American Mica Insulation Co.**, Manasquan, N. J.  
**Croname, Inc.**, 1747 Grace St., Chicago 13, Ill.  
**Eltran Corp.**, St. Anne, Ill.  
**Flock Process Co., Inc.**, 373 Main Ave., Norwalk, Conn.  
**Titchener & Co., E. H.**, 67 Clinton St., Binghamton, N. Y.  
**Walsco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.

**GROMMETS**

**Amatom Electronic Hardware Co.**, 122 Sunset Rd., Mamaroneck, N. Y.  
**Atlantic India Rubber Works, Inc.**, Dept. EL, 571 W. Polk St., Chicago 7, Ill.  
**Auburn Mfg. Co., The**, Pease Ave. & Stack St., Middletown, Conn.  
**Chase Brass & Copper Co., Inc.**, 236 Grand St., Waterbury 20, Conn.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
**Dzus Fastener Co., Inc.**, Box 185, Babylon, N. Y.  
**Emerson Plastics Corp.**, 1383 Seabury Ave., Bronx 61, N. Y.  
**Enflo Corp.**, Route 38 at Airport Circle, Pensauken, N. J.  
**Fastex Div. of Illinois Tool Works**, 195 Algonquin Rd., Des Plaines, Ill.  
**GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV.**, Attleboro, Mass. ADV. PG. 327.  
**GRIES REPRODUCER CORP.**, 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
**Hallett Mfg. Co.**, 1601 W. Florence Ave., Inglewood, Calif.  
**HEYMAN MFG. CO.**, Kenilworth 2, N. J. ADV. PG. 597.  
**Isolantite Mfg. Corp.**, Stirling, N. J.  
**Lavelle Rubber Co.**, 424 N. Wood St., Chicago 22, Ill.  
**Lord Mfg. Co.**, 1635 W. 12th St., Erie, Pa.  
**Mica Insulator Co.**, Schenectady 1, N. Y.  
**National Vulcanized Fibre Co.**, Wilmington, Del.  
**Permonite Mfg. Co.**, 444 N. Lake Shore Drive, Chicago 11, Ill.  
**Ray-O-Vac Co.**, 212 E. Washington Ave., Madison, Wis.  
**Rogers Corporation**, Goodyear, Conn.  
**SEALCTRO CORP.**, 610 Fayette Ave., Mamaroneck, N. Y. ADV. PG. 484.  
**Shamban & Co., W. S.**, 11617 W. Jefferson Blvd., Culver City, Calif.  
**Silicone Insulation, Inc.**, 1385 Seabury Ave., Bronx 61, N. Y.  
**Smith, Inc., Herman H.**, 2326 Nostrand Ave., Brooklyn 10, N. Y.  
**Staver Co., Inc., The**, 43 N. Saxon Ave., Bay Shore, N. Y.  
**Stimpson Co., Inc.**, Edwin B., 74 Franklin Ave., Brooklyn 5, N. Y.  
**Taylor Fibre Co.**, Norristown, Pa.

United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.  
U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
Walco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

### GROMMETS—Fibre

Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
Auburn Mfg. Co., The Pease Ave. & Stack St., Middletown, Conn.  
Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
Rogers Corporation, Goodyear, Conn.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
Taylor Fibre Co., Norristown, Pa.  
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
Walco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
Wilmington Fibre Specialty Co., New Castle, Del.

### GUN MOUNTS—Television

FALSTROM CO., 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
Griffiths Electronics, Inc., 155 Summit St., Newark 3, N. J.  
MANSOL CERAMICS CO., 140 Little St., Belleville, N. J. ADV. PG. 697.  
National Video Corp., 4300 W. 47th St., Chicago 32, Ill.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
SUPERIOR ELECTRONICS CORP., 208 Piaget Ave., Clifton, N. J. ADV. PG. 604.  
Thomas Electronics Inc., 118 Ninth St., Passaic, N. J.

### GUNS—Soldering

Acustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
Electric Soldering Iron Co., W. Elm St., Deep River, Conn.  
Hexacon Electric Co., 130 W. Cady Ave., Roselle Park, N. J.  
Wall Mfg. Co., Grove City, Pa.  
Weller Electric Corp., Box 345, Easton, Pa.  
Wen Products, Inc., 5808 Northwest Highway, Chicago 31, Ill.

### GYROSCOPES

Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Darco Industries, Inc., Gyro Dynamics Div., 2151 E. Rosencrans Ave., El Segundo, Calif.  
DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
ECLIPSE PIONEER DIV., BENDIX AVIATION CORP., Teterboro, N. J. ADV. PG. 333-336.  
GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
GREENLEAF MFG. CO., THE, 7814 Maplewood Industrial Court, St. Louis 17, Mo. ADV. PG. 219.  
Humphrey, Inc., 2805 Canon St., San Diego 6, Calif.  
KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main St., Clifton, N. J. ADV. PG. 181.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
Lear, Inc., 3171 S. Bundy Drive, Los Angeles 34, Calif.  
MINNEAPOLIS-HONEYWELL, BOSTON DIV., 1400 Soldiers Field Rd., Boston 15, Mass. ADV. PG. 445.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
Pacific Scientific Co., P. O. Box No. 22019, Los Angeles 22, Calif.  
REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
SANDERS ASSOCIATES, INC., Nashua, N. H. ADV. PG. 534.  
Summers Gyroscope Co., 2328 Broadway, Santa Monica, Calif.  
U. S. Time Corp., 346 Tejon Place, Palos Verdes Est., Calif.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

### HAND TOOLS

See TOOLS—Hand or Mechanical

### HARDWARE—Electronic

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles 44, Calif.  
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.  
Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
CAMLOC FASTENER CORP., 22 Spring Valley Rd., Paramus, N. J. ADV. PG. 241.  
CHASSIS-TRAK, INC., 6248 E. Iona Rd., Indianapolis 3, Ind. ADV. PG. 681.  
CHURCHILL LIGHTING CORP., 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
Goe Engineering Co., 219 S. Mednik Ave., Los Angeles 22, Calif.  
GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.  
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill.  
Jan Hardware Mfg. Co., Inc. 75 N. 11th St., Brooklyn 11, N. Y.  
Johnson Co., E. F., Waseca, Minn.  
KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mt. Vernon, N. Y. ADV. PG. 685.  
LERCOC ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664.  
LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
Litton Industries, Beverly Hills, Calif.  
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.  
MALCO TOOL & MFG. CO., 4025 W. Lake St., Chicago 24, Ill. ADV. PG. 252.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
Modern-Aire Mfg. Corp., 4436 W. Roosevelt Rd., Chicago 24, Ill.  
Nagel-Chase Mfg. Co., 2811 N. Ashland Ave., Chicago 13, Ill.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
NIELSEN HARDWARE CORP., 770 Wethersfield Ave., Hartford 14, Conn. ADV. PG. 539.  
Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
Pfeifer Products, 3901 W. 54th St., Los Angeles 43, Calif.  
PIX MFG. CO., INC., 81A Hudson St., Newark, N. J. ADV. PG. 670.  
Precision Metal Products Co. of Malden, 41 Elm St., Stoneham 80, Mass.  
RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
Richards Electrocraft, Inc., 3743 N. Kedzie Ave., Chicago 18, Ill.  
ROGAN BROS., 8031 N. Monticelli Ave., Skokie, Ill. ADV. PG. 222.  
Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
Scovill Manufacturing Co., Waterbury 20, Conn.  
Sheffco Mfg. Corp., Grand & Ruby Aves., Palisades Park, N. J.  
Sinclair Mfg. Co., Chartley, Mass.  
SOUTHCOT DIVISION, SOUTH CHESTER CORP., 233 Industrial Highway, Lester, Pa. ADV. PG. 254.  
Stanley-Judd Div. of Stanley Works, Wallingford, Conn.  
Stanley Pressed Metal Div. of The Stanley Works, New Britain, Conn.

STAR EXPANSION PRODUCTS CO., INC., 142 Liberty St., New York 6, N. Y. ADV. PG. 588.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
TECHNICAL APPLIANCE CORP., Sherburne, N. Y. ADV. PG. 641.  
United Technical Laboratories, Box 425-V, Morristown, N. J.  
U. S. Engineering Co., Div. of Litton Industries, 5873 Rodeo Rd., Los Angeles 18, Calif.  
U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
VECTOR ELECTRONIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.  
Vibrex Fastener Corp., Mount Kisco, N. Y.  
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
Walco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
ZIERICK MFG. CORP., Beechwood & Rockdale Aves., New Rochelle, N. Y. ADV. PG. 605.

### HARNESSES—Wire

#### See Also CABLE ASSEMBLIES

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
Aeronautical Electronics Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
Airborne Electronics Co., 6813 Troost Ave., North Hollywood, Calif.  
ALDEN PRODUCTS CO., 112 N. Main St., Brockton, Mass. ADV. PG. 567.  
ALLIED ALLEGRI INC., 141 River Rd., Nutley, N. J. ADV. PG. 650.  
AMPHENOL ELECTRONICS CORP., 1930 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
Bliss Electronic Corp., Box 366, Sussex, N. J.  
Buffalo Electronics Corp., 37 Franklin St., Buffalo 2, N. Y.  
Cable Specialist of Conn., 474 Prospect Ave., Hartford, Conn.  
Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
COILS-ELECTRONICS CO., 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
Columba Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
ConRay Corp., 29 W. Apple St., Dayton 2, Ohio.  
CORNISH WIRE CO., 50 Church St., New York 7, N. Y. ADV. PG. 20.  
Decatur Electronics Industries Corp., 203 Orinco Drive, Brightwater, N. Y.  
Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
Eastern Specialty Co., Philadelphia 40, Pa.  
Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
Electronic Assembly Co., Inc., 5 Prescott St., Boston 19, Mass.  
Electronic Products Corp., 322 State St., Santa Barbara, Calif.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
Empire Electronics Co., Inc., 166 River St., Paterson 1, N. J.  
ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171.  
First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
GENERAL HERMETIC SEALING CORP., 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
GENERAL RF FITTINGS, INC., 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.  
Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
HOULIHAN CO., T. J., 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
Illumitron Engineering, 680 E. Taylor, Sunnvale, Calif.  
Industrial Wiring & Cable Co., 103 Foundry St., Wakefield, Mass.  
Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mt. Vernon, N. Y. ADV. PG. 685.  
KUPFRIAN MFG. CORP., 398 State St., Binghamton, N. Y. ADV. PG. 684.  
Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
LING ELECTRONICS, INC., 5170 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
MacLeod & Hanopol, Inc., 10 Roland St., Charlestown 29, Mass.  
Manger Electric Co., Miller St., Stamford, Conn.  
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
Modeltronic Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
Miller Electric Co., 120 Main St., Pawtucket, R. I.  
Mutron Corp., 125 Perkins Ave., Brockton, Mass.  
National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
North Electric Co., 553 S. Market St., Gallon, Ohio.

Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Rosenau, Harris & Co., Ontario & "Y" Sts., Philadelphia 34, Pa.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
**SCINTILLA DIVISION, BENDIX AVIATION CORP.**, Sidney, N. Y. ADV. PG. 337.  
 Sheltered Workshop, 2521 5th St., Santa Monica, Calif.  
 Skysweeper Inc., McHenry, Ill.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Tele-matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.  
 Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn.  
 United Manufacturing & Service Co., 405 S. Sixth St., Milwaukee 4, Wis.  
**U. S. GASKET CO., Camden**, N. J. ADV. PG. 418, 635.  
 Wheeler Insulated Wire Co., The Div. of The Sperry Corp., 180 E. Aurora St., Waterbury 91, Conn.

## HEADPHONES & HEADSETS

**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Cannon Co., C. F., Springwater, N. Y.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill.  
**DYNA-EMPIRE, INC.**, 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
**ELGIN NATIONAL WATCH CO., ELECTRONICS DIV.**, 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Hal-Hen Co., 36-14 Eleventh St., Long Island City 6, N. Y.  
 Helipot Corp., Newport Beach, Calif.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago 41, Ill.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Roñan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 Rye Sound Corp., 21 Rye Rd., Rye, N. Y.  
 Sierra Electric Corp., 15100 S. Figueroa St., P.O. Box 85, Gardena, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
 Telephonic Corp., Park Ave., Huntington, N. Y.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Trimm, Inc., 400 W. Lake St., Libertyville, Ill.

## HEADS—Magnetic Drum (Memory)

**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Electro-Tech Pacific, Santa Barbara Airport, P.O. Box 455, Goleta, Calif.  
 General Transistor Western Corp., 6110 Venice Blvd., Los Angeles 34, Calif.  
**LIBRASCOPÉ, INC.**, 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Lipps, Inc., Edwin A., 5485 W. Washington Blvd., Los Angeles 16, Calif.  
 Litton Industries, Beverly Hills, Calif.  
 Magne-Pulse Corp., 247 Crooks Ave., Clifton, N. J.  
 Norton Associates, Inc., P.O. Box 96, Garden City, N. Y.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Rea Co., J. B., 1723 Cloverfield Blvd., Santa Monica, Calif.  
 Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.  
 Steward Mfg. Co., D.M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
 Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.

## HEADS—Magnetic Film

Berndt-Bach, Inc., Auricon Div., 6924 Romaine St., Hollywood 38, Calif.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Electro-Tech Pacific, Santa Barbara Airport, P.O. Box 455, Goleta, Calif.  
 General Transistor Western Corp., 6110 Venice Blvd., Los Angeles 34, Calif.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England  
**LIBRASCOPÉ, INC.**, 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Lipps, Inc., Edwin A., 5485 W. Washington Blvd., Los Angeles 16, Calif.  
 Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.  
 Norton Associates, Inc., P.O. Box 96, Garden City, N. Y.  
 Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis 4, Minn.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.

## HEADS—Recording

A. P. W. Co., 72 W. Main St., Rockaway, N. J.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Audak Co., 500 Fifth Ave., New York, N. Y.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Electro-Tech Pacific Santa Barbara Airport P.O. Box 455, Goleta, Calif.  
 General Transistor Western Corp., 6110 Venice Blvd., Los Angeles 34, Calif.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Lipps, Inc., Edwin A., 5485 W. Washington Blvd., Los Angeles 16, Calif.  
 Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.  
 Norton Associates, Inc., P. O. Box 96, Garden City, N. Y.  
 Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis 4, Minn.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
 Rea Co., J. B., 1723 Cloverfield Blvd., Santa Monica, Calif.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
**SONOTONE CORP.**, Saw Mill River Rd., P.O. Box 200, Elmsford, N. Y. ADV. PG. 674.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P.O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
 Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.  
 Telecomputing Div. of Telecomputing Corp., 12838 Satcoy St., North Hollywood, Calif.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

## HEADS—Tape Recording

British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
**DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO.**, 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Electro-Science Industries, Box 10066 International Airport, Los Angeles 45, Calif.  
 Electro-Tech Pacific, Santa Barbara Airport, P. O. Box 455, Goleta, Calif.  
 General Transistor Western Corp., 6110 Venice Blvd., Los Angeles 34, Calif.  
**INTERSEARCH, INC.**, 7 Arcadia Place, Cincinnati 8, Ohio. ADV. PG. 480.  
 Lipps, Inc., Edwin A., 5485 W. Washington Blvd., Los Angeles 16, Calif.  
 Magnecord, Inc., 1101 S. Kilbourn Ave., Chicago 24, Ill.  
 Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.  
 Norton Associates, Inc., P. O. Box 96, Garden City, N. Y.  
 Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis 4, Minn.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
 Rea Co., J. B., 1723 Cloverfield Blvd., Santa Monica, Calif.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

## HEARING AID TUBES

See TUBES—Hearing Aid

## HEARING AIDS

Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
 Audivox, Inc., 123 Worcester St., Boston 18, Mass.  
 Aurex Corp., 1117 N. Franklin St., Chicago 10, Ill.  
 Beltone Hearing Aid Co., 2900 W. 36th St., Chicago 32, Ill.  
 Gem Ear Phone Co., Inc., 50 W. 29th St., New York 1, N. Y.  
 Laureh Radio Mfg. Co., 3931 S. Wayne Rd., Wayne, Mich.  
 Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.  
 Microtone Corp., The, 758 Mississippi River Blvd., St. Paul 1, Minn.  
 Myers & Sons, Inc., E. A., P. O. Box 8032, Radioear Building, Pittsburgh 16, Pa.  
 Nichols & Clark, Inc., P. O. (321 Newburyport Turnpike, Danvers), Hathorne, Mass.  
 Paravox Inc., 2056 E. Fourth St., Cleveland 15, Ohio.  
 Rye Sound Corp., 21 Rye Rd., Rye, N. Y.  
**SONOTONE CORP.**, Saw Mill River Road, P.O. Box 200, Elmsford, N. Y. ADV. PG. 674.  
 Televox Mfg. Co., 1307 Sansom St., Philadelphia 7, Pa.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.

## HEAT TREATING SERVICE

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
 Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
 Jan Hardware Mfg. Co., 75 N. 11th St., Brooklyn 11, N. Y.  
 Sargeant & Wilbur Heat Treating Corp., 170 York Ave., Pawtucket, R. I.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## HEATING, ELECTRONIC—Accessories and Associated Equipment

Capps & Co., Inc., 20 Addison Place, Valley Stream, N. Y.  
 Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
**CONNECTICUT HARD RUBBER CO.**, 407 East St., New Haven 9, Conn. ADV. PG. 646.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
 Electronic Processes Corp., 2190 Folsom St., San Francisco 10, Calif.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Erdco Engineering Corp., Addison, Ill.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Induction Heating Corp., 181 Wythe Ave., Brooklyn 11, N. Y.  
 Johnson Co., E. F., Waseca, Minn.  
**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
 Lepel High Frequency Labs., Inc., 55th St. & 7th Ave., Woodside 77, N. Y.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles 3, Calif.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Mytron Mfg. Co., 4528 Brazil St., Los Angeles 39, Calif.  
 New Rochelle Tool Corp., 320 Main St., New Rochelle, N. Y.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Radio Frequency Co., Inc., 44 Park St., Medfield, Mass.  
 Reeve Electronics, Inc., 609 W. Lake St., Chicago 6, Ill.  
 Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.  
 Scientific Electric Corp., 105-119 Monroe St., Garfield, N. J.  
 Sherman Industrial Electronics Co., Inc., 505 Washington Ave., Belleville 9, N. J.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London W. C. 2, England.  
**UNITED AIRCRAFT PRODUCTS, INC.**, 1116 Bolander Ave., Dayton 1, Ohio. ADV. PG. 148.  
**U. S. RUBBER CO.**, 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.  
 Vulcan Electric Co., Danvers, Mass.  
 Watlow Electric Mfg. Co., 1376 Ferguson Ave., St. Louis 14, Mo.  
 Wiegand Co., Edwin L., 7606 Thomas Blvd., Pittsburgh 8, Pa.  
 Woodwelding, Inc., 3000 W. Olive, Burbank, Calif.

**HEATING, ELECTRONIC—Dielectric**  
 Allis-Chalmers Mfg. Co., 935 S. 70th St., Milwaukee 1, Wis.  
 Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
 Cox & Co., Inc., 115 E. 23rd St., New York 10, N. Y.  
 Electronic Processes Corp., 2190 Folsom St., San Francisco 10, Calif.

General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Girdler Company, The, Thermex Div., 224 E. Broadway, Louisville 1, Ky.  
 Induction Heating Corp., 181 Wythe Ave., Brooklyn 11, N. Y.  
 Indutron Corp., 55 Needham St., Newton Highlands, Mass.  
 Mytron Mfg. Co., 4528 Brazil St., Los Angeles 39, Calif.  
 New Rochelle Tool Corp., 320 Main St., New Rochelle, N. Y.  
 Peeco Corp., 2760 Whittier Blvd., Los Angeles 23, Calif.  
 Radio Frequency Co., Inc., 44 Park St., Medfield, Mass.  
 RADIO RECEPTOR CO., 240 Wythe Ave., Brooklyn 11, N. Y. ADV. PG. 68, 69.  
 Reeve Electronics, Inc., 609 W. Lake St., Chicago 6, Ill.  
 Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.  
 Scientific Electric Corp., 105-119 Monroe St., Garfield, N. J.  
 Sherman Industrial Electronics Co., Inc., 505 Washington Ave., Belleville 9, N. J.  
 Standard Telephones & Cables, Ltd., Gonnaught House, 63 Aldwych, London, W.C. 2, England.  
 Wells Co., Gary, 361 Rockaway Ave., Valley Stream, N. Y.  
 Woodwelding, Inc., 3000 W. Olive, Burbank, Calif.  
 Young Brothers Co., 1829 Columbus Rd., Cleveland, Ohio.

## HEATING, ELECTRONIC—Induction

Allis-Chalmers Mfg. Co., 935 S. 70th St., Milwaukee 1, Wis.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
 Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
 D & R, LTD., 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Induction Heating Corp., 181 Wythe Ave., Brooklyn 11, N. Y.  
 Indutron Corp., 55 Needham St., Newton Highlands, Mass.  
 Lepel High Frequency Labs., Inc., 55th St. & 7th Ave., Woodside 77, N. Y.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles 8, Calif.  
 Mytron Mfg. Co., 4528 Brazil St., Los Angeles 39, Calif.  
 New Rochelle Tool Corp., 320 Main St., New Rochelle, N. Y.  
 Ohio Crankshaft Co., Tocco Div., 3800 Harvard Ave., Cleveland 5, Ohio.  
 Radio Frequency Co., Inc., 44 Park St., Medfield, Mass.  
 Reeve Electronics, Inc., 609 W. Lake St., Chicago 6, Ill.  
 Scientific Electric Corp., 105-119 Monroe St., Garfield, N. J.  
 Sherman Industrial Electronics Co., Inc., 505 Washington Ave., Belleville 9, N. J.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London W.C. 2, England.  
 STEWAR ENGINEERING CO., Box 277, Soquel, Calif. ADV. PG. 668, 669.

## HEATING ELEMENTS

See ELEMENTS—Heating

## HOLDERS—Crystal

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
 Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky.  
 American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 FREQUENCY STANDARDS INC., P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
 Hermetite Corp., 702 Beacon St., Boston 15, Mass.  
 Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Johnson Co., E. F., Waseca, Minn.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 MERIDIAN METALCRAFT, INC., 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Nebel Laboratory, R. E., 1624 E. 12th St., Brooklyn 29, N. Y.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 Premier Research Laboratories Inc., 83 Seventh Ave., New York 11, N. Y.

SCIENTIFIC ELECTRONIC LABS, INC., 866 Bergen St., Newark 8, N. J. ADV. PG. 670.  
 TELERAD MFG. CORP., 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Warren Plastics Corp., Warren, Pa.  
 Waveguide, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.

## HOLDERS—Fuse

See BLOCKS, FUSE BLOCKS & HOLDERS

## HORNS—Microwave

See MICROWAVE ACCESSORIES

## HORNS—Speaker Projector

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.  
 Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago 38, Ill.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Molded Fibreglass Co., 4401 Benefit Ave., Ashtabula, Ohio.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Sieler Design Products, 10460 San Pablo Ave., El Cerrito, Calif.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.

## HOUSINGS—Antenna

AINSLIE CORP., 312 Quincy Ave., Quincy, Mass. ADV. PG. 589.  
 AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Keller Products Inc., 41 Union St., Manchester, N. H.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
 Premax Products Div., Chisholm-Ryder Co., Inc., Highland & College Aves., Niagara Falls 2, N. Y.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.

## HOUSINGS—Automobile Radio

Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Ellis & Sons Inc., George D., 4002 N. American St., Philadelphia 40, Pa.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.

## HOUSINGS—Instrument

ABALON PRECISION MFG. CORP., 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
 ALGO, INC., 251 West St., South Hackensack, N. J. ADV. PG. 554.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
 AMERICAN ALUMINUM CO., Sheffield St., C, Mountain-side, N. J. ADV. PG. 604.  
 AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 Art-Lloyd Metal Products Corp., 2973 Cropsy Ave., Brooklyn 14, N. Y.  
 Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.  
 BALTIC METAL PRODUCTS CO., 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501.  
 Bennett Mfg. Co., Aiden, N. Y.  
 Bristol Co., The, P.O. Box 1790 EBG, Waterbury 20, Conn.  
 Buck Engineering Co., Inc., 37-41 Marcy St., Freehold, N. J.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 CHURCHILL LIGHTING CORP., 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
 Columbia Metal Box Co., 260 E. 143rd St., New York, N. Y.  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Devco Engineering Inc., P.O. Box 387, Caldwell, N. J.

Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Ellis & Sons Inc., George D., 4002 N. American St., Philadelphia 40, Pa.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
 FALSTROM CO., 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 GENERAL AVIATION & ELECTRONICS MFG. CO., INC., 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
 Helder Mfg. Corp., 238 Lewis St., Paterson, N. J.  
 Henry and Miller Industries Inc., 675 Garfield Ave., Jersey City 5, N. J.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Keller Products Inc., 41 Union St., Manchester, Conn.  
 Koch & Sons, H., Corte Madera, Calif.  
 Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67 E., Anderson, Ind.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Molding Corp. of America, 40 Church St., Pawtucket, R. I.  
 Olympic Metal Products Co., Inc., Third Ave., Alpha, N. J.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
 PREMIER METAL PRODUCTS CO., 337 Manlida St., Bronx 59, N. Y. ADV. PG. 646.  
 Sierra Electric Corp., 15100 S. Figueroa St., P.O. Box 85, Gardena, Calif.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
 Sun Tube Corp., Washington, N. J.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Walter Co., Inc., S. 1400 Atlantic Ave., Brooklyn 16, N. Y.  
 White Aircraft Corp., Palmer, Mass.

## HOUSINGS—Plug-In

ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
 AMERICAN ALUMINUM CO., Sheffield St., C, Mountain-side, N. J. ADV. PG. 604.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595.  
 Electronic Service Corp., 2906 Birch St., Franklin Park, Ill.  
 Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.  
 Molded Fibreglas Co., 4401 Benefit Ave., Ashtabula, Ohio.  
 Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.

## HOUSINGS—Public Address System

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.  
 Bogen Co., Inc., David, P.O. Box 500, Paramus, N. J.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Dukane Corp., St. Charles, Ill.  
 ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 FALSTROM CO., 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 GENERAL AVIATION & ELECTRONICS MFG. CO., INC., 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
 I. E. Manufacturing, 325 N. Hoyle Ave., Chicago 12, Ill.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.  
 Molded Fibreglas Co., 4401 Benefit Ave., Ashtabula, Ohio.  
 Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.

## HOUSINGS—Speaker

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Argos Products Co., 310 Main St., Genoa, Ill.  
 Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.  
 Bogen Co., Inc., David, P.O. Box 500, Paramus, N. J.  
 Bud Radio Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Dukane Corp., St. Charles, Ill.

Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Lansing Sound, Inc., James B., 2439 Fletcher Drive, Los Angeles 26, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67 E. Anderson, Ind.  
 Molded Fibreglas Co., 4401 Benefit Ave., Ashtabula, Ohio.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.

**HUMIDITY**  
 See INDICATORS

**HYBRID JUNCTIONS—Microwave**  
 See MICROWAVE ACCESSORIES

**IGNITION SYSTEMS—Electronic**  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Breeze Corps., Inc., 700 Liberty Ave., Union, N. J.  
**ELECTROMATION CO.**, 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
 Modelic Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
 Sciaci Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.  
**SCINTILLA DIVISION, BENDIX AVIATION CORP.**, Sidney, N. Y. ADV. PG. 337.

**IGNITRON**  
 See TUBES

**ILLUMINATION CONTROLS**  
 See CONTROLS—illumination

**IMPEDANCE**  
 See DETECTORS

**IMPREGNATING COMPOUNDS**  
 See INSULATING COMPOUNDS

**IMPREGNATING MACHINES**  
 See MACHINES

**INDICATORS—Antenna Position**  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Antlab, 4950 N. High St., Columbus 14, Ohio.  
 Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.  
**SHURITE METERS, INC.**, 35-B Hamilton St., New Haven 8, Conn. ADV. PG. 655.

**INDICATORS—Arc Back**  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.

**INDICATORS—Broadcast Volume**  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**INDICATORS—Capacitor Leakage**  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Clough-Bregle Co., 6014 N. Broadway, Chicago, Ill.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.

Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
**KEITHLEY INSTRUMENTS, INC., DEPT. EB**, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 Lee Electronic Labs., Inc., 88 Evans St., Watertown, Mass.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**INDICATORS—Density**  
 See INDICATORS—Specific Gravity

**INDICATORS—Detonation Indicators & Meters**  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.

**INDICATORS—Dew Point**  
 American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
 Bristol Co., The P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Foxboro Co., The, Foxboro, Mass.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.

**INDICATORS—Dielectric Constant**  
 Central Research Laboratories, Inc., Red Wing, Minn.  
 Foxboro Co., The, Foxboro, Mass.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Simmonds Aerocessories, Inc., Tarrytown, N. Y.

**INDICATORS—Film Thickness**  
 ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
**BOONTON RADIO CORP.**, Boonton, N. J. ADV. PG. 427.  
 Branson Instruments, Inc., 1 Brown House Rd., Stamford, Conn.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV., PLANT #2**, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.

**INDICATORS—Fluid Conductivity**  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London W. C. 2, England. ADV. PG. 560.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

**INDICATORS—Fluid Flow, Electronic**  
 Avien, Inc., 58-15 Northern Blvd., Woodside 77, N. Y.  
 Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, Ohio.  
 Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 Fischer & Porter Co., 476 Warminster Road, Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.

Hays Mfg. Co., 818 W. 12th St., Erie, Pa.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Leupold & Stevens Instruments, Inc., P. O. Box 5082, Portland 13, Ore.  
**LIBRASCOPE, INC.**, 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 Nuclear Research Corp., Southampton, Pa.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
**REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
 Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J.  
**WAUGH ENGINEERING CO.**, 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.

**INDICATORS—Frequency**  
 Acme Telectronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
**ACROMAG CO.**, 22519 Telegraph Rd., Detroit 19, Mich. ADV. PG. 492.  
 Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
 Conn. Ltd., C. G., 1101 E. Beardsley Ave., Elkhart, Ind.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**DAVEN CO., Route 10**, Livingston, N. J. ADV. PG. 245.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Hupp Instru/mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
 International Research & Development Corp., 769 Thomas Lane, P. O. Box 1707, Columbus 16, Ohio.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
**MERCURY ELECTRONIC CO.**, Box 450, Red Bank, N. J. ADV. PG. 61.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
 Pantek Co., Box 212, El Segundo, Calif.  
 Performance Measurements Co., 15310 W. McNichols, Detroit 35, Mich.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Ransom Research, P. O. Box 382, San Pedro, Calif.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
**WANG LABORATORIES, INC.**, 37 Hurley St., Cambridge 41, Mass. ADV. PG. 630.  
**WAUGH ENGINEERING CO.**, 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.

Wells Co., Gary, 361 Rockaway Ave., Valley Stream, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 5, N. J.  
**WESTRONICS, INC.**, 3605 McCart St., Fort Worth, Texas. ADV. PG. 554.

### INDICATORS—Hardness

Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

### INDICATORS—Humidity, Electronic

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Foxboro Co., The, Foxboro, Mass.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Serdex, Inc., 91 Cambridge St., Boston, Mass.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### INDICATORS—Illumination

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Specialties, Inc., Skunks Misery Rd., Syosset, N. Y.

### INDICATORS—Liquid Level, Electronic

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
 Avien, Inc., 58-15 Northern Blvd., Woodside 77, N. Y.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
**DYNA-EMPIRE, INC.**, 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Fischer & Porter Co., 476 Warminster Road, Hatboro, Pa.  
 Fisher Research Lab., Inc., 1961 University Ave., Palo Alto, Calif.  
 Foxboro Co., The, Foxboro, Mass.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
 Haledy Electronics Co., 57 William St., New York 5, N. Y.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Leupold & Stevens Instruments, Inc., P. O. Box 5082, Portland 13, Ore.  
 Liquidometer Corp., The, Skillman Ave. at 36th St., Long Island City 1, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Nuclear Research Corp., Southampton, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Radioactive Products, Inc., 2421 Wolcott, Ferndale, Mich.  
**REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
 Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.  
 Simmonds Aerocessories, Inc., Tarrytown, N. Y.

**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 260, 281.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.  
 Warrick Co., Charles F., 1964 W. Eleven Mile Rd., Berkeley, Mich.  
 X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

### INDICATORS—Materials Thickness

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
 Amthor Testing Instrument Co., 45-53 Van Sinderen Ave., Brooklyn 7, N. Y.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
 Branson Instruments, Inc., 1 Brown House Rd., Stamford, Conn.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Nuclear Research Corp., Southampton, Pa.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Schaevert Engineering, P. O. Box 505, Camden 1, N. J.

### INDICATORS—Moisture, Electronic

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### INDICATORS—Null

**BALLANTINE LABORATORIES, INC.**, Boonton, N. J. ADV. PG. 159.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Delttron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**J-B-T INSTRUMENTS INC.**, 421 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
**KIN TEL (KAY LAB.)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
 Millitac Co., 88 Madison Ave., Hempstead, N. Y.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
**MINNEAPOLIS-HONEYWELL, BOSTON DIV.**, 1400 Soldiers Field Rd., Boston 15, Mass. ADV. PG. 445.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
 Performance Measurements Co., 15310 W. McNichols, Detroit 15, Mich.  
 Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
 Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
 Sullivan Ltd., 80 Shore Rd., Port Washington, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.

### INDICATORS—Null-Balance, Potentiometer Type

Analog Controls, Inc., 39 Roselle St., Mineola, N. Y.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
**DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT**, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Leeds & Northrup, 4970 Stenton Ave., Philadelphia 44, Pa.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 Performance Measurements Co., 15301 W. McNichols, Detroit 35, Mich.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
 Simmonds Aerocessories, Inc., Tarrytown, N. Y.  
**WESTRONICS, INC.**, 3605 McCart St., Fort Worth, Texas. ADV. PG. 554.

### INDICATORS—Ocean Depth

Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main St., Clifton, N. J. ADV. PG. 181.  
 Kelvin & Hughes Ltd., New North Rd., Barking, Essex, England.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.

### INDICATORS—Oxygen

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
 Beckman Inc., Arnold O., 1020 Mission St., South Pasadena, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Liquidometer Corp., The, Skillman Ave. at 36th St., Long Island City 1, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.

### INDICATORS—pH

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Fielden Instrument Div., of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 La Motte Chemical Products Co., Chestertown, Md.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, 44, Pa.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 Weston Electrical Instrument Corp., a sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**INDICATORS—Photographic Exposure**

Acme Telectronics Div. of NEA Service, Inc., West Third & Lakeside, Cleveland 13, Ohio.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 Lektra Laboratories, 154 11th Ave., New York 11, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Weston Electrical Instrument Corp., a sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**INDICATORS—Positioning**

**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Allard Instrument Corp., 146 E. Second St., Mineola, N. Y.  
 Anatron Div. of Endevco Corp., 165 E. California St., Pasadena, Calif.  
 Anrlab, 4950 N. High St., Columbus 14, Ohio.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 Bendix Aviation Corp., Monroese Div., South Monroese, Pa.  
 Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Liquidometer Corp., The, Skillman Ave. at 36th St., Long Island City 1, N. Y.  
 Millitest Co., 88 Madison Ave., Hempstead, N. Y.  
**MINNEAPOLIS-HONEYWELL, BOSTON DIV.**, 1400 Soldiers Field Rd., Boston 15, Mass. ADV. PG. 445.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
**PSP ENGINEERING CO.**, 8608 Otis St., South Gate, Calif. ADV. PG. 621.  
 Penn Keystone Corp., 18 Elizabeth St., West Conshohocken, Pa.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
**WALLSON ASSOCIATES, Ltd.**, 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.  
**WANG LABORATORIES, INC.**, 37 Hurley St., Cambridge 41, Mass. ADV. PG. 630.

**INDICATORS—Power, Level, Electronic**

Admittance-Namco Corp., Farmingdale, N. Y.  
**BIRD ELECTRONIC CORP.**, 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.

**INDICATORS—Pressure**

Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.

**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 Bendix Aviation Corp., Monroese Div., South Monroese, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.  
 Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
 Chesapeake Instrument Corp., Shadyside, Md.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 Endevco Corp., 161 E. California St., Pasadena, Calif.  
 Fischer & Porter Co., 476 Warminster Road, Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
**GREENLEAF MFG. CO., THE**, 7814 Maplewood Industrial Court, St. Louis 17, Mo. ADV. PG. 219.  
 Hathaway Instrument Div., Hamilton Watch Co., 5800 E. Jewell Ave., Denver 22, Colo.  
 Hastings-Raydist, Inc., Hampton 9, Va.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main St., Clifton, N. J. ADV. PG. 181.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.  
 Kollsman Instrument Corp., Sub. of Standard Coil Products Co., Inc., 80-08 45th Ave., Elmhurst, N. Y.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles 3, Calif.  
**MINNEAPOLIS-HONEYWELL, BOSTON DIV.**, 1400 Soldiers Field Rd., Boston 15, Mass. ADV. PG. 445.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Waindrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Phaestron Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
 Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.  
 U. S. Gauge Div., American Machine & Metals, Inc., Sellersville, Pa.  
 Wallace & Tiernan Inc., 25 Main St., Belleville 9, N. J.

**INDICATORS—Pulse Time Riser**

**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.

**INDICATORS—Radiation**

See **COUNTERS—Geiger**

**INDICATORS—Recording Engine**

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Electro-Science Industries, Box 10066 International Airport, Los Angeles 45, Calif.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.

**INDICATORS—rf Probe**

Admittance-Namco Corp., Farmingdale, N. Y.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.

**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Javex, P. O. Box 646, Redlands, Calif.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
**STODDART AIRCRAFT RADIO CO.**, 6644 Santa Monica Blvd., Hollywood 38, Calif. ADV. PG. 498, 499.

**INDICATORS—Shorted Turn**

Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**KARTRON, INC.**, Box 472, Huntington Beach, Calif. ADV. PG. 492.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.

**INDICATORS—Smoke & Combustion, Electronic**

Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, Ohio.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Combustion Control Div., Electronics Corp. of America, 77 Broadway, Cambridge 42, Mass.  
 Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Marine Electric Co., 600 E. Fourth Ave., Brooklyn 15, N. Y.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Tallier & Cooper Co., 75 Front St., Brooklyn 1, N. Y.

**INDICATORS—Sound Level**

Bruel & Kjaer, Naerum, Denmark.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**DYNA-EMPIRE, INC.**, 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
 Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**INDICATORS—Specific Gravity**

**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Beckman, Inc., Arnold O., 1020 Mission St., South Pasadena, Calif.  
 Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
 Fischer & Porter Co., 476 Warminster Road, Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 Nuclear Research Corp., Southampton, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
 Tallier & Cooper Co., 75 Front St., Brooklyn 1, N. Y.

**INDICATORS—Strain**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bruel & Kjaer, Naerum, Denmark.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Chatillon & Sons, John 85 Cliff St., New York, N. Y.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
 Ellis Associates, Box 77, Pelham, N. Y.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.

Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co.,  
 5200 E. Evans Ave., Denver 22, Colo.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Linden-  
 hurst, N. Y. ADV. PG. 510.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside,  
 Essex, England.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Manning Maxwell & Moore Inc. Industrial Controls Div.,  
 250 E. Main St., Stratford, Conn.  
**OWEN LABORATORIES, INC.**, 55 Beacon Place, Pasa-  
 dena, Calif. ADV. PG. 680.  
 Performance Measurements Co., 15310 W. McNichols,  
 Detroit 35, Mich.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St.,  
 Bridgeport, Penna. ADV. PG. 697.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass.  
 ADV. PG. 125.  
 Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon  
 Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave., Phila-  
 delphia 44, Pa.

**INDICATORS—Temperature**

Allegany Instrument Co., Inc., 1091 Wills Mountain,  
 Cumberland, Md.  
 Arnoux Corp., Box 34628, Los Angeles, Calif.  
**ASSEMBLY PRODUCTS, INC.**, Chesterland 6, Ohio.  
 ADV. PG. 504, 505.  
 Avien, Inc., 58-15 Northern Blvd., Woodside 77, N. Y.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38,  
 Mass. ADV. PG. 537.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV.  
 PG. 430.  
 Bendix Aviation Corp., Montrose Div., South Montrose,  
 Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20,  
 Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Clevel-  
 and 14, Ohio. ADV. PG. 478, 479.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van  
 Nuys, Calif.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**,  
 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-  
 146.  
 Electric Auto-Lite Co., The, Champlain St., Toledo 1,  
 Ohio.  
**FENWAL INCORPORATED**, Ashland, Mass. ADV. PG.  
 371.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls  
 Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Fischer & Porter Co., 476 Warminster Road, Hatboro,  
 Pa.  
 Foxboro Co. The, Foxboro, Mass.  
 Friez Instrument Division, Bendix Aviation Corp., Balti-  
 more 4, Md.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG.  
 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**,  
 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St.,  
 Pasadena 1, Calif. ADV. PG. 344.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co.,  
 5200 E. Evans Ave., Denver 22, Colo.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New  
 Haven 8, Conn. ADV. PG. 503.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**,  
 1378 Main St., Clifton, N. J. ADV. PG. 181.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside,  
 Essex, England.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia  
 44, Pa.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck,  
 Conn. ADV. PG. 606.  
 Manning, Maxwell & Moore, Inc., Industrial Controls  
 Div., 250 E. Main St., Stratford, Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15,  
 N. Y.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20,  
 Ind.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave.,  
 S. Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div.,  
 2600 Ridgeway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUS-  
 TRIAL DIV.**, Wayne & Windrim Aves., Philadelphia  
 44, Pa. ADV. PG. 447.  
 Performance Measurements Co., 15310 W. McNichols,  
 Detroit 35, Mich.  
 Pimex Inc., 18 E. 60th St., New York 22, N. Y.  
 Production Research Corp., Thornwood, N. Y.  
 Roller Smith Corp., 1825 W. Market St., Bethlehem,  
 Pa.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass.  
 ADV. PG. 125.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main  
 St., New Rochelle, N. Y. ADV. PG. 618.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New  
 Hyde Park, N. Y.  
 Shand and Jurs Co., Sub. of General Precision Equip-  
 ment Corp., Carleton & Eighth Sts., Berkeley 10,  
 Calif.  
 Tempil Corp., 132 W. 22nd St., New York 11, N. Y.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave.,  
 Philadelphia 44, Pa.  
 U. S. Gauge Div., American Machine & Metals, Inc.,  
 Sellersville, Pa.

United Electric Controls Co., 85 School St., Watertown  
 72, Mass.  
 Victory Engineering Corp., 101 Springfield Rd., Union,  
 N. J.  
 West Instrument Corp., 4363 W. Montrose Ave., Chi-  
 cago 41, Ill.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868,  
 Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom,  
 Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
**WESTRONICS, INC.**, 3605 McCart St., Fort Worth,  
 Texas. ADV. PG. 554.  
 Yellow Springs Instrument Co., Inc., P. O. Box 106,  
 Yellow Springs, Ohio.

**INDICATORS—Timing**

Abrams Instrument Corp., 600-620 E. Shiawassee St.,  
 Lansing, Mich.  
 Aero Instrument Co., 11423 Vanowen St., North Holly-  
 wood, Calif.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIP-  
 MENT CO.**, Box 125, Westboro, Mass. ADV. PG.  
 566.  
 Allegany Instrument Co., Inc., 1091 Wills Mountain,  
 Cumberland, Md.  
 Bendix Aviation Corp., Montrose Div., South Montrose,  
 Pa.  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**,  
 Dept. G-13, 2200 Wright Ave., Richmond 3, Calif.  
 ADV. PG. 73-80.  
 Bristol Co., The, P.O. Box 1790 EBG, Waterbury 20,  
 Conn.  
 Bristol Motor Div., Vocaline Co. of America, Inc., Old  
 Saybrook, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Clevel-  
 and 14, Ohio. ADV. PG. 478, 479.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave.,  
 North Hollywood, Calif. ADV. PG. 168.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
**HAYDON CO., A. W., THE**, 238 N. Elm St., Waterbury,  
 Conn. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington,  
 Conn. ADV. PG. 157.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland  
 11, Ohio.  
 Ingraham Co., E., Bristol, Conn.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5,  
 Ill.  
 Pantek Co., Box 212, El Segundo, Calif.  
 Ransom Research, P. O. Box 382, San Pedro, Calif.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Spring-  
 field, Mass. ADV. PG. 143.  
 Waltham Watch Co., Instrument & Industrial Products,  
 Waltham 54, Mass.

**INDICATORS—Torque**

Allegany Instrument Co., Inc., 1091 Wills Mountain,  
 Cumberland, Md.  
 Bendix Aviation Corp., Montrose Div., South Montrose,  
 Pa.  
 Bristol Co., The, P.O. Box 1790 EBG, Waterbury 20,  
 Conn.  
 Bruel & Kjaer, Naerum, Denmark.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Clevel-  
 and 14, Ohio. ADV. PG. 478, 479.  
 Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd.,  
 El Monte, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Foxboro Co., The, Foxboro, Mass.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co.,  
 5200 E. Evans Ave., Denver 22, Colo.  
 Highland Engineering, 1732 Berkeley, Santa Monica,  
 Calif.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Linden-  
 hurst, N. Y. ADV. PG. 510.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside,  
 Essex, England.  
 Magtrol, Inc., 38 Virginia Place, Buffalo, N. Y.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridge-  
 port, Penna. ADV. PG. 697.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass.  
 ADV. PG. 125.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Phila-  
 delphia 15, Pa.  
 Toller & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
**WATERS MANUFACTURING INC.**, Boston Post Rd., Way-  
 land, Mass. ADV. PG. 258, 259.

**INDICATORS—Turbidity**

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38,  
 Mass. ADV. PG. 537.  
 Bristol Co., The, P.O. Box 1790 EBG, Waterbury 20,  
 Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15,  
 N. Y.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

**INDICATORS—Vacuum**

Alfred Electronics, 897 Commercial St., Palo Alto, Calif.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.

Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 Bristol Co., The, P.O. Box 1790 EBG, Waterbury 20,  
 Conn.  
 Central Scientific Co., 1700 Irving Park Rd., Chicago 13,  
 Ill.  
 Consolidated Electrodynamic Corp., 300 N. Sierra Madre  
 Villa, Pasadena 15, Calif.  
 Consolidated Electrodynamic Corp., Rochester Div., Roch-  
 ester 3, N. Y.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave.,  
 Chicago 2, Ill. ADV. PG. 496.  
 Electronic Research Labs., 85 Surrey St., Brighton 35,  
 Mass.  
 Foxboro Co., The, Foxboro, Mass.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV.  
 PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**,  
 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St.,  
 Pasadena 1, Calif. ADV. PG. 344.  
 Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
 Hastings-Raydist, Inc., Hampton 9, Va.  
 High Vacuum Equipment Corp., 2 Churchill Rd., Hing-  
 ham, Mass.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**,  
 1378 Main St., Clifton, N. J. ADV. PG. 181.  
 Kinney Mfg. Div. of The New York Air Brake Co.,  
 3529 Washington St., Boston, Mass.  
 Manning, Maxwell & Moore, Inc., Aircraft Products Div.,  
 Danbury, Conn.  
 Manning, Maxwell & Moore, Inc., Industrial Controls  
 Div., 250 E. Main St., Stratford, Conn.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave.,  
 S. Minneapolis 8, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUS-  
 TRIAL DIV.**, Wayne & Windrim Aves., Philadelphia  
 44, Pa. ADV. PG. 447.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton  
 61, Mass. ADV. PG. 102.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New  
 York 1, N. Y.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33,  
 N. Y.  
 Research Electronics Laboratories, Roslyn, Pa.  
 Schaevitz Engineering, P.O. Box 505, Camden 1, N. J.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St.,  
 Oceanside, Calif.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde  
 Park, N. Y. ADV. PG. 644.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chi-  
 cago 10, Ill.

**INDICATORS—Volume**

Bristol Co., The, P.O. Box 1790 EBG, Waterbury 20,  
 Conn.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 Liquidometer Corp., The, Skillman Ave. at 36th St.,  
 Long Island City 1, N. Y.  
 Maxson Instruments, Div. of The W. L. Maxson Corp.,  
 47-37 Austell Place, Long Island City 1, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div.,  
 2600 Ridgeway Rd., Minneapolis 13, Minn.  
 Performance Measurements Co., 15310 W. McNichols,  
 Detroit 35, Mich.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Simmonds Aerocessories, Inc., Tarrytown, N. Y.  
 Weston Electrical Instrument Corp., A Sub of Daystrom,  
 Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**INDICATORS—Weight**

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20,  
 Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Clevel-  
 and 14, Ohio. ADV. PG. 478, 479.  
 Crescent Engineering & Research Co., 5440 N. Peck  
 Rd., El Monte, Calif.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERS-  
 SAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo.  
 ADV. PG. 649.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van  
 Nuys, Calif.  
 Foxboro Co., The, Foxboro, Mass.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
 Kistler Instrument Corp., 15 Webster St., North Tona-  
 wanda, N. Y.  
 Liquidometer Corp., The, Skillman Ave. at 36th St.,  
 Long Island City 1, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div.,  
 2600 Ridgeway Rd., Minneapolis 13, Minn.  
 Nuclear Research Corp., Southampton, Pa.  
 Performance Measurements Co., 15310 W. McNichols,  
 Detroit 15, Mich.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
 Streeter-Amet Co., Grayslake, Ill.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9,  
 N. J.

**INDICATORS—Wind Direction—Electronic**

Aeronautical Communications Equipment, Inc., 3090 S.W.  
 37th Ave., Miami 33, Fla.  
 Beckman & Whitley, Inc., 913 San Carlos Ave., San  
 Carlos, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20,  
 Conn.



FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y.  
 Friez Instrument Division, Bendix Aviation Corp., Baltimore 4, Md.  
 GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main St., Clifton, N. J. ADV. PG. 181.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

**INDICATORS—Wind Speed—Electronic**

Aeronautical Communications Equipment, Inc., 3090 S.W. 37th Ave., Miami 33, Fla.  
 Beckman & Whitley, Inc., 913 San Carlos Ave., San Carlos, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Friez Instrument Division, Bendix Aviation Corp., Baltimore 4, Md.  
 GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Hastings-Raydist, Inc., Hampton 9, Va.  
 KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main St., Clifton, N. J. ADV. PG. 181.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

**INDUCTANCES—Flyback**

See TRANSFORMERS—Flyback

**INDUCTANCES—Magnet**

See COILS—Magnet

**INDUCTANCES—Metalized Glass**

See COILS—Metalized Glass

**INDUCTANCES—Motor & Generator Field**

See COILS—Motor &amp; Generator Field

**INDUCTANCES—Power & a-f Coil Windings**

See TRANSFORMER WINDINGS

**INDUCTANCES—Printed Circuit**

See TRANSFORMERS—Printed Circuit

**INDUCTANCES—r-f & i-f Receiving or Transmitting**

See COILS—Choke

**INDUCTANCES—Relay**

See COILS—Relay

**INDUCTANCES—Speaker Voice Coil**

See COILS—Speaker Voice Coil

**INDUCTANCES—Television Focusing**

See COILS—Television Focusing

**INDUCTANCES—Toroidal**

See TOROIDS

**INDUCTANCES—Variable**

1. Saturable Reactors
2. Mechanical

ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. 1. ADV. PG. 600.  
 Avion Division, ACF Industries, Inc., 11 Park Place, Paramus, N. J. 1.  
 BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. 1. ADV. PG. 286.  
 BURNELL & CO., INC., 10 Pelham Parkway, Pelham, N. Y. 2. ADV. PG. 350, 351.  
 C. G. S. Laboratories, Inc., 391 Ludlow St., Stamford, Conn. 1.  
 Caddell Burns Mfg. Co., 40 East Second St., Mineola, N. Y.  
 California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. 1-2.  
 CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 Campbell Co., Inc., Colin, Westville Ave., Danbury, Conn. 1.  
 CELCO, Island Ave., Mahwah, N. J. 1-2. ADV. PG. 138, 139.  
 Coil Company of America, Inc., 207 Washington St., Northvale, N. J. 1-2.  
 CORNING GLASS WORKS, Corning, N. Y. 2. ADV. PG. 390.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill. 1.  
 Delevan Electronics Corp., Roycroft Campus, East Aurora, N. Y.  
 DIETZ DESIGN & MFG. CO., Grandview 6, Mo. 1. ADV. PG. 595.  
 DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP., 472 Paul Ave., Ferguson 21, Mo. 1. ADV. PG. 649.  
 Electron Mfg. Co., 1901 N. Clybourn, Chicago, Ill. 1.  
 ELECTRO ENGINEERING WORKS, 401 Preda St., San Leandro, Calif. 1. ADV. PG. 512.  
 ERA ELECTRIC CORP., 314 Valley Brook Ave., Lyndhurst, N. J. 1. ADV. PG. 665.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa. 1.

Fisher Engineering, Inc., 2060 U. S. East, P. O. Box 327, Huntington, Ind. 1.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 Gates Radio Co., Quincy, Ill.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. 2. ADV. PG. 316, 317.  
 Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y.  
 INDUSTRIAL TRANSFORMER CORP., Gouldsboro, Pa. 1. ADV. PG. 454, 455.  
 Keystone Products Co., 904-6 23rd St., Union City, N. J. 1.  
 LABORATORY FOR ELECTRONICS, INC., 75 Pitts St., Boston 14, Mass. 1. ADV. PG. 358.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. 1-2.  
 MACARR, INC., 2543 Boston Rd., Bronx 67, N. Y. 1. ADV. PG. 640.  
 MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. 1. ADV. PG. 389.  
 Melectronics, 1372-74 E. Walnut St., Pasadena, Calif. 1.  
 NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. 1. ADV. PG. 369, 370.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. 1.  
 NATIONAL COIL CO., P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 NORTH HILLS ELECTRIC CO., INC., 402 Sagamore Ave., Mineola, N. Y. 2. ADV. PG. 428.  
 Peerless Electrical Div. of Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. 1.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y. 1.  
 RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. 1. ADV. PG. 250, 251.  
 REDMAN ELECTRONICS CORP., P. O. Box 72, Thompsonville, Conn. 2. ADV. PG. 522.  
 STERLING TRANSFORMER CORP., 297 N. Seventh St., Brooklyn 11, N. Y. 1. ADV. PG. 644.  
 TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. 1. ADV. PG. 549.  
 Tele-Coil Co., Inc., 2733 Saunders St., Camden 5, N. J. 2.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. 1-2.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif. 1.  
 TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. 1. ADV. PG. 405.  
 Transformer Specialty Co., Inc., Bala-Cynwyd, Pa. 1.  
 TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. 1. ADV. PG. 21-24.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif. 1.  
 Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn. 1.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. 1-2. ADV. PG. Second Cover.  
 VARI-L CO., INC., P. O. Box 1433, Stamford, Conn. 1. ADV. PG. 608.  
 VECTROL ENGINEERING, INC., P. O. Box 1089, Stamford, Conn. 1. ADV. PG. 632.  
 Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn. 1.

**INDUCTANCES—Width Control**

See COILS—Width Control

**INDUCTION HEATING**

See HEATING—Induction

**INFRA-RED DRYING OVEN**

See OVENS

**INKS—Marking**

Crown Industrial Products Co., 713 Amsterdam St., Woodstock, Ill.  
 Cudner & O'Connor Co., 4035 W. Kinzie Ave., Chicago 24, Ill.  
 Diamond-Union Stamp Works, 81 Washington St., Boston 8, Mass.  
 Kellogg Co., M. W., P. O. Box 469, Jersey City 3, N. J.  
 KRENGEL MFG. CO., INC., 227 Fulton St., New York 7, N. Y. ADV. PG. 690.  
 Markal Co., 3052 W. Carroll Ave., Chicago 12, Ill.  
 Marsh Stencil Machine Co., 46 Marsh Bldg., Belleville, Ill.  
 Matthews & Co., Jas. H., 3926 Forbes St., Pittsburgh 13, Pa.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
 Phillips Process Co., Inc., 192 Mill St., Rochester 14, N. Y.  
 Pittsburgh Plate Glass Co., 1 Gateway Center, Pittsburgh 22, Pa.

**INSPECTION EQUIPMENT—Lighting**

Scientific Instruments Service Co., 44 Bromfield St., Boston 8, Mass.  
 Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago 47, Ill.

SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Wappler, Inc., 27-10 Astoria Blvd., Long Island City 2, N. Y.

**INSTRUMENT PARTS—Precision**

Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
 Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles 44, Calif.  
 Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
 American Laubscher Corp., 250 W. 57th St., New York 19, N. Y.  
 AMERICAN LAVA CORP., Cherokee Blvd., & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 BARNES CO., WALLACE, DIV. OF ASSOCIATED SPRING CORP., Bristol, Conn. ADV. PG. 311.  
 Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa.  
 BARNES-GIBSON-RAYMOND DIVISION, 40300 Plymouth Rd., Plymouth, Mich. ADV. PG. 311.  
 Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 BOEHME, INC., H. O., 915 Broadway, New York 10, N. Y. ADV. PG. 556.  
 BOWMAR INSTRUMENT CORP., 2415 Pennsylvania St., Fort Wayne, Ind., ADV. PG. 538, 539.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
 CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Daco Instrument Co., Tillary & Prince Sts., Brooklyn 1, N. Y.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP., 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Eastern Specialty Co., Philadelphia 40, Pa.  
 Electronics & Avionics Div. of the Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 GIBSON CO., WILLIAM D., THE, 1800 Clybourn Ave., Chicago 14, Ill. ADV. PG. 311.  
 GRAPHITE METALLIZING CORP., 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 Greer Stop Nut Co., 2620 W. Fluornoy St., Chicago 12, Ill.  
 GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
 H. & H. Products Co., 766 Ramsey Ave., Hillside, N. J.  
 Halax Corp., P. O. Box 425, Los Gatos, Calif.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
 Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
 Jodee Plastics Corp., 213 Shepherded Ave., Brooklyn 8, N. Y.  
 LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Maurer, Inc., J. A. 37-01 31st St., Long Island City 1, N. Y.  
 MILWAUKEE DIV., OF ASSOCIATED SPRING CORP., 341 E. Erie St., Milwaukee 2, Wis. ADV. PG. 311.  
 Missouri Research Labs., Inc., 2019 Locust St., St. Louis 3, Mo.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 OHIO DIV. OF ASSOCIATED SPRING CORP., 1825 E. First St., Dayton 3, Ohio. ADV. PG. 311.  
 Precise Instrument Parts Co., 4520 San Fernando Rd., Glendale 4, Calif.  
 RAYMOND MANUFACTURING CO., Corry Pa., ADV. PG. 311.  
 REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
 Research Development Manufacture, Inc., 429 E. Collom St., Philadelphia 44, Pa.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 201, Ill.  
 Scientific Instruments Service Co., 44 Bromfield St., Boston 8, Mass.  
 SEABOARD COIL SPRING DIVISION, 15001 S. Broadway, Gardena, Calif. ADV. PG. 311.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Staver Co., Inc., The, 48 N. Saxton Ave., Bay Shore, N. Y.  
 Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
 Ten Bosch, Inc., M., 80 Wheeler Ave., Pleasantville, N. Y.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Tru-Connector Corp., 416 Union St., Lynn, Mass.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Zagora Gears, Inc., 1327 S. Mint St., Charlotte 3, N. C.

INSTRUMENTS—ELECTRICAL  
MEASURING

Ammeters to Wattmeters Inclusive

## AMMETERS

See also Microammeters  
Micro-Microammeters  
Milliammeters

American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
ASSEMBLY PRODUCTS, INC., Chesterland 6, Ohio. ADV. PG. 504, 505.  
BEEDE ELECTRICAL INSTRUMENT CO., INC., Penacook, N. H. ADV. PG. 626.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Columbia Electric Mfg. Co., 4519 Hamilton Ave., N. E., Cleveland 14, Ohio.  
DE JUR-AMSCO CORP., Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
Electric Design & Mfg. Corp., Burlington, Iowa.  
ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.  
Helpout Corp., Newport Beach, Calif.  
HOYT ELECTRICAL INSTRUMENT WORKS, INC., 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
INTERNATIONAL INSTRUMENTS INC., P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
KEITHLEY INSTRUMENTS, INC., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Phostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Q.V.S., Inc., 20 N. 15th St., East Orange, N. J.  
RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
Roller-Smith Corp., 1825 Market St., Bethlehem, Pa.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
SHURITE METERS, 35-B Hamilton St., New Haven 8, Conn. ADV. PG. 655.  
Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Sterling Mfg. Co., 7201 Wentworth, Cleveland, Ohio.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## AMMETERS—r-f

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
ASSEMBLY PRODUCTS, INC., Chesterland 6, Ohio. ADV. PG. 504, 505.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## AUDIOMETERS

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
Allison Laboratories, Inc., 14185 Skyline Drive, Puente, Calif.  
Aurex Corp., 1117 N. Franklin St., Chicago 10, Ill.  
Audivox, Inc., 123 Worcester St., Boston 18, Mass.  
Beltone Hearing Aid Co., 2900 W. 36th St., Chicago 32, Ill.  
DYNA-EMPIRE, INC., 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
Grason-Stadler Co., West Concord, Mass.

INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
Maico Co., Inc., 21 North Third St., Minneapolis, Minn.  
Nichols & Clark, Inc., P. O. (321 Newburyport Turnpike, Danvers) Hathorne, Mass.

## BRIDGES—Electrical

B & F Instruments Inc., 4732 N. Broad St., Philadelphia 41, Pa.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa.  
Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Industrial Development Labs., Inc., 17 Pollock Ave., Jersey City 5, N. J.  
INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
STICHT CO., INC., HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## BRIDGES—Impedance

ACTON LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
BOONTON RADIO CORP., Boonton, N. J. ADV. PG. 427.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bruel & Kjaer, Naerum, Denmark.  
Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
Chesapeake Instrument Corp., Shadyside, Md.  
CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
Clough-Bregle Co., 6014 N. Broadway, Chicago, Ill.  
Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
GERTSCH PRODUCTS, INC., 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
Industrial Development Labs., Inc., 17 Pollock Ave., Jersey City 5, N. J.  
INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.

Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
Radex Corp., 2076 N. Elston Ave., Chicago 14, Ill.  
SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
Standard Telephones & Cables, Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.

## BRIDGES—Inductance

Alpha Instrument Co., 43 Hempstead St., New London, Conn.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bruel & Kjaer, Naerum, Denmark.  
Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
Cinema-Television Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
Clough-Bregle Co., 6014 N. Broadway, Chicago, Ill.  
Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Industrial Development Labs., Inc., 17 Pollock Ave., Jersey City 5, N. J.  
INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
INDUSTRIAL TRANSFORMER CORP., Gouldsboro, Pa. ADV. PG. 454, 455.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.  
Metronix, Inc., Mill Lane, Waterford, Conn.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.

## BRIDGES—vhf

ALFORD MFG. CO., INC., 299 Atlantic Ave., Boston, Mass. ADV. PG. 398.  
BOONTON RADIO CORP., Boonton, N. J. ADV. PG. 427.  
BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.  
MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.

## CALIBRATORS—Sweep

American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Tektronix, Inc., P. O. Box 831, Portland 7, Ore.

## CALIBRATORS—uhf

COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
Metronix, Inc., Mill Lane, Waterford, Conn.

## COMPARATORS—Automatic Resistance

Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
Clippard Instrument Laboratory, Inc., 7350-90 Colerain Rd., Cincinnati 24, Ohio.  
Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.

FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Foxboro Co., The, Foxboro, Mass.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Hunter-Bristol Corp., Bristol, Pa.  
 INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.

**COMPARATORS—Circuit Linearity**

Missouri Research Labs., Inc., 2109 Locust St., St. Louis 3, Mo.

**COMPARATORS—Voltage**

GERTSCH PRODUCTS, INC., 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
 KEPSCO LABS., INC., 131-38 Sanford Ave., Flushing 55, N. Y. ADV. PG. 45-48.  
 KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Metronix, Inc., Mill Lane, Waterford, Conn.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 Performance Measurements Co., 15310 W. McNichols, Detroit 15, Mich.  
 RHEEM ELECTRONICS DIVISION, 7777 Industry Ave., Rivera, Calif. ADV. PG. 654.  
 TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.

**GALVANOMETERS**

ACTON LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.  
 Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
 Berndt-Bach, Inc., Auricon Div., 6924 Romaine St., Hollywood 38, Calif.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
 Century Electronics & Instruments Inc., P. O. Box 6216, Pine Station, Tulsa 10, Okla.  
 Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 G-M Laboratories, Inc., 4336 N. Knox Ave., Chicago, Ill.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Hathaway Instrument Div., Hamilton Watch Co., 5800 E. Jewell Ave., Denver 22, Colo.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 HOWELL INSTRUMENT CO., 3101 Trinity, Fort Worth 7, Texas. ADV. PG. 524.  
 J-B-T INSTRUMENTS, INC., 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
 KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
 Midwestern Instruments, 41st & Sherman Rd., Tulsa, Okla.  
 Miller Instruments, Inc., William, 325 N. Halstead Ave., Pasadena 8, Calif.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Offer Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
 PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Pimex Inc., 18 E. 60th St., New York 22, N. Y.  
 Q.V.S., Inc., 20 N. 15th St., East Orange, N. J.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
 SANBORN CO., 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**INSTRUMENTS—Panel**

ANTON ELECTRONIC LABS, INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 692.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV. PG. 430.

Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP., 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Electric Design & Mfg. Co., Burlington, Iowa.  
 Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 INTERNATIONAL INSTRUMENTS, INC., P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
 J-B-T INSTRUMENTS, INC., 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
 Phaostron Instrument & Electric Co., 151 Pasadena Ave., South Pasadena, Calif.  
 RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 Roller-Smith Corp., 1825 Market St., Bethlehem, Pa.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
 SENSITIVE RESEARCH INSTRUMENT CORP., 31Q Main St., New Rochelle, N. Y. ADV. PG. 618.  
 SHURITE METERS, INC., 35-B Hamilton St., New Haven 8, Conn. ADV. PG. 655.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.  
 Ten Bosch, Inc., M., 80 Wheeler Ave., Pleasantville, N. Y.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
 U. S. Gauge Div. of American Machine & Metals, Inc., Sellersville, Pa.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark, 12, N. J.

**INSTRUMENTS—Ultrasonic**

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
 ACTON LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.  
 Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
 Atlantic Research Corp., 901 Columbus, Alexandria, Va.  
 BIRTCHEP CORP., 4371 Valley Blvd., Los Angeles 32, Calif. ADV. PG. 636.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Branson Instruments, Inc., 1 Brown House Rd., Stamford, Conn.  
 Chesapeake Instrument Corp., Shadyside, Md.  
 Corbett Science Laboratories, F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
 DEMORNAY-BONARDI, INC., 780 S. Arroya Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 Dice Co., J. W., Englewood, N. J.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 GIANNINI & CO., INC., G. M., 918 E. Green St. Pasadena 1, Calif. ADV. PG. 344.  
 International Electronics Corp., (Muillard Equipment), 81 Spring St., New York 12, N. Y.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
 Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
 PANORAMIC RADIO PRODUCTS, INC., 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
 Piezo Products Co., Whitney St., Sherborn, Mass.

RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**MAGNETOMETERS**

Hycon Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 RAWSON ELECTRICAL INSTRUMENT CO., 11 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. 174, 175, 411.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

**MEGOhmmeters**

ASSOCIATED RESEARCH, INC., 3788 W. Belmont Ave., Chicago 18, Ill. ADV. PG. 570.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 GENERAL HERMETIC SEALING CORP., 99 E. Hawthorne Valley Stream, N. Y. ADV. PG. 679.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
 SLAUGHTER COMPANY, Piqua 9, Ohio. ADV. PG. 494.  
 STICHT CO., INC., HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Vemafine Products Co., P. O. Box 222, Hawthorne, N. J.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**METERS—Electronic Capacitance**

American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
 BALLANTINE LABORATORIES, INC., Boonton, N. J. ADV. PG. 159.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 MacLeod & Hanopol Inc., 10 Roland St., Charlestown 29, Mass.  
 MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 Metronix, Inc., Mill Lane, Waterford, Conn.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

**METERS—Field Strength**

Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
 Antlab, 4950 N. High St., Columbus 14, Ohio.  
 Bellair Electronics, Inc., 62 White St., Red Bank, N. J.  
 EMPIRE DEVICES PRODUCTS CORP., 38-15 Bell Blvd., Bayside 61, N. Y. ADV. PG. 388.  
 Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Harvey-Wellis Electronics, Inc., North St., Southbridge, Mass.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 JERROLD ELECTRONICS CORP., 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
 MEASUREMENTS CORP., Boonton, N. J. ADV. PG. 94.  
 Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.

Nems-Clarke, Inc., Silver Spring, Md.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
Simpson Electric Co., Div. American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**STODDART AIRCRAFT RADIO CO.**, 6444 Santa Monica Blvd., Hollywood 38, Calif. ADV. PG. 498, 499.  
Telefro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa.

## METERS—*f-m* Deviation See Also Monitors

A.R.F. Products, Inc., 7627 Lake St., River Forest, Ill.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
New London Instrument Co., P. O. Box 189, New London, Conn.

## METERS—Frequency

Adler Electronics, Inc., 1 Le Freve Lane, New Rochelle, N. Y.  
Admittance-Namco Corp., Farmingdale, N. Y.  
Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
**AIRCOM INC.**, 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md., ADV. PG. 297-300.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Bassett, Inc., Rex, 1314 N. E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
Cinema-Television Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**DEMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
Dubrow Development Co., 235B Penn St., Burlington, N. J.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
Dynapar Corp., 5150 Church St., Skokie, Ill.  
Elm Laboratories, 18 South Broadway, Dobbs Ferry, N. Y.  
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
Helipot Corp., Newport Beach, Calif.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**HICKOK ELECTRICAL INSTRUMENT CO.**, 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7, Calif.  
Hupp Instru/Mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.

**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
Jowl Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**LAMPKIN LABORATORIES, INC.**, Bradenton 1, Fla. ADV. PG. 623.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Metronix, Inc., Mill Lane, Waterford, Conn.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
New London Instrument Co., P. O. Box 189, New London, Conn.  
**NORTHEASTERN ENGINEERING INC.**, Manchester, N. H. ADV. PG. 518, 519.  
**NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Pantek Co., Box 212, El Segundo, Calif.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
Ransom Research P. O. Box 382, San Pedro, Calif.  
Riverbank Laboratories, P. O. Box 65, Geneva, Ill.  
Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
Sullivan Ltd., H. W. 80 Shore Rd., Port Washington, N. Y.  
Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
**WANG LABORATORIES, INC.**, 37 Hurley St., Cambridge 41, Mass. ADV. PG. 630.  
**WAUGH ENGINEERING CO.**, 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.  
Wells Co., Gary, 361 Rowaway Ave., Valley Stream, N. Y.  
Westberg Mfg. Co., 144 S. Coombs St., Napa, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30 Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## METERS—Impedance

**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
**DEMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
Sperry Gyroscopic Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
Sullivan Ltd., H. W. 80 Shore Rd., Port Washington, N. Y.

## METERS—Modulation See Also Monitors—Modulation

American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.

**BEDE ELECTRICAL INSTRUMENT CO., INC.**, Penacook, N. H. ADV. PG. 626.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morrissetown, N. J. ADV. PG. 632.  
**EMPIRE DEVICES PRODUCTS CORP.**, 38-15 Bell Blvd., Bayside 61, N. Y. ADV. PG. 388.  
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**LAMPKIN LABORATORIES, INC.**, Bradenton 1, Fla. ADV. PG. 623.  
New London Instrument Co., P. O. Box 189, New London, Conn.  
Triplet Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.

## METERS—Null

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BEDE ELECTRICAL INSTRUMENT CO., INC.**, Penacook, N. H. ADV. PG. 626.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Borden Engineering Co. Div. of M. J. Johnson Aircraft Engineering Co., Box 10 Morrissetown, N. J.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**DEJUR-AMSCO CORP.**, Northern Blvd., at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
Deltron, Inc., 2905 N. Leithgoy St., Philadelphia 33, Pa.  
Electric Design & Mfg. Corp., Burlington, Iowa.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HICKOK ELECTRICAL INSTRUMENT CO.**, 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
Millivac Instrument Corp., 2315, Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
**MINNEAPOLIS-HONEYWELL, BOSTON DIV.**, 1400 Soldiers Field Rd., Boston 15, Mass. ADV. PG. 445.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Phaostrotron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Q.V.S. Inc., 20 N. 15th St., East Orange, N. J.  
Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
**WATERS MANUFACTURING, INC.**, Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## METERS—Output

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BEDE ELECTRICAL INSTRUMENT CO., INC.**, Penacook, N. H. ADV. PG. 626.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**DE JUR-AMSCO CORP.**, Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.

**HICKOK ELECTRICAL INSTRUMENT CO.**, 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
 Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
 Phaotron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Q.V.S. Inc., 20 N. 15th St., East Orange, N. J.  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 Wacline, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**METERS—Panel**

Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
 American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**BEEDE ELECTRICAL INSTRUMENT CO., INC.**, Penacook, N. H. ADV. PG. 626.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**DE JUR-AMSCO CORP.**, Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 Electric Design & Mfg. Corp., Burlington, Iowa.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.  
**HICKOK ELECTRICAL INSTRUMENT CO.**, 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
**HOYT ELECTRICAL INSTRUMENT WORKS, INC.**, 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
**INTERNATIONAL INSTRUMENTS, INC.**, P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
 Phaotron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Q. V. S. Inc., 20 N. 15th St., East Orange, N. J.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
**SHURITE METERS**, 35-B Hamilton St., New Haven 8, Conn. ADV. PG. 655.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Sterling Mfg. Co., 7201 Wentworth, Cleveland 2, Ohio.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 Wacline, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
**WATERS MANUFACTURING, INC.**, Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**METERS—Phase Angle**

**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
**ADVANCE ELECTRONICS LAB., INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
 Airmeck Ltd., High Wycombe, Buckinghamshire, England.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
 Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.

Eastern Specialty Co., Philadelphia 40, Pa.  
 Electronics & Avionics Div. of The Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Link Aviation, Inc., Binghamton, N. Y.  
**MAGNETIC AMPLIFIERS, INC.**, 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
 Nagog Associates, Inc., Littleton, Mass.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Winco Electronics, 644 N. Hawthorne Blvd., Hawthorne, Calif.

**METERS—Power Factor**

American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
 Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
**PHYSICS RESEARCH LABS, INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**METERS—Q**

Alpha Instrument Co., 43 Hempstead St., New London, Conn.  
**BOONTON RADIO CORP.**, Boonton, N. J. ADV. PG. 427.  
 Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.

**METERS—RF Power**

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BIRD ELECTRONIC CORP.**, 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**CUBIC CORP.**, 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
 Electronics & Avionics Div. of The Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**HICKOK ELECTRICAL INSTRUMENT CO.**, 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**JONES ELECTRONICS CO., INC.**, M. C., 185 N. Main St., Bristol, Conn. ADV. PG. 376.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.

**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 Wacline, Inc., 35 S. St. Clair St., Dayton 2, Ohio.

**METERS—Standing Wave Ratio**

**AIRCOR INC.**, 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
 Alpha Instrument Co., 43 Hempstead St., New London, Conn.  
 Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
 American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BIRD ELECTRONIC CORP.**, 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Bruel & Kjaer, Naerum, Denmark.  
 California Technical Industries, 1421 Old Country Rd., Belmont, Calif.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
**CUBIC CORP.**, 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DEMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**JONES ELECTRONICS CO., INC.**, M. C., 185 N. Main St., Bristol, Conn. ADV. PG. 376.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Waveline, Inc., Box 470, Caldwell, N. J.

**METERS—Wave**

Airmeck Ltd., High Wycombe, Buckinghamshire, England.  
**AMERAC, INC.**, 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KEARFOTT CO., INC., WESTERN DIV.**, 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
**MICO INSTRUMENT CO.**, 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.  
 Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveline, Inc., Box 470, Caldwell, N. J.

**METERS—X-Ray Intensity**

**BRACKE-SEIB X-RAY CO., INC.**, 16 Pelham Bay Parkway, Pelham Manor, N. Y. ADV. PG. 590.  
 Electronic Products Co., 111 E. Third St., Mt. Vernon, N. Y.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.  
 X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

## MICROAMMETERS

American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 3, N. Y. ADV. PG. 691.  
ASSEMBLY PRODUCTS, INC., Chesterland 6, Ohio. ADV. PG. 504, 505.  
BEEDE ELECTRICAL INSTRUMENT CO., INC., Penacook, N. H. ADV. PG. 626.  
Borden Engineering Co. Div. of M. J. Johnson Aircraft Engineering Co., Box 10 Morristown, N. J.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bruehl & Kjaer, Naerum, Denmark.  
Electric Design & Mfg. Corp., Burlington, Iowa.  
ELECTRONIC MEASUREMENT CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.  
HICKOK ELECTRICAL INSTRUMENT CO., 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
HOYT ELECTRICAL INSTRUMENT WORKS, 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
INTERNATIONAL INSTRUMENTS, INC., P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
KEITHLEY INSTRUMENTS, INC., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, Calif.  
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Q. V. S. Inc., 20 N. 15th St., East Orange, N. J.  
RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
Simpson Electric Co. Div., American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
Triplet Electrical Instrument Co., Harmon Road, Bluffton, Ohio.  
WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
WATERS MANUFACTURING, INC., Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Calif. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## MICROFARADMMETERS

American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
BALLANTINE LABORATORIES, INC., Boonton, N. J. ADV. PG. 159.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## MICRO-MICROAMMETERS

American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bruehl & Kjaer, Naerum, Denmark.  
CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.  
KEITHLEY INSTRUMENTS, INC., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
Research Electronics Laboratories, Inc., Roslyn, Pa.  
Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## MILLIAMMETERS

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
BEEDE ELECTRICAL INSTRUMENT CO., INC., Penacook, N. H. ADV. PG. 626.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Electric Design & Mfg. Corp., Burlington, Iowa.  
ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
HICKOK ELECTRICAL INSTRUMENT CO., 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
HOYT ELECTRICAL INSTRUMENT WORKS, 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
INTERNATIONAL INSTRUMENTS, INC., P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Q. V. S. Inc., 20 N. 15th St., East Orange, N. J.  
RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
SHURITE METERS, 35-B Hamilton St., New Haven 8, Conn. ADV. PG. 655.  
Simpson Electric Co., Div., American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Sterling Mfg. Co., 7201 Wentworth, Cleveland 2, Ohio.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
Triplet Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

MILLIVOLTMETERS

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
BALLANTINE LABORATORIES, INC., Boonton, N. J. ADV. PG. 159.  
BEEDE ELECTRICAL INSTRUMENT CO., INC., Penacook, N. H. ADV. PG. 626.  
BOONTON ELECTRONICS CORP., 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
Electric Design & Mfg. Corp., Burlington, Iowa.  
ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
Fisher Research Lab., Inc., 1961 University Ave., Palo Alto, Calif.  
Foxboro Co., The, Foxboro, Mass.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Goldak Co., Inc., The, Dept. E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
HICKOK ELECTRICAL INSTRUMENT CO., 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
HOYT ELECTRICAL INSTRUMENT WORKS, 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
INDUSTRIAL CONTROL CO., 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
INTERNATIONAL INSTRUMENTS, INC., P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
Metavac, Inc., 45-68 162nd St., Flushing 58, N. Y. Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
MULLARD OVERSEAS LTD., EQUIPMENT DIV., Century House, Shaftesbury Ave., London W.C. 2, England. ADV. PG. 560.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Q. V. S. Inc., 20 N. 15th St., East Orange, N. J.  
RAWSON ELECTRICAL INSTRUMENTS CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.  
Simpson Electric Co., Div. American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Specialty Engineering Div., Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
Triplet Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## OHMMETERS

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
Allegany Instrument Co., Inc., 1091 Willis Mountain, Cumberland, Md.  
Alpha Instrument Co., 43 Hempstead St., New London, Conn.  
ASSOCIATED RESEARCH, INC., 3788 W. Belmont Ave., Chicago 18, Ill. ADV. PG. 570.  
Bidde Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
Borden Engineering Co. Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.  
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.  
Electro Instruments, Inc., 3794 Rosecrans, San Diego, Calif.  
Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.  
Leeds & Northrup Co., 4970 Stanton Ave., Philadelphia 44, Pa.  
Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Q. V. S. Inc., 20 N. 15th St., East Orange, N. J.  
Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
SHURITE METERS, 35-B Hamilton St., New Haven 8, Conn. ADV. PG. 655.  
SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
STICHT CO., INC., HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

RATIOMETERS

Allegany Instrument Co., Inc., 1091 Willis Mountain, Cumberland, Md.  
Alto Scientific Co., 855, Commercial St., Palo Alto, Calif.  
Electro Instruments, Inc., 3794 Rosecrans, San Diego, Calif.  
Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.

Hycor Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.  
Link Aviation, Inc., Binghamton, N. Y.  
Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
**UNION SWITCH & SIGNAL DIV., OF WESTINGHOUSE AIR BRAKE CO.**, Pittsburgh 18, Pa. ADV. PG. 384, 385.

**RECORDERS—Frequency**

**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md., ADV. PG. 297-300.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Edin Co., Inc., 207 Main St., Worcester, Mass.  
Epic, Inc., 154 Nassau St., New York 38, N. Y.  
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
**SOUND APPARATUS CO.**, Stirling, N. J. ADV. PG. 20.  
Standard Instrument Corp., 657 Broadway, New York 12, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**RECORDERS—Power Level**

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
Antlab, 4950 N. High St., Columbus 14, Ohio.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
Scientific Associates, Inc., 2162 Piedmont Rd., N. E., Atlanta 9, Ga.  
**SOUND APPARATUS CO.**, Stirling, N. J. ADV. PG. 20.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**RECORDERS—Telemetering**

**AMPEX CORP.**, 934 Charter St., Redwood City, Calif. ADV. PG. 285.  
Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, Ohio.  
Bendix Aviation Corp., Pacific Division, 11600 Sherman Way, North Hollywood, Calif.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
**DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO.**, 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
Foxboro Co., The, Foxboro, Mass.  
**GENERAL DEVICES, INC.**, P. O. Box 253, Princeton, N. J. ADV. PG. 559.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.

Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Midwestern Instruments, 41 & Sheridan Rd., Tulsa, Okla.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.  
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**STANDARDS—Capacitance**

**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
MacLeod & Hanopol, Inc., 10 Roland St., Charlestown 29, Mass.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
Simmonds Aerocessories, Inc., Tarrytown, N. Y.  
Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**STANDARDS—Frequency**

Acme Electronix Div., NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
Airmec Ltd., High Wycombe, Buckinghamshire, England.  
**AMERICAN TIME PRODUCTS, INC.**, 580 Fifth Ave., New York 36, N. Y. ADV. PG. 440.  
Bassett, Inc., Rex, 1314 N.E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
Collins Radio Co., Cedar Rapids, Iowa.  
**COLORNET ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**D & R LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
Dynapac Corp., 5150 Church St., Skokie, Ill.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**JONES ELECTRONICS CO., INC.**, M. C., 185 N. Main St., Bristol, Conn. ADV. PG. 376.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
Lewls Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.  
**MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
New London Instrument Co., P. O. Box 189, New London, Conn.  
Norman Laboratories, Ernst, Williams Bay, Wis.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 South Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**PHILAMON LABORATORIES, INC.**, 90 Hopper St., Westbury, N. Y. ADV. PG. 95.  
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
Presto Recording Corp., P. O. Box 500, Paramus, N. J. ADV. PG. 555.  
Riverbank Laboratories, Dept. of Engineering, P. O. Box 65, Geneva, Ill.  
Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.

Telectronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
**TIMES FACSIMILE CORP.**, 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.

**STANDARDS—Inductance**

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.

**STANDARDS—Resistance**

**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Sullivan Ltd., H.W., 80 Shore Rd., Port Washington, N. Y.

**TRACERS—Signal**

**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.

**VOLTMETERS**

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**ASSEMBLY PRODUCTS, INC.**, Chesterland 6, Ohio. ADV. PG. 504, 505.  
**ASSOCIATED RESEARCH, INC.**, 3788 W. Belmont Ave., Chicago 18, Ill. ADV. PG. 570.  
**BEEDER ELECTRICAL INSTRUMENT CO., INC.**, Penacook, N. H. ADV. PG. 626.  
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Electric Design & Mfg. Corp., Burlington, Iowa.  
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
Fluke Mfg. Co., Inc., John, 1111 W. Nickerson St., Seattle 99, Wash.  
Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Greibach Instruments Corp., An Associate of Gulfton Industries, Metuchen, N. J.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
Helipot Corp., Newport Beach, Calif.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**HOYT ELECTRICAL INSTRUMENT WORKS**, 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
Hycor Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
**INDUSTRIAL DEVICES, INC.**, 982 River Rd., Edgewater, N. J. ADV. PG. 631.  
**INTERNATIONAL INSTRUMENTS, INC.**, P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Meridian, Inc., 880 Main St., Stamford, Conn.  
Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
New England Scientific Instrument Co., Box 408, Cambridge 39, Mass.  
Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Phaoston Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.

Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
**PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.**  
 Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y.

Q. V. S. Inc., 20 North 15th St., East Orange, N. J.  
 Railway Communications, Inc., 9351 E. 59th St., Raytown, Mo.

**RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.**  
 Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.

**SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.**  
 Shasta Div., Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.

**SHURITE METERS, 35-B Hamilton St., New Haven 6, Conn. ADV. PG. 655.**  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.

Sterling Mfg. Co., 7201 Wentworth, Cleveland 2, Ohio.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.

**TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.**  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.

Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

**WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.**  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
 Yonkers Industries, Inc., 28 School St., Yonkers, N. Y.

## VOLTMETERS—Electronic

**ACTON LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.**  
**ADVANCE ELECTRONICS LAB., INC., 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Alpha Instrument Co., 43 Hempstead St., New London, Conn.

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.

**ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.**  
 Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.

**BALLANTINE LABORATORIES, INC., Boonton, N. J. ADV. PG. 159.**  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.

**BOONTON ELECTRONICS CORP., 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.**  
 Bruel & Kjaer, Naerum, Denmark.

**BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.**  
 Clough Brengle Co., 6014 North Broadway, Chicago, Ill.

**COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.**  
**COMMUNICATION MEASUREMENTS LAB., INC., 350 Leland Ave., Plainfield, N. J. ADV. PG. 547.**

Donner Scientific Co., 888 Galindo St., Concord, Calif.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.

DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.

Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.

**ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.**  
 Electronic Measurements Corp., 280 Lafayette St., New York 12, N. Y.

Fluke Mfg. Co., Inc., John, 1111 W. Nickerson St., Seattle 99, Wash.

Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
**GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.**

**HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.**  
**HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.**

Hycor Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
**INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.**

Instrument Electronics Corp., 90 Main St., P. O. Box 830, Port Washington, N. Y.

**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.**

Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.

Jowit Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.

**KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.**  
**KEITHLEY INSTRUMENTS, INC., Dept. EB 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.**

**KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearney Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.**  
 Landsverk Electrometer Co., 550 W. Garfield Ave., Glendale 4, Calif.

Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
**MEASUREMENTS CORP., Boonton, N. J. ADV. PG. 94.**  
 Metronix, Inc., Mill Lane, Waterford, Conn.

Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.

**MULLARD OVERSEAS LTD., EQUIPMENT DIV., Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.**

**NORTHEASTERN ENGINEERING, INC., Manchester, N. H. ADV. PG. 518, 519.**  
 Nortronic Co., Inc., 1015 S. Sixth St., Minneapolis 4, Minn.

Pameco, Mill Lane, Waterford, Conn.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.

Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, Calif.

Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.

**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.**

Shasta Div., Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.

**SIERRA ELECTRONIC CORP., 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.**  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.

Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.

Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.

Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
**TRIO LABORATORIES, INC., 4025 Merrick Rd., Seaford, N. Y. ADV. PG. 687.**

Waveforms, Inc., 333 Sixth Ave., New York 14, N. Y.  
 Western Electro-Acoustic Labs., 204 S. Beverly Drive, Beverly Hills, Calif.

Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
 Yonkers Industries, Inc., 28 School St., Yonkers, N. Y.

## VOLT-OHM-MILLIAMMETERS

Alpha Instrument Co., 43 Hempstead St., New London, Conn.

**ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.**  
**BEUDE ELECTRICAL INSTRUMENT CO., INC., Penacook, N. H. ADV. PG. 626.**

Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.

**BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.**  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.

Electro Instruments, Inc., 3794 Rosecrans, San Diego 10, Calif.

Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.

Electronic Measurements Corp., 280 Lafayette St., New York 12, N. Y.

Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.

Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.

**HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.**  
 Instrument Laboratories, 315 W. Walton Place, Chicago 10, Ill.

**INTERNATIONAL INSTRUMENTS, INC., P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.**  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.**

Jowit Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.

Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.

Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.

Phaoston Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.

**PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.**  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.

Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, Calif.

Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.

**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.**

Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.

Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.

Teletronics Laboratory Inc., Kinkel St., Westbury, N. Y.

**WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.**  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

Yonkers Industries, Inc., 28 School St., Yonkers, N. Y.

**WATTMETERS**  
 Admittance-Namco Corp., Farmingdale, N. Y.  
**BJ ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.**  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.**  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.**  
 Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.

Chermalloy Electronics Corp., Gillespie Field, Santee, Calif.

**CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.**  
**CUBIC CORP., 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.**

Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.

Fluke Mfg. Co., Inc., John, 1111 W. Nickerson St., Seattle 99, Wash.

**GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.**  
**HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.**

**JONES ELECTRONICS CO., INC., M. C., 185 N. Main St., Bristol, Conn. ADV. PG. 376.**  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.

**PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.**  
**RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.**

Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.

**SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.**  
**SIERRA ELECTRONIC CORP., 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.**

Sperry Gyroscopic Co. Div. of Sperry Rand Corp., Great Neck, N. Y.

Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

**WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.**  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## INSTRUMENTS—Electronic Musical

Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.

Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.

Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.

Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

Valco Mfg. Co., 4700 W. Walton St., Chicago 51, Ill.

## INSTRUMENTS—Graphic Recording

Acme Teletronic Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.

**AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.**  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO., Box 125, Westboro, Mass. ADV. PG. 566.**

Allegany Instrument Co., Inc., 1091 Willis Mountain, Cumberland, Md.

Antlab, 4950 N. High St., Columbus 14, Ohio.

Balley Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles 64, Calif.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

Bruel & Kjaer, Naerum, Denmark.  
**BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.**

Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.

Daimo Victor Co., Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.

Electro Instruments, Inc., 3794 Rosecrans, San Diego 10, Calif.

Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.

Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.

Fischer & Porter Co., 476 Warmminster Road, Hatboro, Pa.

Foxboro Co., The, Foxboro, Mass.  
 Gaertner Scientific Corp., 1239 Wrightswood Ave., Chicago 14, Ill.

**GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.**  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.

Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.

L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.

Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.

Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Leupold & Stevens Instruments, Inc., P. O. Box 5082, Portland 13, Ore.

**LIBRASCOPE, INC. 808 Western Ave., Glendale, Calif. ADV. PG. 183.**  
 Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
 Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.

**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windram Aves., Philadelphia 44, Pa. ADV. PG. 447.**  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.

**REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.**  
**SANBORN CO., 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.**



Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
**WESTRONICS, INC.**, 3605 McCart St., Fort Worth, Texas. ADV. PG. 554.

**INSTRUMENTS—Panel**

**INSTRUMENTS—Ultrasonic**

See **INSTRUMENTS—Electrical Measuring**

**INSULATING COMPOUNDS**

**Asphalt & Pitch**

Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
**BIWAX CORP.**, 3445 Howard St., Skokie, Ill. ADV. PG. 337.  
**BORTHIG CO., INC., GEORGE C.**, P. O. Box 11A, East Rutherford, N. J. ADV. PG. 652.  
 Esso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.  
 Hi-Test Chemical Corp., 722 64th St., Brooklyn 20, N. Y.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Schenectady Varnish Co., Inc., Schenectady, N. Y.  
**ZOPHAR MILLS, INC.**, 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

**Coil Dopes**

Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
**BORTHIG CO., INC., GEORGE C.**, Box 11-A, East Rutherford, N. J. ADV. PG. 652.  
 Chemical Products Corp., King Philip Rd., East Providence, R. I.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh 15, Pa.  
 Schenectady Varnish Co., Inc., Schenectady, N. Y.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**Enamel**

Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
**BORTHIG CO., INC., GEORGE C.**, P. O. Box 11A, East Rutherford, N. J. ADV. PG. 652.  
 Dow Corning Corp., Midland, Mich.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Delaware.  
 George Co., P. D., 5200 N. Second St., St. Louis, Mo.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Midland Industrial Finishes Corp., Dept. I-20, Waukegan, Ill.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Schenectady Varnish Co., Inc., Schenectady, N. Y.  
 Silicones Div., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Standard-Toch Chemicals, Inc., 2600 Richmond Terrace, Staten Island 3, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**Impregnating Compounds**

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 American Products Mfg. Co., Inc., 8127-33 Oleander St., New Orleans 18, La.  
 Antara Chemicals Div. of General Aniline Film Corp., 435 Hudson St., New York 14, N. Y.  
 Aries Laboratories, Inc., 270 Park Ave., New York 17, N. Y.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
**BIWAX CORP.**, 3445 Howard St., Skokie, Ill. ADV. PG. 337.  
**BORTHIG CO., INC., GEORGE C.**, P. O. Box 11A, East Rutherford, N. J. ADV. PG. 652.  
 Celanese Corp. of America, Plastics Div., 290 Ferry St., Newark 5, N. J.  
 Ciba Co., Inc., Plastics Div., Kimberston, Pa.  
 Dow Corning Corp., Midland, Mich.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Esso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 George Co., P. D., 5200 N. Second St., St. Louis, Mo.  
 Hi-Test Chemical Corp., 722 64th St., Brooklyn 20, N. Y.

Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
 Marlette Corp., 37-21 30th St., Long Island City 1, N. Y.  
 Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 National Engineering Products, Inc., 435 Washington Bldg., Washington 5, D. C.  
 Nureco, Inc., 1100 Pontiac Ave., Cranston 10, R. I.  
 Plastronics, P. O. Box 96, Winter Hill 45, Mass.  
 Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh 15, Pa.  
 Schenectady Varnish Co., Inc., Schenectady, N. Y.  
 Silicones Division, A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Standard-Toch Chemicals, Inc., 2600 Richmond Terrace, Staten Island 3, N. Y.  
 Stevenson Bro. & Co., 110 Race St., Philadelphia 6, Pa.  
 Terrell Corp., 19 Lane St., Waltham 54, Mass.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
**ZOPHAR MILLS, INC.**, 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

**Insulating Varnish**

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Barrett Varnish Co., 1532 S. 50th Court, Cicero 50, Ill.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
**BORTHIG CO., INC., GEORGE C.**, P. O. Box 11A, East Rutherford, N. J. ADV. PG. 652.  
 Dow Corning Corp., Midland, Mich.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 General Electric Co., Silicone Products Dept., Waterford, N. Y.  
 George Co., P. D., 5200 N. Second St., St. Louis, Mo.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
 Marlette Corp., 37-21 30th St., Long Island City 1, N. Y.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Midland Paint & Varnish Co., 9115 Reno Ave., Cleveland 5, Ohio.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh 15, Pa.  
 Schenectady Varnish Co., Inc., Schenectady, N. Y.  
 Silicones Division, A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Standard-Toch Chemicals, Inc., 2600 Richmond Terrace, Staten Island 3, N. Y.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**Lacquer**

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 American Products Mfg. Co., Inc., 8127-33 Oleander St., New Orleans 18, La.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Barrett Varnish Co., 1532 S. 50th Court, Cicero 50, Ill.  
**BORTHIG CO., INC., GEORGE C.**, P. O. Box 11A, East Rutherford, N. J. ADV. PG. 652.  
 Chemical Products Corp., King Philip Rd., East Providence, R. I.  
 Cudner & O'Connor Co., 4035 W. Kinzie Ave., Chicago 24, Ill.  
 duPont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 George Co., P. D., 5200 N. Second St., St. Louis, Mo.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Marlette Corp., 37-21 30th St., Long Island City 1, N. Y.  
 Midland Industrial Finishes Corp., Dept. I-20, Waukegan, Ill.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Standard-Toch Chemicals, Inc., 2600 Richmond Terrace, Staten Island 3, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**Plastics**

See **PLASTIC MATERIALS**

**Protective Sealers**

See **COATINGS**

**Resins**

See **PLASTIC MATERIALS**

**Silicone Compounds**

**CONNECTICUT HARD RUBBER CO.**, 407 East St., New Haven 9, Conn. ADV. PG. 646.  
 Dow Corning Corp., Midland, Mich.  
 Ed-Berl Products, Inc., 87 Merrick Rd., Baldwin, N. Y.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 General Electric Co., Silicone Products Dept., Waterford, N. Y.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
 Midland Industrial Finishes Corp., Dept. I-20, Waukegan, Ill.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 National Engineering Products, Inc., 435 Washington Bldg., Washington 5, D. C.  
 Schenectady Varnish Co., Inc., Schenectady, N. Y.  
 Silicones Division, A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**Waxes**

Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
**BIWAX CORP.**, 3445 Howard St., Skokie, Ill. ADV. PG. 337.  
**BORTHIG CO., INC., GEORGE C.**, P. O. Box 11A, East Rutherford, N. J. ADV. PG. 652.  
 Esso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.  
 Glyco Products Co., Inc., Empire State Bldg., New York 1, N. Y.  
 Hi-Test Chemical Corp., 722 64th St., Brooklyn 20, N. Y.  
 Kelloff Co., M. W., P. O. Box 469, Jersey City 3, N. J.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Standard-Toch Chemicals, Inc., 2600 Richmond Terrace, Staten Island 3, N. Y.  
 Stevenson Bro. & Co., 110 Race St., Philadelphia 6, Pa.  
 Terrell Corp., 19 Lane St., Waltham 54, Mass.  
 Wax Corporation of America, 21-29 Dunham Place, Brooklyn 11, N. Y.  
**ZOPHAR MILLS, INC.**, 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

**INSULATION MATERIALS**

**Aluminum Oxide**

Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
**ELECTRONIC MECHANICS, INC.**, 101 Clifton Blvd., Clifton, N. J. ADV. PG. 508.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
 Nopco Chemical Co., Plastics Div., Harrison, N. J.  
 Norton Co., 1 New Bond St., Worcester 6, Mass.  
 U. S. Stoneware Co., The, Akron 9, Ohio.  
 Vitro Corp. of America, 261 Madison Ave., New York 16, N. Y.

**Asbestos**

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
**ELECTRO-TECHNICAL PRODUCTS DIV. OF SUN CHEMICAL CORP.**, 113 E. Centre St., Nutley 10, N. J. ADV. PG. 232.  
 Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.

**Ceramic**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Cook Ceramic Mfg. Co., 501 Prospect St., Trenton 1, N. J.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 Electrical Refractories Co., 50 Clark St., East Palestine, Ohio.  
**ELECTRONIC MECHANICS, INC.**, 101 Clifton Blvd., Clifton, N. J. ADV. PG. 508.

# ELECTRONIC and ALLIED PRODUCTS

# INSULATION MATERIALS

Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
**ERIE RESISTOR CORP.**, Erie 6, Pa. ADV. PG. 170, 171.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
Guastavino Co., R., 660 Main St., Woburn, Mass.  
Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.  
Isolantite Mfg. Corp., Stirling, N. J.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
Kirchberger & Co., Inc., 250 Humphrey St., Englewood, N. J.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., Le Roy, N. Y. ADV. PG. 276, 277.  
**MANSOL CERAMICS CO.**, 140 Little St., Belleville, N. J. ADV. PG. 697.  
Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
Mykroy, Inc., Wheeling, Ill.  
National Ceramic Co., 400 Southard St., Trenton 2, N. J.  
Norton Co., 1 New Bond St., Worcester 6, Mass.  
Rogers Corp., Goodyear, Conn.  
Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn.  
**SUPERIOR STEATITE & CERAMIC CORP.**, 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
U. S. Stoneware Co., Akron 9, Ohio.  
Vitro Corp. of America, 261 Madison Ave., New York 16, N. Y.

## Fabric

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
American Mica Insulation Co., Manasquan, N. J.  
Apex Coated Fabrics Co., 12 E. 22nd St., New York 10, N. Y.  
Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
Boston Felt Co., 210 South St., Boston 11, Mass.  
Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
Continental Felt Co., 22 W. 15th St., New York 11, N. Y.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
**ELECTRO-TECHNICAL PRODUCTS DIV. OF SUN CHEMICAL CORP.**, 113 E. Centre St., Nutley 10, N. J. ADV. PG. 232.  
General Plastics Corp., P. O. Box 1236, Paterson, N. J.  
Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
Mica Insulator Co., Schenectady 1, N. Y.  
Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
**NATVAR CORP.**, Woodbridge, N. J. ADV. PG. 568.  
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
Shamban & Co., W. S., 11617 W. Jefferson Blvd., Culver City, Calif.  
Synthane Corp., Oaks, Pa.  
Taylor Fibre Co., Norristown, Pa.  
Thompson Fiberglass Co., H. I., 1733 Cordova St., Los Angeles 7, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## Fibre

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
American Felt Co., Glenville, Conn.  
American Mica Insulation Co., Manasquan, N. J.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casimirs Ave., Yonkers, N. Y. ADV. PG. 642.  
National Vulcanized Fibre Co., Wilmington, Del.  
**NATVAR CORP.**, Woodbridge, N. J. ADV. PG. 568.

Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
**RELIANCE MICA CO.**, 341 39th St., Brooklyn, N. Y. ADV. PG. 695.  
Rogers Corp., Goodyear, Conn.  
Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
Taylor Fibre Co., Norristown, Pa.  
West Virginia Pulp & Paper Co., 230 Park Ave., New York 17, N. Y.  
Wilmington Fibre Specialty Co., New Castle, Del.

## Films

### See FILMS

## Glass

Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.  
Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**ELECTRO-TECHNICAL PRODUCTS DIV. OF SUN CHEMICAL CORP.**, 113 E. Centre St., Nutley 10, N. J. ADV. PG. 232.  
Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
**HAMILTON ELECTRONICS CORP.**, Box 100, Bath, N. Y. ADV. PG. 507.  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
Lancaster Glass Corp., Lancaster, Ohio.  
**MANSOL CERAMICS CO.**, 140 Little St., Belleville, N. J. ADV. PG. 697.  
**NATVAR CORP.**, Woodbridge, N. J. ADV. PG. 568.  
Pittsburgh Plate Glass Co., 1 Gateway Center, Pittsburgh 22, Pa.  
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
Taylor Fibre Co., Norristown, Pa.  
Vitro Corp. of America, 261 Madison Ave., New York 16, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## Glass Bonded Mica

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
**ELECTRONIC MECHANICS, INC.**, 101 Clifton Blvd., Clifton, N. J. ADV. PG. 508.  
Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
Mica Insulator Co., Schenectady 1, N. Y.  
Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
**MYCALEX CORPORATION OF AMERICA**, 125 Clifton Blvd., Clifton, N. J. ADV. PG. 140, 141.  
Mykroy, Inc., Wheeling, Ill.  
National Electric Coil Co., Columbus 16, Ohio.  
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
**RELIANCE MICA CO.**, 341 39th St., Brooklyn, N. Y. ADV. PG. 695.

## Glass Fibre

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
American Mica Insulation Co., Manasquan, N. J.  
**BORDEN CO., RESINITE DEPT.**, Box 1589, Santa Barbara, Calif. ADV. PG. 604.  
Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
**ELECTRO-TECHNICAL PRODUCTS DIV. OF SUN CHEMICAL CORP.**, 113 E. Centre St., Nutley 10, N. J. ADV. PG. 232.  
Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
**LAMTEX INDUSTRIES, INC.**, 51 State St., Westbury, N. Y. ADV. PG. 596.  
L-O-F Glass Fibers Co., 1810 Madison Ave., Toledo 1, Ohio.  
Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
Molded Fiberglass Sheet Co., Ashtabula, Ohio.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
Owens-Corning Fibreglas Corp., 598 Madison Ave., New York 22, N. Y.

Panelyte Div., St. Regis Paper Corp., 261 Madison Ave., New York 16, N. Y.  
Pittsburgh Plate Glass Co., 1 Gateway Center, Pittsburgh 22, Pa.  
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
Robins Industries Corp., 214-26 41st Ave., Bayside, N. Y.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
Synthane Corp., Oaks, Pa.  
Thompson Fiberglass Co., H. I., 1733 Cordova St., Los Angeles 7, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## Laminates

### See LAMINATES

## Mica

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
American Mica Insulation Co., Manasquan, N. J.  
Asheville-Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
Brush Beryllium Co., The, 4301 Perkins Ave., Cleveland 3, Ohio.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
Ford Radio & Mica Corp., 538 63rd St., Brooklyn 20, N. Y.  
Industrial Mica Corp., 223 S. Van Brunt St., Englewood, N. J.  
Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.  
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
Mica Insulator Co., Schenectady 1, N. Y.  
Micacraft Products, Inc., 703 McCarter Highway, Newark 5, N. J.  
Mitchell-Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
**MYCALEX CORP. OF AMERICA**, 125 Clifton Blvd., Clifton, N. J. ADV. PG. 140, 141.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casimirs Ave., Yonkers, N. Y. ADV. PG. 642.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
**RELIANCE MICA CO., INC.**, 341 39th St., Brooklyn 32, N. Y. ADV. PG. 695.  
Spruce Pine Mica Co., Spruce Pine, N. C.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

## Nylon

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
American Mica Insulation Co., Manasquan, N. J.  
Auburn Mfg. Co., The, Pease Ave & Stack St., Middletown, Conn.  
Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillsdale, N. J.  
Catalin Corp. of America, 1 Park Ave., New York 16, N. Y.  
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casimirs Ave., Yonkers, N. Y. ADV. PG. 642.  
National Vulcanized Fibre Co., Wilmington, Del.  
Panelyte Div., St. Regis Paper Corp., 261 Madison Ave., New York 16, N. Y.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.

Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 WESTLAKE PLASTICS CO., 133 W. Lenzi Rd., Lenni, Pa. ADV. PG. 557.

**Paper**

ACME WIRE CO., New Haven 14, Conn. ADV. PG. 611.  
 ALLIED PLASTICS SUPPLY CORP., 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 American Mica Insulation Co., Manasquan, N. J.  
 Auburn Mfg. Co., The, Pease Ave & Stack St., Middletown, Conn.  
 Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
 COTTRELL PAPER CO., INC., Fall River, Mass. ADV. PG. 619.  
 ELECTRICAL INSULATION CO., INC., 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 ELECTRO-TECHNICAL PRODUCTS DIV. OF SUN CHEMICAL CORP., 113 E. Centre St., Nutley 10, N. J. ADV. PG. 232.  
 Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
 Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
 Hartford City Paper Co., S. Spring St., Hartford City, Ind.  
 Hinde & Dauch, Sandusky, Ohio.  
 Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 MOSINEE PAPER MILLS, INC., Dept. EB-7, Mosinee, Wis. ADV. PG. 81.  
 NATIONAL TEL-TRONICS CORP., 35 St. Casmir Ave., Yonkers N. Y. ADV. PG. 642.  
 NATVAR CORP., Woodbridge, N. J. ADV. PG. 568.  
 Panelyte Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y.  
 Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
 Rogers Corp., Goodyear, Conn.  
 Schweitzer Inc., Peter J., 261 Madison Ave., New York 16, N. Y.  
 Stevens Paper Mills, Inc., Windsor, Conn.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Wilmington Fibre Specialty Co., New Castle, Del.

**Plastic**

See PLASTIC MATERIALS

**Porcelain**

See INSULATION MATERIALS—Ceramic

**Rubber**

See RUBBER

**Steatite**

See INSULATION MATERIALS—Ceramic

**Varnished Cambric**

ACME WIRE CO., New Haven 14, Conn. ADV. PG. 611.  
 ALLIED PLASTICS SUPPLY CORP., 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 Auburn Mfg. Co., The, Pease Ave & Stack St., Middletown, Conn.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
 ELECTRO-TECHNICAL PRODUCTS DIV. OF SUN CHEMICAL CORP., 113 E. Centre St., Nutley 10, N. J. ADV. PG. 232.  
 Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 NATVAR CORP., Woodbridge, N. J. ADV. PG. 568.  
 New Jersey Wood Finishing Co., Amboy Ave., Woodbridge, N. J.  
 Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
 Vitro Corp. of America, 261 Madison Ave., New York 16, N. Y.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**INSULATION PARTS**

**Bead Insulation Parts**

AMERICAN FELDMUEHLE CORP., 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.  
 AMERICAN LAVA CORP., Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Crane Packing Co., 6402 Oakton St., Morton Grove, Ill.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 HAMILTON ELECTRONICS CORP., Box 100, Bath, N. Y. ADV. PG. 507.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 MANSOL CERAMICS CO 140 Little St., Belleville, N. J. ADV. PG. 697.  
 Martindale Electric Co., Edgewater Branch, Box 617, Cleveland 7, Ohio.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 Mykroy, Inc., Wheeling, Ill.  
 National Ceramic Co., 400 Southard St., Trenton 2, N. J.  
 NORRICH PLASTICS CORP., 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
 Norton Co., 1 New Bond St., Worcester 6, Mass.  
 Star Porcelain Co., The, 61 Muirhead Ave., Trenton 9, N. J.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
 SYNCOR PRODUCTS CO., 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
 THOR CERAMICS, INC., 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
 Transradio, Ltd., 138A Cromwell Rd., London, S.W. 7, England.

**Capacitor Films**

See FILMS—Capacitor

**Ceramic Insulation Parts**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 AMERICAN FELDMUEHLE CORP., 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.  
 AMERICAN LAVA CORP., Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 BG Corp., The, 321 Broad Ave., Ridgefield, N. J.  
 BIRNACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 Ceramaseal, Inc., Box 25, New Lebanon Center, N. Y.  
 Cook Ceramic Mfg. Co., 501 Prospect St., Trenton 1, N. J.  
 Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N.W., Canton, Ohio.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 ELECTRONIC MECHANICS, INC., 101 Clifton Blvd., Clifton, N. J. ADV. PG. 508.  
 ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171.  
 GENERAL CERAMICS CORP., Keasbey, N. J. ADV. PG. 28.  
 Guastavino Co., R., 660 Main St., Woburn, Mass.  
 Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Kirchberger & Co., Inc., M., 250 Humphrey St., Englewood, N. J.  
 LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV., 31 Gilbert St., Le Roy, N. Y. ADV. PG. 276, 277.  
 Louthan Mfg. Co., East Liverpool, Ohio.  
 MANSOL CERAMICS CO., 140 Little St., Belleville, N. J. ADV. PG. 697.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 MINITRON, INC., 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 MYCALEX CORP. OF AMERICA, 125 Clifton Blvd., Clifton, N. J. ADV. PG. 140, 141.  
 Mykroy, Inc., Wheeling, Ill.  
 National Ceramic Co., 400 Southard St., Trenton 2, N. J.  
 Porcelain Products, Inc., Findlay, Ohio.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
 Star Porcelain Co., 61 Muirhead Ave., Trenton 9, N. J.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
 STUPAKOFF DIV. OF THE CARBORUNDUM CO., Latrobe, Pa. ADV. PG. 108, 109.  
 SUPERIOR STEATITE & CERAMIC CORP., 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
 SYNCOR PRODUCTS CO., 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
 Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park, Calif.  
 THOR CERAMICS, INC., 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
 U. S. Stoneware Co., Akron 9, Ohio  
 WESTERN GOLD & PLATINUM CO., 589 Bryant St., San Francisco, Calif. ADV. PG. 593.

**Insulating Cord**

See CORDS—Lacing

**Insulating Sleeves**

Actioncraft Products, 8 Sagamore Hill Drive, Port Washington, N. Y.  
 ALLIED PLASTICS SUPPLY CORP., 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 AMERICAN FELDMUEHLE CORP., 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.  
 AMERICAN LAVA CORP., Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Asheville-Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 BENTLEY-HARRIS MFG. CO., Conshohocken 13, Pa. ADV. PG. 523.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 BORDEN CO., RESINITE DEPT., Box 1589, Santa Barbara, Calif. ADV. PG. 604.  
 BRAND & CO., INC., WILLIAM, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
 Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillside, N. J.  
 CLEVELAND CONTAINER CO., THE, 6201 Barberton Ave., Cleveland 2, Ohio ADV. PG. 160.  
 CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390  
 Crane Packing Co., 6402 Oakton St., Morton Grove, Ill.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 ELECTRICAL INSULATION CO., INC., 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Franklin-Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
 HAMILTON ELECTRONICS CORP., Box 100, Bath, N. Y. ADV. PG. 507.  
 Haveg Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.  
 Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
 KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 LAMTEX INDUSTRIES, INC., 51 State St., Westbury, N. Y. ADV. PG. 596.  
 MARKEL & SONS L. FRANK, School House, Norristown, Pa. ADV. PG. 204.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Mitchell Rand Insulation Co., 51 Murray St., New York 7, N. Y.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
 Mykroy, Inc., Wheeling, Ill.  
 NATIONAL TEL-TRONICS CORP., 35 St. Casmir Ave., Yonkers, N. Y. ADV. PG. 642.  
 NATVAR CORP., Woodbridge, N. J. ADV. PG. 568.  
 NORRICH PLASTICS CORP., 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
 RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS, Waltham 54, Mass. ADV. PG. 249.  
 Resin Industries, P. O. Box 1589, Santa Barbara, Calif.  
 RESISTOFLEX CORP., Roseland, N. J. ADV. PG. 694.  
 REX CORP., THE, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Silicone Insulation Co., 1385 Seabury Ave., Bronx 61, N. Y.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 SYNCOR PRODUCTS CO., 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
 THOR CERAMICS, INC., 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.

**Plastic Insulation Parts**

1. Extruded
2. Fabricated
3. Laminated
4. Molded

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio. 2-3-4.  
 Ace Plastic Co., 91-54 Van Wyck Expressway, Jamaica 35, N. Y. 1-2.  
 Actioncraft Products, 8 Sagamore Hill Drive, Port Washington, N. Y. 2-3.  
 Aerolite Electronics Corp., 507 26th St., Union City, N. J. 2-4.  
 AIRFLYTE ELECTRONICS CO., 535-9 Avenue "A", Bayonne, N. J. 2-4. ADV. PG. 615.  
 ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. 4. ADV. PG. 567.  
 ALLIED ALLEGRI, INC., 141 River Rd., Nutley, N. J. 2. ADV. PG. 650.  
 Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky. 2.  
 ALLIED PLASTICS SUPPLY CORP., 75 Cliff St., New York 38, N. Y. 1-2-3-4. ADV. PG. 247.  
 American Mica Insulation Co., Manasquan, N. J. 1-2-3-4.

- AMERICAN MOLDED PRODUCTS CO., 2727 W. Chicago Ave., Chicago 22, Ill. 4 ADV. PG. 580.
- ANCHOR INDUSTRIAL CO., DIV. OF ANCHOR PLASTICS CO., INC., 36-36 36th St., Long Island City 6, N. Y. 1. ADV. PG. 613.
- Armel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y. 4.
- Auburn Button Works, Inc., Auburn, N. Y. 1-4.
- Auburn Mfg. Co., The Pease Ave. & Stack St., Middletown, Conn. 2-3.
- Baer Co., N. S., 9 Montgomery St., Hillside, N. J. 2.
- Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass. 3.
- Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn. 3.
- BENTLEY-HARRIS MFG. CO., Conshohocken 13, Pa. 1. ADV. PG. 523.
- Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif. 2-3-4.
- BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. 1. ADV. PG. 501.
- BIWAX CORP., 3445 Howard St., Skokie, Ill. 4. ADV. PG. 337.
- Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass. 1-2-3-4.
- Bomyte Co., The Green St., Silverdale, Pa. 2-3.
- Boonton Molding Co., Boonton, N. J. 1-2-4.
- BORDEN CO., RESINITE DEPT., Box 1589, Santa Barbara, Calif. 1. ADV. PG. 604.
- BRAND & CO., INC., WILLIAM, 41 North St., Willimantic, Conn. 1. ADV. PG. 199.
- Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillside, N. J. 4.
- Calresin Corp., 4543 Brazil St., Los Angeles 39, Calif. 2-3-4.
- CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. 2. ADV. PG. 150.
- CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. 3-4. ADV. PG. 638.
- Connector Corp. of America, 3223 Burton Ave., Burbank, Calif. 2.
- Consolidated Molded Products Corp., Scranton 2, Pa. 4.
- Continental Can Co., 100 E. 42nd St., New York 17, N. Y. 3.
- CONTINENTAL-DIAMOND FIBRE CORP., Newark 100, Delaware 2-3-4. ADV. PG. 345-348.
- Cook Ceramic Mfg. Co., 501 Prospect St., Trenton 1, N. J. 4.
- Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill. 2.
- Crane Packing Co., 6402 Oakton St., Morton Grove, Ill. 1-2-4.
- CRYSTAL-X CORP., 403 Lenni Rd., Lenni Mills 2, Pa. 1-2-3-4. ADV. PG. 557.
- Decatur Electronics Industries Corp., 203 Orinco Drive, Brightwater, N. Y. 4.
- Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill. 1.
- DIMCO-GRAY CO., 207 E. Sixth St., Dayton, Ohio. 4. ADV. PG. 638.
- Dixon Corporation, Bristol, R. I. 1-2-4.
- EPM Corp., 570 Van Siclen Ave., Brooklyn, N. Y. 2-4.
- Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif. 4.
- ELECTRICAL INSULATION CO., INC., 1245 Marconi Blvd., Copague, N. Y. 2-3. ADV. PG. 699.
- ELECTRONIC PLASTICS CORP., 675 Barbey St., Brooklyn 7, N. Y. 2-4. ADV. PG. 663.
- Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y. 1.
- Emerson & Cuming, Inc., 869 Washington St., Canton, Mass. 2-3-4.
- Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y. 1-2-3-4.
- Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J. 1-2-3-4.
- ERIE RESISTOR CORP., Erie 6, Pa. 4. ADV. PG. 170, 171.
- Ethylene Chemical Corp., 245 Broad St., Summit, N. J. 1-4.
- Farley & Loetscher Mfg. Co., Plastics Div., Dubuque, Iowa. 3.
- Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill. 2-4.
- Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa. 2.
- Flexrock Co., 3608 Filbert St., Philadelphia 1, Pa. 1-2-3-4.
- Ford Radio & Mica Corp., 538 63rd St., Brooklyn 20, N. Y. 2.
- Formica Co., The, 4587 Spring Grove Ave., Cincinnati 32, Ohio. 2-3-4.
- Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington Del. 2-3.
- Garde Mfg. Co., 588 Eddy St., Providence 3, R. I. 2-3-4.
- Garlock Packing Co., The, Palmyra, N. Y. 1-2-3-4.
- GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. 2-3-4. ADV. PG. 696.
- General Electric Co., Plastics Dept., 132 S. Water St., Decatur, Ill. 4.
- Glastic Corp., The, 4321 Glenridge Rd., Cleveland 21, Ohio. 1-2-3-4.
- Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif. 2.
- GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. 4. ADV. PG. 573.
- Haveg Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del. 2-3-4.
- Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y. 2-4.
- Illumitronic Engineering, 680 E. Taylor, Sunnyvale, Calif. 2-3.
- Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y. 2.
- INDUSTRIAL HARDWARE MFG. CO., INC., 109 Prince St., New York, N. Y. ADV. PG. 693.
- Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 9, Ill. 2.
- Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J. 2.
- Irvington Varnish & Insulator Div., of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J. 1.
- Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y. 1-2-3-4.
- Johnson Co., E. F., Waseca, Minn.
- KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. 2. ADV. PG. 675.
- KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mt. Vernon, N. Y. 3-4. ADV. PG. 685.
- Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass. 1-2-3.
- LAMTEX INDUSTRIES, INC., 51 State St., Westbury, N. Y. 2-3. ADV. PG. 596.
- LERCO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664.
- Luzerne Rubber Co., Murhead Ave., Trenton, N. J. 1-2-4.
- MAIGNE CO. O. J., 321 Pearl St., New York 38, N. Y. 2-4. ADV. PG. 679.
- Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill. 2-3-4.
- MARKEL & SONS, L. FRANK, School House, Norristown, Pa. 1. ADV. PG. 204.
- Maryland Lava Co., Ceramic Dept. Bel Air, Md. 2.
- Metaplast Corp., Davisville Rd., at Pa. Turnpike, Hatboro, Pa. 3.
- METHODE MFG. CORP., 2021 W. Churchill St., Chicago 47, Ill. 2-3-4. ADV. PG. 204.
- Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J. 1-2-3-4.
- Mica Insulator Co., Schenectady 1, N. Y. 1-2-3-4.
- Micarta Fabricators, Inc., 54 N. Clark St., Chicago 40, Ill. 2-3.
- Millen Mfg. Co., James, 150 Exchange St., Malden, Mass. 4.
- Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y. 1-2-3-4.
- Molded Fiberglass Co., 4401 Benefit Ave., Ashtabula, Ohio. 4.
- Molded Fiberglass Sheet Co., Ashtabula, Ohio. 4.
- Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa. 2-3-4.
- Molded Products Div., of Admiral Corp., P. O. Box 338, West Chicago, Ill. 4.
- Molding Corp. of America, 40 Church St., Pawtucket, R. I. 4.
- Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y. 2-3-4.
- Mykroy, Inc., Wheeling, Ill. 2-4.
- NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonker, N. Y. 3. ADV. PG. 642.
- National Vulcanized Fibre Co., Wilmington, Del. 2-3.
- NATVAR CORP., Woodbridge, N. J. 1-2. ADV. PG. 568.
- NEW ENGLAND LAMINATES CO., P. O. Box 43, 481 Canal St., Stamford, Conn. 3. ADV. PG. 648.
- New England Tape Co., Hudson, Mass. 1-2.
- NORRICH PLASTICS CORP., 35 E. 32nd St., New York, N. Y. 2. ADV. PG. 244.
- Northern Plastics Corp., Second & Market Sts., La Crosse, Wis. 2-3.
- Nugent Electronics Co., New Albany, Ind. 2.
- Olympic Plastics Co., Inc., 3471 S. La Cienega Blvd., Los Angeles 16, Calif. 3-4.
- Osborne Electric Co., 712 S.E. Hawthorne, Portland 14, Ore. 4.
- Panelty Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y. 2-3-4.
- Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill. 2-3.
- Peerless Products Industries, 812 N. Pulaski St., Chicago 51, Ill. 2.
- Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa. 2-3.
- Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill. 2-3-4.
- Pfeger Products, 3901 W. 54th St., Los Angeles 43, Calif. 2.
- Plastronics, P. O. Box 96, Winter Hill 45, Mass. 4.
- POLYMER CORPORATION, THE, Reading, Pa. 1-2. ADV. PG. 502.
- Printloid, Inc., 93 Mercer St., New York 12, N. Y. 2.
- REF Mfg. Corp., Jericho Turnpike, Mineola, N. Y. 2-3-4.
- Ray-O-Vac Co., 212 E. Washington Ave., Madison, Wis.
- Remler Company, 2101 Bryant St., San Francisco 10, Calif. 2-4.
- Resin Industries, P. O. Box 1589, Santa Barbara, Calif. 1.
- RESISTOFLEX CORP., Roseland, N. J. 1-2-4. ADV. PG. 694.
- REX CORP., THE, Hayward Rd., West Acton, Mass. 1-2. ADV. PG. 551.
- RICHARDSON CO., THE, 2767 Lake St., Melrose Park, Ill. 2-3-4. ADV. PG. 530.
- ROGAN BROS., 8031 N. Monticello Ave., Skokie, Ill. 4. ADV. PG. 222.
- Rogers Corp., Goodyear, Conn. 4.
- Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill. 4.
- ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. 1-2-3-4. ADV. PG. 643.
- SEAELECTRO CORP., 610 Fayette Ave., Mamaroneck, N. Y. 2. ADV. PG. 484.
- Shaw Insulator Co., 160 Coit St., Irvington 11, N. J. 4.
- Sheffco Mfg. Corp., Grand & Ruby Aves., Palisades Park, N. J. 2-3.
- Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif. 2-4.
- Silicone Insulation Co., 1385 Seabury Ave., Bronx 61, N. Y. 2-3-4.
- Sillcocks-Miller Co., Maplewood, N. J. 2-3.
- Sinclair Mfg. Co., Chartley, Mass. 2.
- Sparta Mfg. Co., Div. of U. S. Ceramic Tile Co., Dover, Ohio. 1-2-4.
- Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y. 2-3.
- Standard Plastics Co., Inc., 62 Water St., Attleboro, Mass. 4.
- Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y. 2-3.
- Stevens Products Inc., 86-88 Main St., East Orange, N. J. 2-3.
- Stone Paper Tube Co., Inc., 900 Franklin St., N.E., Washington 17, D. C. 3.
- Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif. 2-3-4.
- SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. 4. ADV. PG. 733-739.
- Synthane Corp., Oaks, Pa. 2-3.
- Taylor Fibre Co., Norristown, Pa. 2-3.
- THOR CERAMICS, INC., 225 Belleville Ave., Bloomfield, N. J. 2. ADV. PG. 603.
- Transradio Ltd., 138A Cromwell Rd., London, S.W. 7, England. 1-4.
- Tri-Dex Co., P. O. Box 1207, Lindsay, Calif. 2.
- Tri-Point Plastics, Inc., 177 I.U. Willets Rd., Albertson, N. Y. 1.
- U. S. GASKET CO., Camden, N. J. 1-2-3-4. ADV. PG. 418, 635.
- Varflex Corp., 506 W. Court St., Rome, N. Y. 1.
- Viking Industries, Inc., 21343 Roscoe Blvd., Canoga Park, Calif. 4.
- Wade Electric Products Co., 400 Jacob St., Sturgis, Mich. 4.
- Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y. 1-2-4.
- Warren Plastics Corp., Warren, Pa. 2-4.
- Waterbury Companies, Inc., Waterbury 20, Conn.
- WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. 1-2-3-4. ADV. PG. 205-216.
- WESTLAKE PLASTICS CO., 133 W. Lenni Rd., Lenni, Pa. 1-2-3-4. ADV. PG. 557.
- Whitaker Cable Corp., Kansas City 16, Mo. 1-2-4.
- Wilmington Fibre Specialty Co., New Castle, Del. 3.

## Rods

- Ace Plastic Co., 91-54 Van Wyck Expressway, Jamaica 35, N. Y.
- ALLIED PLASTICS SUPPLY CORP., 75 Cliff St., New York 38, N. Y. ADV. PG. 247.
- AMERICAN FELDMUEHLE CORP., 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.
- AMERICAN LAVA CORP., Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.
- American Mica Insulation Co., Manassas, N. J.
- ANCHOR INDUSTRIAL CO., DIV. OF ANCHOR PLASTICS CO., INC., 36-36 36th St., Long Island City 6, N. Y. ADV. PG. 613.
- Auburn Button Works, Inc., Auburn, N. Y.
- Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.
- Baer Co., N. S., 9 Montgomery St., Hillside, N. J.
- Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.
- Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
- BORDEN CO., RESINITE DEPT., Box 1589, Santa Barbara, Calif. ADV. PG. 604.
- Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.
- Crane Packing Co., 6402 Oakton St., Morton Grove, Ill.
- CRYSTAL-X CORP., 403 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.
- Dixon Corporation, Bristol, R. I.
- Du-Co Ceramics Co., Box 587, Butler 8, Pa.
- ELECTRICAL INSULATION CO., INC., 1245 Marconi Blvd., Copague, N. Y. ADV. PG. 699.
- ELECTRONIC PLASTICS CORP., 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.
- Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
- Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.
- Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.
- Ethylene Chemical Corp., 245 Broad St., Summit, N. J.
- Flexrock Co., 3608 Filbert St., Philadelphia 1, Pa.
- Franklin Fibre-Lamitex Corp., 411 E. Frost St., Wilmington, Del.
- GENERAL CERAMICS CORP., Keasbey, N. J. ADV. PG. 28.
- GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.
- General Electric Co., Laminated Products Dept., Coshocton, Ohio.
- HAMILTON ELECTRONICS CORP., Box 100, Bath, N. Y. ADV. PG. 507.
- Haveg Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.

Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y.  
 Illumitronic Engineering, 680 E. Taylor, Sunnyvale, Calif.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., Le Roy, N. Y. ADV. PG. 276, 277.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Mykroy, Inc., Wheeling, Ill.  
 National Vulcanized Fibre Co., Wilmington, Del.  
 Panelyte Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Printoid, Inc., 93 Mercer St., New York 12, N. Y.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
 Resin Industries, P. O. Box 1589, Santa Barbara, Calif.  
**RESISTOFLEX CORP.**, Roseland, N. J. ADV. PG. 694.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**RICHARDSON CO., THE**, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Shamban & Co., W. S., 11617 W. Jefferson Blvd., Culver City, Calif.  
 Sheffco Mfg. Corp., Grand & Ruby Aves., Palisades Park, N. J.  
 Silicone Insulation Co., 1385 Seabury Ave., Bronx 61, N. Y.  
 Sparta Mfg. Co., Div. of U. S. Ceramic Tile Co., Dover, Ohio.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
**SYNCOR PRODUCTS CO.**, 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
 Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park, Calif.  
 Trent Tube Co., East Troy, N. Y.  
 Tri-Point Plastics, Inc., 177 I. U. Willets Rd., Albertson, N. Y.  
 Walter Dee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.  
 Wilmington Fibre Specialty Co., New Castle, Del.

**Sheets**

Ace Plastic Co., 91-54 Van Wyck Expressway, Jamaica 35, N. Y.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 American Mica Insulation Co., Manasquan, N. J.  
 Auburn Button Works, Inc., Auburn, N. Y.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Baer Co., N. S., 9 Montgomery St., Hillside, N. J.  
**BENTLEY-HARRIS MFG. CO.**, Conshohocken 13, Pa. ADV. PG. 523.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
**BORDEN CO., RESINITE DEPT.**, Box 1589, Santa Barbara, Calif. ADV. PG. 604.  
 Continental Can Co., 100 E. 42nd St., New York 17, N. Y.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
 Crane Packing Co., 6402 Oakton St., Morton Grove, Ill.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
 Dixon Corporation, Bristol, R. I.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd, Copiague, N. Y. ADV. PG. 699.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Ethylene Chemical Corp., 245 Broad St., Summit, N. J.  
 Farley & Loetscher Mfg. Co., Plastics Div., Dubuque, Iowa.  
 Flexrock Co., 3608 Filbert St., Philadelphia 1, Pa.  
 Franklin Fibre-Lamitex Corp., 411 E. Frost St., Wilmington, Del.  
**GENERAL COMPONENTS INC.**, 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
 General Electric Co., Laminated Products Dept., Coshoc-ton, Ohio.

Glastic Corp., The, 4321 Glenridge Rd., Cleveland 21, Ohio.  
 Haveg Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.  
 Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y.  
 Illumitronic Engineering, 680 E. Taylor, Sunnyvale, Calif.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**MAIGNE CO., O. J.**, 321 Pearl St., New York 38, N. Y. ADV. PG. 679.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Mitchell Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Molded Fiberglass Sheet Co., Ashtabula, Ohio.  
 Mykroy, Inc., Wheeling, Ill.  
 National Vulcanized Fibre Co., Wilmington, Del.  
**NEW ENGLAND LAMINATES CO., INC.**, P. O. Box 43, 481 Canal St., Stamford, Conn. ADV. PG. 648.  
 Northern Plastics Corp., Second & Market Sts., LaCrosse, Wis.  
 Panelyte Div., St. Regis Paper Corp., 261 Madison Ave., New York 16, N. Y.  
 Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Printoid, Inc., 93 Mercer St., New York 12, N. Y.  
 Resin Industries, P. O. Box 1589, Santa Barbara, Calif.  
**RESISTOFLEX CORP.**, Roseland, N. J. ADV. PG. 694.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**RICHARDSON CO., THE**, 2767, Lake St., Melrose Park, Ill. ADV. PG. 530.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Shamban & Co., W. S., 11617 W. Jefferson Blvd., Culver City, Calif.  
 Sheffco Mfg. Co., Grand & Ruby Aves., Palisades Park, N. J.  
 Silicone Insulation Co., 1385 Seabury Ave., Bronx 61, N. Y.  
 Sparta Mfg. Co., Div. of U. S. Ceramic Tile Co., Dover, Ohio.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif.  
**SYNCOR PRODUCTS CO.**, 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
 Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park, Calif.  
 Trent Tube Co., East Troy, N. Y.  
 Tri-Point Plastics, Inc., 177 I.U. Willets Rd., Albertson, N. Y.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.  
 West Virginia Pulp & Paper Co., 230 Park Ave., New York 17, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.  
 Wilmington Fibre Specialty Co., New Castle, Del.

**Silicone Rubber Insulation Parts**

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 American Mica Insulation Co., Manasquan, N. J.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
**BACON INDUSTRIES, INC.**, 192 Pleasant St., Watertown, Mass. ADV. PG. 619.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
**CONNECTICUT HARD RUBBER CO.**, 407 East St., New Haven 9, Conn. ADV. PG. 646.  
 Decatur Electronics Industries Corp., 203 Ornicco Drive, Brightwater, N. Y.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Garlock Packing Co., The, Palmyra, N. Y.  
**GENERAL COMPONENTS INC.**, 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
 General Electric Co., Plastics Dept., 132 S. Water St., Decatur, Ill.  
 Goodrich Industrial Products Co., B. F., 500 S. Main St., Akron 18, Ohio.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 Rogers Corp., Goodyear, Conn.  
 Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago 18, Ill.

Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Varflex Corp., 506 W. Court St., Rome, N. Y.  
 Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

**Stampings & Punchings—Ceramic**

Actioncraft Products, 8 Sagamore Hill Drive, Port Washington, N. Y.  
 Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N. W., Canton, Ohio.  
 Du-Co Ceramic Co., Box 587, Butler 8, Pa.  
 Electrical Refractories Co., 50 Clark St., East Palestine, Ohio.  
**GENERAL CERAMICS CORP.**, Keasby, N. J. ADV. PG. 28.  
 Guastavino Co., R., 660 Main St., Woburn, Mass.  
 Kirchner & Co., Inc., M., 250 Humphrey St., Englewood, N. J.  
 Louthan Mfg. Co., East Liverpool, Ohio.  
**MANSOL CERAMICS CO.**, 140 Little St., Belleville, N. J. ADV. PG. 697.  
 Mica Fabricating Co., 53 Central Ave., New Rochelle Park, N. J.  
 Peerless Products Industries, 812 N. Pulaski St., Chicago 51, Ill.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
**SUPERIOR STEATITE & CERAMIC CORP.**, 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.

**Stampings & Punchings—Mica**

American Mica Insulation Co., Manasquan, N. J.  
 Asheville-Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
 Ford Radio & Mica Corp., 538 63rd St., Brooklyn 20, N. Y.  
 Industrial Mica Corp., 223 S. Van Brunt St., Englewood, N. J.  
 Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Micacraft Products, Inc., 703 McCarter Highway, Newark 5, N. J.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Pfleger Products, 3901 W. 54th St., Los Angeles 43, Calif.  
 Polymica & Insulation Co., 683 Main St., Willimantic, Conn.  
**RELIANCE MICA CO., INC.**, 341 39th St., Brooklyn 32, N. Y. ADV. PG. 695.  
 Spruce Pine Mica Co., Spruce Pine, N. C.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
 Wrought Washer Mfg. Co., 2264 S. Bay St., Milwaukee 7, Wis.

**Stampings & Punchings—Paper**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 American Mica Insulation Co., Manasquan, N. J.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Baer Co., N. S., 9 Montgomery St., Hillside, N. J.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
**GENERAL COMPONENTS INC.**, 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
 Graphik-Circuits Div. of Clinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.  
 Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
**KEYSTONE ELECTRONICS CORP.**, 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
 Panelyte Div., St. Regis Paper Corp., 261 Madison Ave., New York 16, N. Y.  
 Peerless Products Industries, 812 N. Pulaski St., Chicago 51, Ill.

Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Taylor Fibre Co., Norristown, Pa.  
 Wrought Washer Mfg. Co., 2264 S. Bay St., Milwaukee 7, Wis.

**Stampings & Punchings—Plastic or Laminates**  
 See **INSULATION PARTS**  
**Plastic Insulation Parts—Fabricated**

**INSULATORS—Antenna Insulators & Spring Assemblies**

**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Ceramaseal Inc., Box 25, New Lebanon Center, N. Y.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., LeRoy, N. Y. ADV. PG. 276, 277.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
 Premax Products Div., Chisholm-Ryder Co., Inc., Highland & College Aves., Niagara Falls 2, N. Y.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 Wind Turbine Co., E. Market St. & Penna R. R., West Chester, Pa.

**INSULATORS—Can Liner**

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
 Pelyte Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y.  
 Rogers Corp., Goodyear, Conn.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 West Virginia Pulp & Paper Co., 230 Park Ave., New York 17, N. Y.

**INSULATORS—Ceramic**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**AMERICAN FELDMUEHLE CORP.**, 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 BG Corp., The, 321 Broad Ave., Ridgefield, N. J.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
**CENTRALAB DIV., GLOBE-UNION, INC.**, 914 Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
 Ceramaseal, Inc., Box 25, New Lebanon Center, N. Y.  
 Cook Ceramic Mfg. Co., 501 Prospect St., Trenton 1, N. J.  
 Coors Porcelain Co., 600 Ninth St., Golden, Colo.  
 Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N. W., Canton, Ohio.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 Electrical Refractories Co., 50 Clark St., East Palestine, Ohio.  
**ELECTRONIC MECHANICS, INC.**, 101 Clifton Blvd., Clifton, N. J. ADV. PG. 508.  
 Frenchtown Porcelain Co., Trenton 9, N. J.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
 Guastavino Co., R., 660 Main St., Woburn, Mass.  
 Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Johnson Co., E. F., Waseca, Minn.  
 Kirchberger & Co., Inc., M., 250 Humphrey St., Englewood, N. J.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., LeRoy, N. Y. ADV. PG. 276, 277.  
 Louthan Mfg. Co., East Liverpool, Ohio.  
**MANSOL CERAMICS CO.**, 140 Little St., Belleville, N. J. ADV. PG. 697.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Mykroy, Inc., Wheeling, Ill.  
 National Ceramic Co., 400 Southard St., Trenton 2, N. J.  
 Norton Co., 1 New Bond St., Worcester 6, Mass.

Porcelain Products, Inc., Findlay, Ohio.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
 Star Porcelain Co., 61 Muirhead Ave., Trenton 9, N. J.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**STUPAKOFF DIV. OF THE CARBORUNDUM CO.**, Latrobe, Pa. ADV. PG. 108, 109.  
**SUPERIOR STEATITE & CERAMIC CORP.**, 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
**SYNCOR PRODUCTS CO.**, 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
 U. S. Stoneware Co., Akron 9, Ohio.  
 Wind Turbine Co., E. Market St. & Penna R. R., West Chester, Pa.

**INSULATORS—Feeder Spreader**

**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
 Isolantite Mfg. Co., Stirling, N. J.  
 Johnson Co., E. F., Waseca, Minn.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., LeRoy, N. Y. ADV. PG. 276, 277.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
 Wind Turbine Co., E. Market St. & Penna R. R., West Chester, Pa.

**INSULATORS—Fused Quartz**

Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
**SYNCOR PRODUCTS CO.**, 30 Eastern Ave., Malden, Mass. ADV. PG. 589.

**INSULATORS—High Dielectric Paper**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 Actioncraft Products, 8 Sagamore Hill Drive, Port Washington, N. Y.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
 Brand Dielectrics, Inc., 57 North St., Williamantic, Conn.  
**CLEVELAND CONTAINER CO., THE**, 6201 Barberton Ave., Cleveland 2, Ohio. ADV. PG. 160.  
 Cook Ceramic Mfg. Co., 501 Prospect St., Trenton 1, N. J.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Glastic Corp., The, 4321 Glenridge Rd., Cleveland 21, Ohio.  
 Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
 Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**LAMTEX INDUSTRIES, INC.**, 51 State St., Westbury, N. Y. ADV. PG. 596.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
 Stone Paper Tube Co., Inc., 900 Franklin St., N. E., Washington 17, D. C.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Taylor Fibre Co., Norristown, Pa.  
 Varflex Corp., 506 W. Court St., Rome, N. Y.

**INSULATORS—Strain**

**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 Decatur Electronics Industries Corp., 203 Ornicco Drive, Brightwater, N. Y.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Johnson Co., E. F., Waseca, Minn.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., LeRoy, N. Y. ADV. PG. 276, 277.  
 Mykroy, Inc., Wheeling, Ill.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Porcelain Products, Inc., Findlay, Ohio.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.

**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
 Wind Turbine Co., E. Market St. & Penna, R. R., West Chester, Pa.

**INSULATORS—Test Clip**

**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Eastern Specialty Co., Philadelphia 40, Pa.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Exacto Industries, Inc., 8730-36 Santa Monica Blvd., Los Angeles 46, Calif.  
 Mueller Electric Co., 1582H E. 31st St., Cleveland 14, Ohio.

**INSULATORS—Thermocouple**

**AMERICAN FELDMUEHLE CORP.**, 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Ceramaseal, Inc., Box 25, New Lebanon Center, N. Y.  
 Du-Co, The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Norton Co., 1 New Bond St., Worcester 6, Mass.  
 Richards Co., Inc., Arklay S., 38 Winchester St., Newton Highlands 61, Mass.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**STUPAKOFF, DIV. OF THE CARBORUNDUM CO.**, Latrobe, Pa. ADV. PG. 108, 109.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.

**INSULATORS—Tower**

**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
**CENTRALAB DIV., GLOBE-UNION, INC.**, 914 Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
 Isolantite Mfg. Corp., Stirling, N. J.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., LeRoy, N. Y. ADV. PG. 276, 277.  
 Wind Turbine Co., E. Market St. & Penna. R. R., West Chester, Pa.

**INSULATORS—Transmitting Antenna**

**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**CENTRALAB DIV., GLOBE-UNION, INC.**, 914 E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
 Ceramaseal, Inc., Box 25, New Lebanon Center, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Johnson Co., E. F., Waseca, Minn.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., LeRoy, N. Y. ADV. PG. 276, 277.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
**UNIWAY, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Wind Turbine Co., E. Market St. & Penna R. R., West Chester, Pa.

**INSULATORS—TV Yoke**

**AMERICAN MOLDED PRODUCTS CO.**, 2727 W. Chicago Ave., Chicago 22, Ill. ADV. PG. 580.  
 Plasti-Chem Corp., 5725 S. Dixie Highway, Miami 43, Fla.

**INTEGRATORS—Electronic**

Allegany Instrument Co. Inc., 1091 Wills Mountain, Cumberland, Md.  
**ANDERSEN LABORATORIES, INC.**, 39 Talcott Rd., West Hartford 10, Conn. ADV. PG. 486.  
 Antiab, 4950 N. High St., Columbus 14, Ohio.  
**ANTON ELECTRONIC LABS, INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
**DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT**, 560, Providence Highway, Norwood, Mass. ADV. PG. 515.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 Hellpot Corp., Newport Beach, Calif.  
 Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.

**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**Inco Co.**, Div. of Barry Controls, Inc., Hollis St., Groton, Mass.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Otis Elevator Co., Electronic Div., 33 Ryerson St., Brooklyn 5, N. Y.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
 Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.  
 Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
 Servo-Tek Products Co., Inc., 1086 Goffie Rd., Hawthorne, N. J.  
 Unithronics, Inc., 472 Paul Ave., Ferguson Station, St. Louis 21, Mo.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.

## INTERCOMMUNICATION SYSTEMS

Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
 Bliss Electronic Corp., Box 366, Sussex, N. J.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Dalmatton Co., 534 Laurel St., San Carlos, Calif.  
 Dukane Corp., St. Charles, Ill.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Executone Inc., 415 Lexington Ave., New York 17, N. Y.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Feiler Engineering & Mfg Co., 8026 N. Monticello Ave., Skokie, Ill.  
 Flush Wall Radio Co., 1012 Cleveland St., Clearwater, Fla.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
 Godfrey Manufacturing Co., 1726 N. Orchard St., Chicago 14, Ill.  
 Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
 Lake Mfg. Co., 2323 Chestnut St., Oakland 7, Calif.  
 Loge Sound Engineers, J. M., 2171 W. Washington Blvd., Los Angeles 18, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 National Inter-Communication Systems, Inc., 1130 N. Milwaukee Ave., Chicago 22, Ill.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41, Ill.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Radio Merchandise Sales, Inc., 2016 Bronxdale Ave., New York 62, N. Y.  
 Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Republic Electronic Industries Corp., 31 W. 27th St., New York 1, N. Y.  
 Signal Equipment Co., Inc., 2706 Third Ave., Seattle 1, Wash.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Talk-A-Phone Mfg. Co., 1512 S. Pulaski Rd., Chicago 23, Ill.  
 TelAutograph Corp., 8700 Bellanca Ave., Los Angeles 45, Calif.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Telectro Industries Corp., 35-16 37th St., Long Island City, 1 N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas, Texas. ADV. PG. 280, 281.  
 Webster Electric Co., 1900 Clark St., Racine, Wis.  
 Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City 6, Mo.  
 Worner Electronic Devices, Rankin, Ill.

## INTERCOMMUNICATIONS SYSTEMS—Sound Powered

**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
 Dilks Co., The, Seymour, Conn.  
 Standard Telephones & Cables, Lt., Connaught House, 63 Aldwych, London, W. C. 2, England.

Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

## INTERVALOMETERS

See **TIMERS—Automatic Cycle**

## INVENTORYING SYSTEMS

**BRIGGS ASSOCIATES, INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
 International Business Machines, 590 Madison Ave., New York 22, N. Y.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.

## INVERTERS—(DC-AC)

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Aerolab Development Co., 330 W. Holly St., Pasadena, Calif.  
 Airborne, Inc., 4868 N. Clark, Chicago 40, Ill.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
**AMERICAN TELEVISION & RADIO CO.**, 300 E. Fourth St., St. Paul 1, Minn. ADV. PG. 222.  
 Arnoux Corp., Box 34628, Los Angeles, Calif.  
**BALLANTINE LABORATORIES, INC.**, Boonton, N. J. ADV. PG. 159.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bruel & Kjaer, Naerum, Denmark.  
 Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.  
 Carter Motor Co., 2746 W. George St., Chicago 18, Ill.

**CONTINENTAL ELECTRIC CO., INC.**, 334 Ferry St., Newark 5, N. J. ADV. PG. 557.

**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.

Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.

**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.

**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.

Eicor, Inc., 4235 W. North Ave., Chicago 39, Ill.  
 Electro Engineering Products Co., 609 W. Lake St., Chicago, Ill.

**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.

Electronic Research Associates, Inc., 67 E. Centre St., Nutley 10, N. J.

**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.

Gyro Electronics Co., 325 Canal St., New York, N. Y.  
**INDUCTION MOTORS CORP.**, 570 Main St., Westbury, N. Y. ADV. PG. 266.

**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.

**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.

International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.

**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

Jack & Heintz, Inc., Cleveland 1, Ohio.  
**JAMES VIBRAPOWR CO.**, 4050 N. Rockwell St., Chicago 18, Ill. ADV. PG. 542.

Lawn Electronics Co., East Freehold Rd., Freehold, N. J.  
 Lesa, Via Bergamo 21, Milan, Italy.

**MAGNETIC RESEARCH CORP.**, 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.

**MERCURY ELECTRONICS CO.**, Box 450, Red Bank, N. J. ADV. PG. 61.

Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.

Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.

Motordyne Inc., 2661 S. Myrtle Ave., Monrovia, Calif.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.

**PERKIN ENGINEERING CORP.**, 345 Kansas St., El Segundo, Calif. ADV. PG. 67.

**PRECISE MEASUREMENTS CO.**, R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.

Rangertone, Inc., 73 Winthrop St., Newark 4, N. J.

**RED BANK DIVISION, BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.

Redmond Co., Inc., Owosso, Mich.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.

Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
 Small Motors, Inc., 2076 Elston Ave., Chicago 14, Ill.

**SORENSEN & CO., INC.**, Richards Ave., Norwalk, Conn. ADV. PG. 151-154.  
 TKM Electric Corp., 1160 University Ave., Rochester 7, N. Y.

**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.

Terado Co., 1059 Raymond Ave., St. Paul 14, Minn.

**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

Transistor Devices, Inc., 730 Boulevard, Kenilworth, N. J.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSISTOR PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.

**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.

**VIBRATION RESEARCH LABS., INC.**, 97 Lake Ave., Tuckahoe, N. Y. ADV. PG. 621.

Wincharger Corp., E. 7th & Division Sts., Sioux City, Iowa.

## ION TRAPS

Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill.

Hepner Mfg. Co., P. O. Box 612, Round Lake, Ill.  
 Perfection Electric Co., 2635 S. Wabash Ave., Chicago 16, Ill.

Quam-Nichols Co., Marquette Rd. & Prairie Ave., Chicago 37, Ill.

**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.

## IRON OXIDES for Ferrites

**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV. OF ALLIED CHEMICAL & DYE CORP.**, 40 Rector St., New York, N. Y. ADV. PG. 363.

**COLUMBIAN CARBON CO., MAPICO COLOR UNIT**, 380 Madison Ave., New York 17, N. Y. ADV. PG. 667.

Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.

**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.

Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.

**WILLIAMS & CO., C. K.**, 640 N. 13th St., Easton, Pa. ADV. PG. 318.

## IRONS—Soldering

American Electrical Heater Co., 6110 Cass Ave., Detroit 2, Mich.

Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.

Drake Electric Works, 3656 Lincoln Ave., Chicago 13, Ill.

Electric Soldering Iron Co., W. Elm St., Deep River, Conn.

**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.

Hexacon Electric Company, 130 W. Clay Ave., Roselle Park, N. J.

Kelnor Mfg. Co., Inc., 1335 Market St., San Francisco 3, Calif.

Kwikheat Mfg. Co., 3732 San Fernando Road, Glendale 4, Calif.

Lenk Mfg. Co., 30 Cummington St., Boston 15, Mass.

**LINDE AIR PRODUCTS CO., A DIV. OF UNION CARBIDE & CARBON CORP.**, 30 E. 42nd St., New York 17, N. Y. ADV. PG. 636.

Mitchell Industries, Inc., P. O. Box 17, Mineral Wells, Texas.

Oryx Co., 9015 Wilshire Blvd., Beverly Hills, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London W.C. 2, England.

Ungar Electric Tools, Inc., 4101 Redwood Ave., Los Angeles 66, Calif.

Vulcan Electric Co., Danvers, Mass.  
 Wall Mfg. Co., Grove City, Pa.

## JACK PANEL ASSEMBLIES

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.

Aerolite Electronics Corp., 507 26th St., Union City, N. J.

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.

Aicon Meal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.

Audio Development Co., 2833 13th Ave., S. Minneapolis 7, Minn.

Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.

Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.

**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.

Collins Radio Co., Cedar Rapids, Iowa.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.

Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.

**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.

**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.

General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.

General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

Holland Electronics, 40 Great Jones St., New York 12, N. Y.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
**KEYSTONE ELECTRONICS CORP.**, 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tucka-hoe, N. Y. ADV. PG. 448.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
 Nems-Clarke, Inc., Silver Springs, Md.  
 North Electric Co., 553 S. Market St., Gallon, Ohio.  
 Nugent Electronics Co., New Albany, Ind.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
**POMONA ELECTRONICS CO., INC.**, 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
**SWITCHCRAFT, INC.**, 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Trimm, Inc., 400 W. Lake St., Libertyville, Ill.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Waltham Horological Corp., 395 Lynnway, Lynn, Mass.

## JACKS

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
 Audio Development Co., 2833 13th Ave., S. Minneapolis 7, Minn.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
**CANNON ELECTRIC CO.**, 3208 Humboldt St., Los Angeles 13, Calif. ADV. PG. 44.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
**CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
**CIRCON COMPONENT CO.**, Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GRAYHILL, INC.**, 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
**HARVEY HUBBELL, INC.**, State St. & Bostwick Ave., Bridgeport 2, Conn. ADV. PG. 409.  
 Industrial Products Co., Div. of Danbury-Knudsen, Inc., Danbury, Conn.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
**INTERSTATE ELECTRONICS, INC.**, 227 Fulton St., New York 7, N. Y. ADV. PG. 462.  
 Javex, P. O. Box 646, Redlands, Calif.  
 Johnson Co., E. F., Waseca, Minn.  
**JONES DIV., HOWARD B., CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 376.  
**KEYSTONE ELECTRONICS CORP.**, 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tucka-hoe, N. Y. ADV. PG. 448.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Lee Electronic Labs, Inc., 88 Evans St., Watertown, Mass.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
 Nems-Clarke, Inc., Silver Springs, Md.  
 North Electric Co., 553 S. Market St., Gallon, Ohio.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 Richards Electrocraft, Inc., 3743 N. Kedzie Ave., Chicago 18, Ill.  
 Robco Mfg. Co., 225 W. Main St., Patchogue, N. Y.

Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
**SEALLECTO CORP.**, 610 Fayette Ave., Mamaroneck, N. Y. ADV. PG. 484.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Standard Telephones & Cables, Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 Stromberg-Carlton Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
**SWITCHCRAFT, INC.**, 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Trimm, Inc., 400 W. Lake St., Libertyville, Ill.  
 Tri-Point Plastics, Inc., 177 I.U. Willets Rd., Albertson, N. Y.  
**UCINITE CO., DIV. OF UNITED-CARR FASTENER CORP.**, 459 Watertown St., Newtonville, Mass. ADV. PG. 65.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Waltham Horological Corp., 395 Lynnway, Lynn, Mass.  
**WHITSO, INC.**, 9328 Byron St., Schiller Park, Ill. ADV. PG. 637.

## JEWELS—Glass

**BIRD CO., RICHARD H.**, 1 Spruce St., Waltham, Mass. ADV. PG. 424.  
 Drake Mfg. Co., 1713 W. Hubbard St., Chicago 22, Ill.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenecady 5, N. Y. ADV. PG. 1-12.  
 Johnson Co., E. F., Waseca, Minn.  
**MANSOL CERAMICS CO.**, 140 Little St., Belleville, N. J. ADV. PG. 697.  
 Moser Jewel Co., Perth Amboy, N. J.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

## JOINTS—Rotary, Microwave

See **MICROWAVE ACCESSORIES**

## JUMPERS—Bonding

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif.

## KEYERS & COUPLERS

**BOEHME, INC., H. O.**, 915 Broadway, New York 10, N. Y. ADV. PG. 556.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
 General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
**NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

## KEYERS—Frequency Shift

Collins Radio Co., Cedar Rapids, Iowa.  
**NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
 Technical Materiel Corp., The P. O. Box 142, Mamaroneck, N. Y.

## KEYS & CODING EQUIPMENT

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**BOEHME, INC., H. O.**, 915 Broadway, New York 10, N. Y. ADV. PG. 556.  
 Electro-Medical Lab., Inc., South Woodstock 8, Vt.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
 Philmore Mfg. Co., Inc., 113 University Place, New York 3, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Vibroplex Co., Inc., 833 Broadway, New York, N. Y.  
 Warren Mfg. Co., Inc., The Newton Rd., Littleton, Mass.

## KILOVOLTMETERS

**BETA ELECTRIC DIV. OF SORENSON CO., INC.**, 333 E. 103rd St., New York 23, N. Y. ADV. PG. 155, 156.  
 Electric Design & Mfg. Corp., Burlington, Iowa.

**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenecady 5, N. Y. ADV. PG. 1-12.  
**INDUSTRIAL DEVICES, INC.**, 982 River Rd., Edgewater, N. J. ADV. PG. 631.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
**OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
 Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
**PRECISE MEASUREMENTS CO., R. D. #1**, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Wacline, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## KLYSTRONS See TUBES

## KNOBBS

Accurate Electronics Corp., 167 Abbe Rd., S., Elyria, Ohio.  
**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
 Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 Chicago Die Mold Div. of U. S. Rubber Co., 4300 New Haven Ave., Fort Wayne 4, Ind.  
 Colman Tool & Machine Co., P. O. Box 7026, Amarillo, Texas.  
 Davies Molding Co., Harry, 1428 N. Wells St., Chicago 10, Ill.  
**DIMCO-GRAY CO.**, 207 E. Sixth St., Dayton, Ohio. ADV. PG. 638.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
**ERIE RESISTOR CORP.**, Erie 6, Pa. ADV. PG. 170, 171.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GENERAL COMPONENTS INC.**, 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**GRIES REPRODUCER CORP.**, 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
**INDUSTRIAL DEVICES, INC.**, 982 River Rd., Edgewater, N. J. ADV. PG. 631.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
 Kurz-Kasch, Inc., 1421 S. Broadway, Dayton 1, Ohio.  
 Litton Industries, Beverly Hills, Calif.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Missouri Research Labs., Inc., 2109 Locust St., St. Louis 3, Mo.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Mutron Corp., 125 Perkins Ave., Brockton, Mass.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York N. Y. ADV. PG. 244.  
 Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass.  
 Olympic Plastic Co., Inc., 3471 S. La Cienega Blvd., Los Angeles 16, Calif.  
 Pacific Transducer EBG Corp., 11836 W. Pico Blvd., Los Angeles 64, Calif.  
 Pfeiffer Products, 3901 W. 54th St., Los Angeles 43, Calif.  
 Plasteck Inc., Poteau, Okla.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.



ROGAN BROS., 8031 N. Monticello Ave., Skokie, Ill. ADV. PG. 222.  
 Rohden Manufacturing Co., Inc., 4739 Montrose Ave., Chicago 41, Ill.  
 Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
 ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 U. S. RADIUM CORP., Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
 Waterbury Companies, Inc., Waterbury 20, Conn.  
 WHITSO, INC., 9328 Byron St., Schiller Park, Ill. ADV. PG. 637.

**LABORATORIES—Testing**

American Electronic Labs., Inc., 641 Arch St., Philadelphia 6, Pa.  
 American Spectrographic Laboratories, 557 Minna St., San Francisco, Calif.  
 Armour Research Foundation, 35 W. 33rd St., Chicago, Ill.  
 ASSOCIATED TESTING LABORATORIES, INC., 407 Clinton Rd., Caldwell, N. J. ADV. PG. 627.  
 Cook Research Laboratories Div. of Cook Electric Co., 1457 Diversey Parkway, Chicago 14, Ill.  
 ELECTRICAL TESTING LABORATORIES, INC., 2 East End Ave., New York 21, N. Y. ADV. PG. 636.  
 General Testing Laboratories, Inc., 59 Washington Ave., Carlsbad, N. J.  
 Inland Testing Laboratories, 2745 N. Janssen Ave., Chicago 14, Ill.  
 International Testing Laboratories, Inc., 580 Market St., Newark 5, N. J.  
 New York Testing Laboratories, Inc., 47 West St., New York, N. Y.  
 Rototest Laboratories Inc., 2803 Los Flores Blvd., Lynwood, Calif.  
 Snell Inc., Foster D., 29 W. 15th St., New York, N. Y.  
 SONEX, INC., 72 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
 United Electrodynamics Div. of United Geophysical Corp., 1200 S. Marengo, Pasadena, Calif.  
 United States Testing Co., Inc., 1415 Park Ave., Hoboken, N. J.

**LABORATORIES, TESTING—Environmental**

American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
 ASSOCIATED TESTING LABORATORIES, INC., 407 Clinton Rd., Caldwell, N. J. ADV. PG. 627.  
 General Testing Laboratories, Inc., 59 Washington Ave., Carlsbad, N. J.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
 Hunter-Bristol Corp., Bristol, Pa.  
 Parameters, Inc., 195 Herricks Rd., New Hyde Park, N. Y.

**LACING CORDS**

See **CORDS—Lacing**

**LACQUER**

See **INSULATING COMPOUNDS**

**LAMINATES**

American Printed Circuits Co., Inc., Forrest St., Metuchen, N. J.  
 Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.  
 ELECTRICAL INSULATION CO., INC., 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Farley & Loetscher Mfg. Co., Plastics Div., Dubuque, Iowa.  
 General Electric Co., Laminated Products Dept., Coshoc-ton, Ohio.  
 Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago 16, Ill.  
 Taylor Fibre Co., Norristown, Pa.

**LAMINATES—Metal-Clad**

ALLIED PLASTICS SUPPLY CORP., 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Beck's, Inc., 298-300 E. Fifth St., Saint Paul 1, Minn.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
 Bomyte Co., The, Green St., Silverdale, Pa.  
 Formica Co., The, 4587 Spring Grove Ave., Cincinnati 32, Ohio.  
 General Electric Co., Laminated Products Dept., Coshoc-ton, Ohio.  
 Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.  
 INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.

LAMTEX INDUSTRIES, INC., 51 State St., Westbury, N. Y. ADV. PG. 596.  
 LEACH & GARNER CO., Attleboro, Mass. ADV. PG. 327.  
 METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 National Vulcanized Fibre Co., Wilmington, Del.  
 NEW ENGLAND LAMINATES CO., INC., P. O. Box 43, 481 Canal St., Stamford, Conn. ADV. PG. 648.  
 Northern Plastics Corp., Second & Market Sts., La Crosse, Wis.  
 Panelyte Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y.  
 REX CORP., THE, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 RICHARDSON CO., THE, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 White Aircraft Corp., Palmer, Mass.

**LAMINATIONS—Transformer**

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pitts-burgh 22, Pa.  
 Improved Seamless Wire Co., 775 Eddy St., Providence 5, R. I.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
 KOBZY TOOL CO., 1535 N. Dayton Ave., Chicago 22, Ill. ADV. PG. 581.  
 MAGNETIC METALS CO., Hayes Ave., at 21st St., Camden, N. J. ADV. PG. 544.  
 MAGNETICS INC., P. O. Box 391, Butler, Pa. ADV. PG. 161-163.  
 Repath Pacific Div. of Arnold Engineering Co., 641 E. 61st St., Los Angeles 1, Calif.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Tempel Mfg. Co., 1939 Bryn Mawr Ave., Chicago 26, Ill.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
 THOMAS & SKINNER INC., 1122 E. 23rd St., Indian-apolis 5, Ind. ADV. PG. 625.  
 Topper Mfg. Co., 43 Roselle St., Mineola, N. Y.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**LAMINATORS OF PLASTIC MATERIALS**

See **INSULATION PARTS**  
**Plastic Insulation Parts**  
**Laminated**

**LAMP BULBS—Miniature**

See **LIGHTS—Dial, Panel & Pilot**

**LEADS—Test**

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
 ASSOCIATED ENGINEERING CORP., 65 Kent St., Brookline 46, Mass. ADV. PG. 678, 679.  
 BEAD CHAIN MANUFACTURING CO., THE, 110 Moun-tain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
 COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
 Empire Electronics Co., Inc., 166 River St., Paterson 1, N. J.  
 GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV., 400 S. Wyman St., Rock-ford, Ill. ADV. PG. 543.  
 GENERAL RF FITTINGS, INC., 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
 KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Putnon Corp., 125 Perkins Ave., Brockton, Mass.  
 POMONA ELECTRONICS CO., INC., 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 STANDARD ELECTRIC TIME CO., 97 Logan St., Spring-field, Mass. ADV. PG. 143.  
 Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

Walso Electronic Mfg. Co., 100 Green St., Rockford, Ill.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
 Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

**LEAK**

See **DETECTORS**

**LEATHERETTE**

Apex Coated Fabrics Co., 12 E. 22nd St., New York 10, N. Y.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St. Middle-town Conn.  
 Bolta Products Div., General Tire & Rubber Co., Law-rence, Mass.  
 General Tire & Rubber Co., The, Akron, Ohio.

**LENSES—Optical**

American Optical Co., Instrument Div., Box A, Buffalo 15, N. Y.  
 Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.  
 BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
 Buhl Optical Co., 1009 Beech Ave., Pittsburgh 33, Pa.  
 Camera Mart Inc., 1845 Broadway, New York 23, N. Y.  
 Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
 Edmund Scientific Corp., 502 E. Gloucester Pike, Barrin-gton, N. J.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 Gaertner Scientific Corp., 1239 Wrightwood Ave., Chi-cago 14, Ill.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
 Gurley, W.L.E., 514 Fulton St., Troy, N. Y.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Kollman Instrument Corp., Sub. of Standard Coil Pro-ducts Co., Inc., 80-08 45th Ave., Elmhurst, N. Y.  
 Lewis Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.  
 O & S Research, Inc., 1811 Bannard St., Riverton, N. J.  
 Pacific Transducer EBG Corp., 11836 W. Pico Blvd., Los Angeles 64, Calif.  
 Pacific Universal Products Corp., 168 Vista Ave., Pasa-dena 8, Calif.  
 Perkin-Elmer Corp., The, Main Ave., Norwalk, Conn.  
 Pittsburgh Plate Glass Co., 1 Gateway Center, Pitts-burgh 22, Pa.  
 Polan Industries Inc., P. O. Box 1720, Huntington W. Va.  
 Scientific Instruments Service Co., 44 Bromfield St., Boston 8, Mass.  
 SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Zenith Optical Laboratory, 1940 Great Neck Rd., Copiague, N. Y.  
 Zoomar, Inc., Glen Cove, N. Y.

**LENSES—Television**

Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
 Buhl Optical Co., 1009 Beech Ave., Pittsburgh 33, Pa.  
 Burke & James, Inc., 321 S. Wabash Ave., Chicago 4, Ill.  
 Camera Mart, Inc., 1845 Broadway, New York 23, N. Y.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 General Precision Laboratory, Inc., 63 Bedford Rd., Pleasantville, N. Y.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
 KIN TEL (KAY LAB), P O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Perkin-Elmer Corp., The, Main Ave., Norwalk, Conn.  
 Television Zoomar Corp., 500 Fifth Ave., New York, N. Y.  
 Zenith Optical Laboratory, 1940 Great Neck Rd., Copiague, N. Y.  
 Zoomar, Inc., Glen Cove, N. Y.

**LENSES—Television Magnifying**

Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.  
 Buhl Optical Co., 1009 Beech Ave., Pittsburgh 33, Pa.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
 Perkin-Elmer Corp., The, Main Ave., Norwalk, Conn.  
 WESTLAKE PLASTICS CO., 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.  
 Willson Camera Co., Inc., 1395 Lawrence Rd., Havertown, Pa.

## LENSES—Television Projection

Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.  
Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
Camera Mart Inc., 1845 Broadway, New York 23, N. Y.  
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
General Precision Laboratory, Inc., 63 Bedford Rd., Pleasantville, N. Y.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
Pacific Universal Products Corp., 168 Vista Ave., Pasadena 8, Calif.  
Willson Camera Co., Inc., 1395 Lawrence Rd., Haverstown, Pa.

## LIE DETECTORS—Electronic

ASSOCIATED RESEARCH, INC., 3788 W. Belmont Ave., Chicago 18, Ill. ADV. PG. 570.  
Electro-Medical Lab., Inc., South Woodstock 8, Vt.  
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.

## LIGHTING EQUIPMENT—Television

Camera Mart Inc., 1845 Broadway, New York 23, N. Y.  
Channel Master Co., Ellenville, N. Y.  
Mole-Richardson Co., 937 N. Sycamore Ave., Hollywood 38, Calif.  
Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.

## LIGHTS—Dial, Panel & Pilot

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
CHICAGO MINIATURE LAMP WORKS, 1500 N. Ogden Ave., Chicago 10, Ill. ADV. PG. 612.  
CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
DIALIGHT CORPORATION, 60 Stewart Ave., Brooklyn 37, N. Y. ADV. PG. 120.  
Drake Mfg. Co., 1713 W. Hubbard St., Chicago 22, Ill.  
ELDEMA CORP., 9844 Remer St., El Monte, Calif. ADV. PG. 461.  
FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland 12, Ohio.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
Herzog Miniature Lamp Works, Inc., 50-17 5th St., Long Island City 1, N. Y.  
Hetherington, Inc., Sharon Hill, Pa.  
Hudson Lamp Co., 528 Elm St., Kearney, N. J.  
INDUSTRIAL DEVICES, INC., 982 River Rd., Edgewater, N. J. ADV. PG. 631.  
Kirkland Co., H. R., 8 King St., Morristown, N. J.  
KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mt. Vernon, N. Y. ADV. PG. 685.  
Marco Industries Co., 207 S. Helena St., Anaheim, Calif.  
National Carbon Co., Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago 15, Ill.  
Plasteck, Inc., Poteau, Okla.  
Radar Relay, Inc., 2120 Pontius Ave., Los Angeles 25, Calif.  
Signalite, Inc., 37-41 Neptune Highway, Neptune, N. J.  
Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
SYLVANIA ELECTRONIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
TUNG-SOL ELECTRIC INC., 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.

## LIGHTS—Photoelectric Source

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.  
Elasta Ltd., Bad Ragaz, Switzerland.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland 12, Ohio.  
Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
Illumitronic Engineering, 680 E. Taylor, Sunnyvale, Calif.  
Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
Machinery Electrification, Inc., Northboro, Mass.  
Optron Corp., 3526 State St., Santa Barbara, Calif.  
Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

## LIGHTS—Signal

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
Amglo Corp., 4333 N. Ravenswood Ave., Chicago 13, Ill.  
Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.  
CHICAGO MINIATURE LAMP WORKS, 1500 N. Ogden Ave., Chicago 10, Ill. ADV. PG. 612.  
DIALIGHT CORPORATION, 60 Stewart Ave., Brooklyn 37, N. Y. ADV. PG. 120.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland 12, Ohio.  
INDUSTRIAL DEVICES, INC., 982 River Rd., Edgewater, N. J. ADV. PG. 631.  
Kemlite Laboratories, 1819 W. Grand Ave., Chicago 22, Ill.  
Kirkland Co., H. R., 8 King St., Morristown, N. J.  
KULKA ELECTRIC MFG. CO. INC., 633 S. Fulton Ave., Mt. Vernon, N. Y. ADV. PG. 685.  
North American Electric Lamp Co., 1014 Tyler St., St. Louis 6, Mo.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
TUNG-SOL ELECTRIC, INC., 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.

## LIGHTS—Stroboscopic Source

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
Amglo Corp., 4333 N. Ravenswood Ave., Chicago 13, Ill.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
Kemlite Laboratories, 1819 W. Grand Ave., Chicago 22, Ill.  
Pantek Co., Box 212, El Segundo, Calif.  
Radar Relay, Inc., 2120 Pontius Ave., Los Angeles 25, Calif.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.

## LINES—Slotted

Admittance-Namco Corp., Farmingdale, N. Y.  
AIRCORN INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
ALFORD MFG. CO., INC., 299 Atlantic Ave., Boston, Mass. ADV. PG. 398.  
ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
BJ ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
Eico Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y.  
F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.  
GENERAL RF FITTINGS, INC., 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Graham Mfg. Co., Inc., 247 Bridge St., East Greenwich, R. I.  
I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
TECHNICRAFT LABORATORIES, INC., Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
UNIWAVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
Waveline, Inc., Box 470, Caldwell, N. J.

## LINKS—Antenna

DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.

## LINKS—Television Microwave See MICROWAVE ACCESSORIES

## LIQUID LEVEL See CONTROLS INDICATORS

## LITHIUM COMPOUNDS

See METALS

## LOADS—Dummy

See ANTENNAS—Dummy Loads

## LOCATORS—Cable & Line Fault

Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore.  
GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
PESCHEL ELECTRONICS, INC., 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
RADAR ENGINEERS, 403 E. 45th St., Seattle 5, Wash. ADV. PG. 615.  
Rubicon Co., Ridge Ave., at 35th St., Philadelphia 29, Pa.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas 280, 281.

## LOCATORS—Pipe & Cable

Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
COMPUTER-MEASUREMENT CORP., 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Goldak Co., Inc., The Dept E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.  
Menlo Research Laboratory, 538 Phelan Ave., San Jose, Calif.  
Nilsson Electrical Laboratory, Inc., 103 Lafayette St., New York 13, N. Y.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas ADV. PG. 280, 281.

## LOCKS—Dial

AUGAT BROS., INC., 33 Perry Ave., Attleboro, Mass. ADV. PG. 517.  
Bud Radio, Inc., 2118 E. 45th St., Cleveland 3, Ohio.  
CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.

## LOCKS—Shaft

BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
Cardwell Co., Allen D., The, 97 Whiting St., Plainville, Conn.  
GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
VECTOR ELECTRONIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.

## LORAN SYSTEMS

Edo Corp., College Point, N. Y.

## LOUVERS—Chassis Ventilating

A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.  
Amco Engineering Co., 7335 Ainslie St., Chicago 31, Ill.  
FALSTROM CO., 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
GENERAL AVIATION & ELECTRONICS MFG. CO., INC., 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
MIDGET LOUVER CO., 6 Wall St., Norwalk, Conn. ADV. PG. 508.  
Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
White Aircraft Corp., Palmer, Mass.

## LUGS See TERMINALS

**MACHINES—Bending**

DESIGN TOOL CORP., 80 Washington St., New York 6, N. Y. ADV. PG. 678.  
KENT CO., F. C., 64 Howard St., Irvington, N. J. ADV. PG. 634.  
O'Neil-Irwin Mfg. Co., 316 Eighth Ave., Lake City, Minn.  
Stueck, Inc., W. Whitney, Old Saybrook, Conn.

**MACHINES—Blueprint**

Bruning Co., Inc., Charles, 4700 Montrose Ave., Chicago 41, Ill.  
Paragon-Revolute Corp., 71 South Ave., Rochester 4, N. Y.  
Pease Co., C. F., 2601 W. Irving Park Rd., Chicago, Ill.  
Peck & Harvey Mfg. Corp., 5650 N. Western Ave., Chicago 45, Ill.

**MACHINES—Capacitor Manufacturing**

ASSOCIATED AMERICAN TRADING DIVISION, 750 St. Ann's Ave., New York 56, N. Y. ADV. PG. 573.  
Condenser Machinery Co., Stamford, Conn.

**MACHINES—Cleaning**

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
Blackstone Corp., 1111 Allen St., Jamestown, N. Y.  
BRANSON ULTRASONIC CORP., 1 Brown House Rd., Stamford, Conn. ADV. PG. 605.  
Coburn, Inc., 100 Passaic Ave., Caldwell, N. J.  
Cro-Plate Co., Inc., The, 747 Windsor St., Hartford 1, Conn.  
Industrial Systems Co., Matawan, N. J.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
L & R Mfg. Co., 580 Elm St., Arlington, N. J.

**MACHINES—Coil Winding**

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
ASSOCIATED AMERICAN TRADING DIVISION, 750 St. Ann's Ave., New York 56, N. Y. ADV. PG. 573.  
Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
BOESCH MFG. CO., Danbury, Conn. ADV. PG. 520.  
British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
COIL WINDING EQUIPMENT CO., 109 Audrey Ave., Oyster Bay, N. Y. ADV. PG. 488, 489.  
Cosa Corp., 405 Lexington Ave., New York 17, N. Y.  
Crown Industrial Products Co., 713 Amsterdam Ave., Woodstock, Ill.  
EISLER ENGINEERING CO., INC., 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
Halm Instrument Co., Inc., Glen Head Rd., Glen Head, N. Y.  
INDUSTRIAL WINDING MACHINERY CO., 120 Wall St., New York 5 N. Y. ADV. PG. 651.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
MICO INSTRUMENT CO., 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
NORTH HILLS ELECTRIC CO., INC., 402 Sagamore Ave., Mineola, N. Y. ADV. PG. 428.  
Perkin Machine & Gear Co., Special Machinery Div., West Springfield, Mass.  
Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
STEVENS MFG. CO., INC., GEORGE, 6022 N. Rogers Ave., Pulaski & Peterson, Chicago 30, Ill. ADV. PG. 586.  
Universal Winding Co., P. O. Box 1605, Providence 1, R. I.

**MACHINES—Coil Winding, Toroidal**

ARNOLD MAGNETICS CORP., 4613 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 553.  
ASSOCIATED AMERICAN TRADING DIVISION, 750 St. Ann's Ave., New York 56, N. Y. ADV. PG. 573.  
BOESCH MFG. CO., Danbury, Conn. ADV. PG. 520.  
Cosa Corp., 405 Lexington Ave., New York 17, N. Y.  
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
Electro Devices Inc., 480 Main St., Wilmington, Mass.  
Harder Co., Donald C., 3710 Midway Drive, San Diego 10, Calif.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
REX RHEOSTAT CO., 3 Foxhurst Rd., Baldwin, N. Y. ADV. PG. 590.  
STEVENS MFG. CO., INC., GEORGE, 6022 N. Rogers Ave., Pulaski & Peterson, Chicago 30, Ill. ADV. PG. 586.  
UNIVERSAL MFG. CO., INC., 410 Hillside Ave., Hillside, N. J. ADV. PG. 296.

**MACHINES—Counting (Photoelectric)**

Acme Telectronix Div. of NEA Service, Inc., West Third & Lakeside, Cleveland 13, Ohio.  
Automation Management, Inc., Westboro, Mass.

Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.

BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
Magnuson Engineers, Inc., 509 Emory St., San Jose 10, Calif.  
Optron Corp., 3526 State St., Santa Barbara, Calif.  
Pantek Co., Box 212, El Segundo, Calif.  
Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.

**MACHINES—Crystal Manufacturing & Finishing**

Bassett, Inc., Rex, 1314 N.E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.  
Crane Packing Co., 6402 Oakton St., Morton Grove, Ill.  
F & M Sales, Inc., 1054 Cahuenga Blvd., Hollywood 38, Calif.  
Hoffman Co., P. R., Carlisle, Pa.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Lepel High Frequency Labs., Inc., 55th St. & 7th Ave., Woodside 77, N. Y.  
Micromech Mfg. Corp., 1020 Commerce Ave., Union, N. J.  
NRC EQUIPMENT CORP., 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.

**MACHINES—Cutting**

ACME WIRE MACHINE CO., 234 E. 3rd St., New York, N. Y. ADV. PG. 547.  
American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
DESIGN TOOL CORP., 80 Washington St., New York 6, N. Y. ADV. PG. 678.  
EISLER ENGINEERING CO., INC., 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
Electro Wire Service, 5 Beekman St., New York 7, N. Y.  
Hobbs Mfg. Co., 26 Safisbury St., Worcester, Mass.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Micromech Mfg. Corp., 1020 Commerce Ave., Union, N. J.  
O'Neil-Irwin Mfg. Co., 316 Eighth Ave., Lake City, Minn.  
Radial Cutter Corp., 831 Bond St., Elizabeth, N. J.  
United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.

**MACHINES—Disc Recording**

Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
Rek-o-Kut Co., Inc., 38-01 Queens Blvd., Long Island City 1, N. Y.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**MACHINES—Electric Soldering**

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
Cole Radio Works, 86 Westville Ave., Caldwell, N. J.  
EISLER ENGINEERING CO., INC., 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
Electronic Products Corp., 322 State St., Santa Barbara, Calif.  
Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
GOOD-ALL ELECTRIC MFG. CO., 112 W. First St., Ogallala, Neb. ADV. PG. 124.  
Induction Heating Corp., 181 Wythe Ave., Brooklyn 11, N. Y.  
Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Lepel High Frequency Labs., Inc., 55th St. & 37th Ave., Woodside 77, N. Y.  
PATTON-MAC GUYER CO., 17 Virginia Ave., Providence 5, R. I. ADV. PG. 590.

**MACHINES—Electronic Balancing**

International Research & Development Corp., 769 Thomas-Lane, P. O. Box 1707, Columbus 16, Ohio.  
Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y.

**MACHINES—Electronic Dictating**

Dictaphone Corp., 420 Lexington Ave., New York 17, N. Y.  
Miles Reproducer Co., Inc., 812 Broadway, New York 3, N. Y.  
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.

**MACHINES—Electronic Transcribing**

Alwac Corp., 13041 S. Cerise Ave., Hawthorne, Calif.

Dictaphone Corp., 420 Lexington Ave., New York 17, N. Y.  
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.

**MACHINES—Engraving and Profiling**

Acme Telectronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
Auto Engraver Co., Ridgefield, Conn.  
GREEN INSTRUMENT CO., 363A Putnam Ave., Cambridge, Mass. ADV. PG. 566.  
MICO INSTRUMENT CO., 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
NEW HERMES ENGRAVING MACHINE CORP., 13-19 University Place, New York 3, N. Y. ADV. PG. 687.  
Preis Engraving Machine Co., H. P., 651 U. S. Highway 22, Hillside, N. J.  
Technicraft Co., 1156 Commonwealth Ave., Boston 34, Mass.

**MACHINES—Forming**

DESIGN TOOL CORP., 80 Washington St., New York 6, N. Y. ADV. PG. 678.  
Hull-Standard Corp., Abington, Pa.  
Hydraulic Press Mfg. Co., A Div. of Koehring Co., Mt. Gilead, Ohio.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
O'Neil-Irwin Mfg. Co., 316 Eighth Ave., Lake City, Minn.

**MACHINES—Glass Blowing**

Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
EISLER ENGINEERING CO., INC., 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Litton Engineering Laboratories, P. O. Box 949, Grass Valley, Calif.  
Pioneer Machine Works, Inc., 6136 Adams St., West New York, N. J.  
Torrance Glass & Color Works, Torrance, Calif.

**MACHINES—Glass Working**

Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
EISLER ENGINEERING CO., INC., 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Litton Engineering Laboratories, P. O. Box 949, Grass Valley, Calif.  
O & S Research, Inc., 1811 Bannard St., Riverton, N. J.  
Pioneer Machine Works, Inc., 6136 Adam St., West New York, N. J.  
SCIENTIFIC ELECTRONIC LABS., INC., 866 Bergen St., Newark 8, N. J. ADV. PG. 670.  
Standard Tool & Mfg. Co., Arlington, N. J.  
Torrance Glass & Color Works, Torrance, Calif.

**MACHINES—Impregnating**

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
Barrett Co., Leon J., The, 1776 Grafton Rd., Worcester 1, Mass.  
High Vacuum Equipment Corp., 2 Churchill Rd., Hingham, Mass.  
Hull Corporation, Abington, Pa.  
Kinney Mfg. Div. of The New York Air Brake Co., 3529 Washington St., Boston, Mass.  
Metaplast Corp., Davisville Rd. at Pa. Turnpike, Hatboro, Pa.  
NRC EQUIPMENT CORP., 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
Red Point Corp., 1907 Riverside Drive, Glendale 1, Calif.  
Stokes Co., F. J., 5500 Tabor Rd., Philadelphia 20, Pa.

**MACHINES—Marking**

Ackerman-Gould Co., 92 Bleeker St., New York, N. Y.  
Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
Aerolab Development Co., 330 W. Holly St., Pasadena, Calif.  
Annis Co., R. B., 1101 N. Delaware St., Indianapolis, Ind.  
Apex Machine Co., 14-13 118th St., College Point 56, N. Y.  
Auto Engraver Co., Ridgefield, Conn.  
Coxhead Co., Ralph C., Newark, N. J.  
Diamond-Union Stamp Works, 81 Washington St., Boston 8, Mass.  
General Research & Supply Co., 572 S. Division Ave., Grand Rapids 3, Mich.  
High Speed Hammer Co., Rochester, N. Y.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
Markem Machine Co., Keene, N. H.  
MARKWIK MFG. CO., INC., 31 Sexton Rd., Plainview, N. Y. ADV. PG. 498.

Marsh Stencil Machine Co., 46 Marsh Bldg., Belleville, Ill.  
NEW HERMES ENGRAVING MACHINE CO., 13-19 University Place, New York 3, N. Y. ADV. PG. 687.  
Noble & Westbrook Mfg. Co., 27 Westbrook St., East Hartford 8, Conn.  
Numberall Stamp & Tool Co., Huguenot Park, Staten Island 12, N. Y.  
POPPER & SONS, INC., 300 Fourth Ave., New York 10, N. Y. ADV. PG. 420.  
PRECISE MEASUREMENTS CO., R. D. #1, Millbrook Rd., Flemington, N. J. ADV. PG. 399.  
Preis Engraving Machine Co., H. P., 651 U. S. Highway 22, Hillside, N. J.  
Swift & Sons, M., 10 Love Lane, Hartford 1, Conn.

**MACHINES—Modular & Automatic Assembly**

BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.  
DESIGN TOOL CORP., 80 Washington St., New York 6, N. Y. ADV. PG. 678.  
INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
Mechanical Div. of General Mills, Inc., 1620 Central Ave., Minneapolis 13, Minn.  
United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.

**MACHINES—Photocopy & Whiteprint**

American Photocopy Equipment Co., 1920 W. Peterson, Chicago 26, Ill.  
Bruning & Co., Inc., Charles, 4700 Montrose Ave., Chicago 43, Ill.  
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
General Photo Products Co., Inc., General Photo Bldg., 15 Summit Ave., Chatham, N. Y.  
Haloid Co., The, 6 Haloid St., Rochester 3, N. Y.  
Ozalid Div. of General Aniline & Film Corp., 770 Ansoco Rd., Johnson City, N. Y.  
Paragon-Revolute Corp., 71 South Ave., Rochester 4, N. Y.  
Pease Co., C. F., 2601 W. Irving Park Rd., Chicago, Ill.  
Peerless Photo Products, Inc., Shoreham, N. Y.

**MACHINES—Record Manufacturing**

Hull-Standard Corp., Abington, Pa.

**MACHINES—Shock Testing**

ASSOCIATED TESTING LABORATORIES, INC., 407 Clinton Rd., Caldwell, N. J. ADV. PG. 627.  
Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
Genisco, Inc., 2233 Federal Ave., Los Angeles 64, Calif.  
Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**MACHINES—Tube Manufacturing**

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
EISLER ENGINEERING CO., INC., 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
KAHLE ENGINEERING CO., 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
KENT CO., F. C., 64 Howard St., Irvington, N. J. ADV. PG. 634.  
Litton Engineering Laboratories, P. O. Box 949, Grass Valley, Calif.  
Pioneer Machine Works, Inc., 6136 Adam St., West New York, N. J.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
Standard Tool & Mfg. Co., Arlington, N. J.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.

**MACHINES—Vibration Fatigue Testing**

All American Tool & Mfg. Co., 8027 Lawndale, Skokie, Ill.  
ASSOCIATED TESTING LABORATORIES, INC., 407 Clinton Rd., Caldwell, N. J. ADV. PG. 627.  
CALDYNE CO., THE, 120 Cross St., Winchester, Mass. ADV. PG. 472.  
LING ELECTRONICS, INC., 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
Litton Industries, Beverly Hills, Calif.  
MB MFG. DIV. OF TETRON AMERICAN, INC., 1060 State St., New Haven 11, Conn. ADV. PG. 552.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

**MACHINES—Wire Stripping**

ACME WIRE MACHINE CO., 234 E. 3rd St., New York, N. Y. ADV. PG. 547.  
Electro Wire Service, 5 Beekman St., New York 7, N. Y.  
High Speed Hammer Co., Rochester, N. Y.  
Rush Wire Stripper Div., The Eraser Co., Inc., 1068 S. Clinton St., Syracuse 4, N. Y.

STEVENS MFG. CO., INC., GEORGE, 6022 N. Rogers Ave., Pulaski & Peterson, Chicago 30, Ill. ADV. PG. 586.  
Technical Devices Co., 2346 Centinela Ave., Los Angeles 64, Calif.  
THOMAS INSTRUMENT CO., Three Rivers, Phoenix, N. Y. ADV. PG. 420.

**MAGNETIC ANALYSIS EQUIPMENT**

DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
DYNA-EMPIRE, INC., 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
HAMNER ELECTRONICS CO., INC., Box 531, Princeton, N. J. ADV. PG. 671.  
Magnetic Analysis Corp., 42-44 12th St., Long Island City 1, N. Y.  
Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
PERFECTION MICA CO., 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
Perkin-Elmer Corp., The, Main Ave., Norwalk, Conn.  
Phillips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
Rese Engineering Corp., 731 Arch St., Philadelphia 6, Pa.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.

**MAGNETIC FLUX METERS**

See FLUXMETERS

**MAGNETIZERS AND DEMAGNETIZERS**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
Amplifier Corp. of America, 396 Broadway, New York 13, N. Y.  
Annis Co., R. B., 1101 N. Delaware St., Indianapolis, Ind.  
Bekey Electric Co., Inc., 1327 S. Main St., Los Angeles 15, Calif.  
Caltron Products Co., 3518 W. Pico Blvd., Los Angeles 19, Calif.  
Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill.  
CRUCIBLE STEEL COMPANY OF AMERICA, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
Dubrow Development Co., 235 B Penn St., Burlington, N. J.  
GENERAL ELECTRIC CO., MAGNETIC MATERIALS SECTION, 7780 Neff Rd., Edmore, Mich. ADV. PG. 1-12.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio.  
Klein-Electronics, Leo, 2404 S. La Brea Ave., Los Angeles 16, Calif.  
LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
Magnasync Mfg. Co., Ltd., 5546, Satsuma Ave., P. O. Box 707, North Hollywood, Calif.  
Magnetic Analysis Corp., 42-44 12th St., Long Island City 1, N. Y.  
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland 7, Ohio.  
Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore.  
PERMAG CORP., 214 Taaffe Place, Brooklyn 5, N. Y. ADV. PG. 661.  
RADIO FREQUENCY LABS, INC., Boonton 2, N. J. ADV. PG. 555.  
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
Trent Tube Co., East Troy, N. Y.

**MAGNETOMETERS**

See INSTRUMENTS—Electrical Measuring

**MAGNETRONS**

See TUBES

**MAGNETS—Permanent**

ARNOLD ENGINEERING CO., Marengo, Ill. ADV. PG. 322, 323.  
Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill.  
Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
CRUCIBLE STEEL COMPANY OF AMERICA, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.

GENERAL ELECTRIC CO., MAGNETIC MATERIALS SECTION, 7780 Neff Rd., Edmore, Mich. ADV. PG. 16, 17.  
General Magnetic Corp., 10001 Erwin Ave., Detroit 34, Mich.  
Glaser-Steers Corp., 2 Main St., Belleville 9, N. J.  
INDIANA STEEL PRODUCTS CO., Valparaiso, Indiana. ADV. PG. 20.  
Murex Ltd., Rainham, Essex, England.  
Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
PERMAG CORP., 214 Taaffe Place, Brooklyn 5, N. Y. ADV. PG. 661.  
Plamondon Magnetics Co., 1850 W. Hubbard St., Chicago 22, Ill.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Stackpole Carbon Co., St. Mary's Pa.  
Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn.  
THOMAS & SKINNER INC., 1122 E. 23rd St., Indianapolis 5, Ind. ADV. PG. 625.  
Trent Tube Co., East Troy, N. Y.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Yale & Towne Mfg. Co., Powdered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.

**MANUFACTURERS' REPRESENTATIVES**

See Pages 41, 700 to 714

**MARKERS—Frequency, Microwave**

See MICROWAVE ACCESSORIES

**MARKERS—Wire**

Ackerman-Gould Co., 92 Bloecker St., New York, N. Y.  
Acromark Co., Inc., 323 Morrill St., Elizabeth 4, N. J.  
Actioncraft Products, 8 Sagamore Hill Drive, Port Washington, N. Y.  
Apex Machine Co., 11-13 113th St., College Point 56, N. Y.  
Brady Co., W. H., 727 W. Glendale Ave., Milwaukee 12, Wis.  
BRAND & CO., INC., WILLIAM, 41 North St., Willimantic, Conn. ADV. PG. 199.  
Duramark, Inc., 2 Secatog Ave., Port Washington, N. Y.  
Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
General Plastics Corp., P. O. Box 1236, Paterson, N. J.  
Markal Co., 3052 W. Carroll Ave., Chicago 12, Ill.  
MARKWIK MFG. CO., INC., 31 Sexton Rd., Plainview, N. Y. ADV. PG. 498.  
Matthews & Co., Jas. H., 3926 Forbes St., Pittsburgh 13, Pa.  
NORTH SHORE NAMEPLATE INC., 214-27 Northern Blvd., Bayside 61, N. Y. ADV. PG. 486.  
Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.  
Walco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
WESTLINE PRODUCTS DIV. OF WESTERN LITHOGRAPH CO., 600 E. Second St., Los Angeles 54, Calif. ADV. PG. 470.

**MARKING STAMPS**

See STAMPS—Marking

**MASKS—Aperture**

See PARTS for COLOR TV TUBES

**MASKS—Television**

Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
Beta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
Jodee Plastics Corp., 213 Shepherd Ave., Brooklyn 8, N. Y.  
JOHNSON & HOFFMAN MFG. CORP., 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.

**MECHANICAL TOOLS**

See TOOLS—Hand or Mechanical

**MEGAPHONES—Electronic**

Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.  
Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.

**MEGOHMMETERS**

See INSTRUMENTS—Electrical Measuring

**MEGOHMMETERS—Vacuum Tube**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
Bruel & Kjaer, Naerum, Denmark.  
COMMUNICATION MEASUREMENTS LAB., INC., 350 Leland Ave., Plainfield, N. J. ADV. PG. 547.  
FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.

**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP.**, INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**KEITHELY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 Kujjian Corp., The Electronics Div., 1200 N. Broad St., Philadelphia 21, Pa.  
 MacLeod & Hanopol, Inc., 10 Roland St., Charlestown 29, Mass.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
**STICHT CO., INC.**, HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Telecro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.

**MEMORY SYSTEMS**

Beck's, Inc., 298-300 E. Fifth St., Saint Paul 1, Minn.  
**COMPUTER CONTROL CO., INC.**, 92 Broad St., Babson Park 57, Mass. ADV. PG. 584.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Daystrom Instrument, Archbald, Pa.  
 Electro Data Div. of Burroughs Corp., 460 Sierra Madre Villa, Pasadena 6, Calif.  
 Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
**LIBRASCOPE, INC.**, 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Litton Industries, Beverly Hills, Calif.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
 Magne-Pulse Corp., 247 Crooks Ave., Clifton, N. J.  
 Magnetics Research Co., Cor. Grove St. & E. Post Rd., White Plains, N. Y.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Radiation Instrument Development Labs., 2337 W. 67th St., Chicago 36, Ill.  
 Remington Rand Univac Div. of Sperry Rand Corp., Univac Par, St. Paul 16, Minn.  
 Rese Engineering Corp., 731 Arch St., Philadelphia 6, Pa.  
 Seeburg, J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.  
**WANG LABORATORIES, INC.**, 37 Hurley St., Cambridge 41, Mass. ADV. PG. 630.

**MESH—Knitted Wire**

See **TUBING—Woven or Knitted Wire**

**METAL CONES—Television**

See **CONES—Metal Television**

**METAL PARTS—Bushings**

**ABALON PRECISION MFG. CORP.**, 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644  
 Amatam Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
 American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
 Anti-Corrosive Products Co., Castleton-on-Hudson, N. Y.  
 Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
**BEAD CHAIN MANUFACTURING CO.**, THE, 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1, N. Y.  
 Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
**FEDERAL SCREW PRODUCTS, INC.**, 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
**GENERAL CEMENT MFG. CO.**, DIV. OF **TEXTRON, INC.**, Electronic Div., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GRIES REPRODUCER CORP.**, 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
 Haynes Stellite Co., A Div. of Union Carbide & Carbon Corp., 725 S. Lindsay St., Kokomo, Ind.  
 Helder Mfg. Corp., 238 Lewis St., Paterson, N. J.  
 Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
**KEYSTONE ELECTRONICS CORP.**, 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
 Research Development Manufacture, Inc., 429 E. Collom St., Philadelphia 44, Pa.  
 St. Marys Carbon Company, State Rd., St. Marys, Pa.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Smith, Inc., Herman H. 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill.  
 Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.

**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**UNIWAVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 U. S. Graphite Co., Div. of The Wickes Corp., Saginaw 32, Mich.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Wrought Washer Mfg. Co., 2264 S. Bay St., Milwaukee 7, Wis.

**METAL PARTS—Castings**

Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
 Alloy Precision Casting Co., E. 45th St. & Hamilton Ave., Cleveland 14, Ohio.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
 American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
 Arwood Precision Casting Corp., 75 Washington St., Brooklyn, N. Y.  
 Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.  
 Bean & Co., Morris, Yellow Springs, Ohio.  
 Beryllium Corp., Reading, Pa.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1, N. Y.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
 Dollin Corp., 640 S. 21st St., Irvington 11, N. J.  
 Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
**GRIES REPRODUCER CORP.**, 100 Willow Ave., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
 Haynes Stellite Co., A Div. of Union Carbide & Carbon Corp., 725 S. Lindsay St., Kokomo, Ind.  
 Hitchiner Manufacturing Co., Inc., P. O. Box 232, Milford, N. H.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Investment Casting Co., 60 Brown Ave., Springfield, N. J.  
 Misco Precision Casting Co., Gibbs & Larsen Sts., Whitehall, Mich.  
 Nielsen Mfg. Co., Addison, Ill.  
**STANDARD RECORD MFG. CO.**, 70 N. San Gabriel Blvd., Pasadena, Calif. ADV. PG. 655.  
 Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Teiner Engineering Corp., 116 Madison St., Malden, Mass.  
 Trent Tube Co., East Troy, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**METAL PARTS—Contacts**

See **CONTACTS—Electrical**

**METAL PARTS—Deep-Drawn**

A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.  
**ABALON PRECISION MFG. CORP.**, 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
 Amatam Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
**AMERICAN ALUMINUM CO.**, Sheffield St., -C, Mountaintside, N. J. ADV. PG. 604.  
 American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
 Art-Lloyd Metal Products Corp., 2973 Cropsy Ave., Brooklyn 14, N. Y.  
 Beryllium Corp., Reading, Pa.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
 Eastern Tool & Specialty Co., 1 Montgomery St., Belleville 9, N. J.  
**ENGINEERING CO.**, 27 Wright St., Newark, N. J. ADV. PG. 609.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
 Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
 Helder Mfg. Corp., 238 Lewis St., Paterson, N. J.  
 Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
**HUDSON TOOL & DIE CO.**, 118 S. 14th St., Newark, N. J. ADV. PG. 185.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Impact Extrusion Products, Inc., 39 Powderhouse Rd., Roslyn Heights, N. Y.  
**JOHNSON & HOFFMAN MFG. CORP.**, 31 E. Second St., Mineola, N. Y. ADV. PG. 86-87.  
**KAUPP & SONS, C. B.**, 32 Newark Way, Maplewood, N. J. ADV. PG. 275.  
 King Laboratories, Inc., 127 Solar St., Syracuse 3, N. Y.  
 Kling Metal Spinning Co., 247 Centre St., New York 13, N. Y.  
**LEYSE ALUMINUM CO.**, Kewaunee, Wis. ADV. PG. 452.

**METHODE MFG. CORP.**, 2021 W. Churchill St., Chicago 47, Ill. ADV. PG. 204.  
 Northern Metal Products Co., 9597 W. Grand Ave., Franklin Park, Ill.  
 Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.  
 Olympic Metal Products Co., Inc., Third Ave., Alpha, N. J.  
 Paul & Beekman, Inc., 1801 Cortland St., Philadelphia 40, Pa.  
 Quadriga Mfg. Co., 213 W. Grand Ave., Chicago 10, Ill.  
 Repath Pacific Div. of Arnold Engineering Co., 641 E. 61st St., Los Angeles 1, Calif.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
 Scovill Manufacturing Co., Waterbury 20, Conn.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Stanley Pressed Metal Div. of The Stanley Works, New Britain, Conn.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W. Woodside 77, N. Y.  
 Teiner Co., Inc., Roland, 134 Tremont St., Everett 49, Mass.  
**UNITED-CARR FASTENER CORP.**, Cambridge 42, Mass. ADV. PG. 64.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.  
 Waterbury Pressed Metal Co., P-M Nut Div., 300 Chase Ave., Waterbury 14, Conn.  
 Worcester Pressed Aluminum Corp., 13-15 Hope Ave., Worcester, Mass.  
 Worcester Pressed Steel Co., 101 Barber Ave., Worcester 6, Mass.  
**ZERO MFG. CO.**, 1121 Chestnut St., Burbank 71, Calif. ADV. PG. 634.

**METAL PARTS—Laminated**

**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
**GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV.**, Attleboro, Mass. ADV. PG. 327.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
**MAKEPEACE CO.**, D. E., DIV. OF **UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**METALS & CONTROLS CORP.**, GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casmir's Ave., Yonkers, N. Y. ADV. PG. 642.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
**WILSON CO., H. A., THE**, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

**METAL PARTS—Lead**

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
 Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Kling Metal Spinning Co., 247 Centre St., New York, N. Y.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
 Quadriga Mfg. Co., 213 W. Grand Ave., Chicago 10, Ill.  
**STAR EXPANSION PRODUCTS CO., INC.**, 142 Liberty St., New York 6, N. Y. ADV. PG. 588.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.

**METAL PARTS—Powdered**

**GENERAL ELECTRIC CO.**, MAGNETIC MATERIALS SECTION, 7780 Neff Rd., Edmore, Mich. ADV. PG. 16, 17.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Keystone Carbon Co., Inc., Saint Marys, Pa.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 St. Mary's Carbon Company, State Rd., St. Marys, Pa.  
 Scovill Manufacturing Co., Waterbury 20, Conn.  
 Superior Carbon Products Co., 9115 George Ave., Cleveland 5, Ohio.

U. S. Graphite Co., Div. of The Wickes Corp., Saginaw 32, Mich.  
WILSON CO., H. A., THE, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.  
Yale & Towne Mfg. Co., Powdered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.

## METAL PARTS—Screw Machine

ABALON PRECISION MFG. CORP., 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles 44, Calif.  
Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky.  
Allied Products Div. Hamilton Watch Co., Lancaster, Pa.  
Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
American Hinge Corp., 206 Wallabout St., Brooklyn 6, N. Y.  
American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
Anti-Corrosive Metal Products Co., Castleton-on-Hudson, N. Y.  
Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.  
Autoscrew Co., 216-222 W. 18th St., New York, N. Y. Beryllium Corp., Reading, Pa.  
Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
Connector Corp. of America, 3223 Burton Ave., Burbank, Calif.  
Eastern Specialty Co., Philadelphia 40, Pa.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
Elizee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
Gear Systems Inc., Div. of Geartronics Corp., Main St., West Concord, Mass.  
GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV., Attleboro, Mass. ADV. PG. 327.  
Gleason-Avery Co., Auburn, N. Y.  
Greer Stop Nut Co., 2620 W. Flournoy St., Chicago 12, Ill.

Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
Hoffmann Needle Works, Inc., Alfred, 3710 Hudson Ave., Union City, N. J.  
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
KINGS ELECTRONICS CO., 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
Massachusetts Gear & Tool Div. of Geartronics Corp., 30 Nashua St., Woburn, Mass.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
Moody Machine Products Co., Inc., 39 Dudley St., Providence 5, R. I.  
National Screw & Mfg. Co., The, Cleveland 4, Ohio.  
NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
O & S Research, Inc., 1811 Bannard St., Riverton, N. J.  
Peerless Products Industries, 812 N. Pulaski St., Chicago 51, Ill.  
Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
Pfieger Products, 3901 W. 54th St., Los Angeles 43, Calif.  
Precision Metal Products Co. of Malden, 41 Elm St., Stoneham 80, Mass.  
Research Development Manufacture, Inc., 429 E. Collom St., Philadelphia 44, Pa.  
Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
Scovill Manufacturing Co., Waterbury 20, Conn.  
Sinclair Mfg. Co., Chertley, Mass.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
Standard Locknut & Lockwasher Inc., 2250 Valley Ave., Indianapolis 18, Ind.  
Stanley-Judd Div. of Stanley Works, Wallingford, Conn.  
Stanley Tools, New Britain, Conn.  
Steel Co., Herman D., Lafayette Bldg., Philadelphia 6, Pa.  
Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa.  
Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill.  
Stevens-Walden, Inc., 475 Shrewsbury St., Worcester 4, Mass.

Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
SUFFOLK PRODUCTS CORP., Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
Tru-Connector Corp., 416 Union St., Lynn, Mass.  
United Screw & Bolt Corp., 2513 W. Cullerton St., Chicago 8, Ill.  
U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
UNIWAIVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
Viking Industries, Inc., 21343 Roscoe Blvd., Canoga Park, Calif.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
Waltham Screw Co., Waltham, Mass.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City 6, Mo.

## METAL PARTS—Small Metal Stampings

ABALON PRECISION MFG. CORP., 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.  
Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
Admiral Tool & Mfg. Co., 2354 N. Clybourn, Chicago, Ill.  
Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
ALGO, INC., 251 West St., South Hackensack, N. J. ADV. PG. 554.  
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
AMERICAN ALUMINUM CO., Sheffield St.,-C, Mountaine-side, N. J. ADV. PG. 604.  
American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
Anti-Corrosive Products Co., Castleton-on-Hudson, N. Y.  
Art-Lloyd Metal Products Corp., 2973 Cropsey Ave., Brooklyn 14, N. Y.  
ATLAS E-E CORP., 47 Prospect St., Woburn, Mass. ADV. PG. 562.  
Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
AUTOMATIC COIL CO., 415 Bedford Ave., Brooklyn, N. Y. ADV. PG. 675.  
Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.  
Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
BALTIMETAL PRODUCTS CO., 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501.  
BARNES CO., WALLACE, DIV. OF ASSOCIATED SPRING CORP., Bristol, Conn. ADV. PG. 311.  
BARNES-GIBSON-RAYMOND DIVISION, 40300 Plymouth Rd., Plymouth, Mich. ADV. PG. 311.  
Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
Bennett Mfg. Co., Alden, N. Y.  
Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorne, N. J.  
Buck Engineering Co., Inc., 37-41 Marcy St., Freehold, N. J.  
Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
Carroll Pressed Metal Co., 133 Dewey St., Worcester, Mass.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
CHURCHILL LIGHTING CORP., 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
COILS-ELECTRONICS CO., 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
Conrad & Moser, 2 Borden Ave., Long Island City 1, N. Y.  
Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.  
Eastern Specialty Co., Philadelphia 40, Pa.  
Eastern Tool & Mfg. Co., 1 Montgomery St., Belleville 9, N. J.  
ELECTRONIC PARTS MFG. CO., INC., 508-10 25th St., Union City, N. J. ADV. PG. 536.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
Ellis & Sons Inc., George D., 4002 N. American St., Philadelphia 40, Pa.  
Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
Eltran Corp., St. Anne, Ill.  
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.

ENGINEERING CO., 27 Wright St., Newark, N. J. ADV. PG. 609.  
ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171.  
Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
FALSTROM CO., 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
Federal Tool & Mfg. Co., 3600 Alabama Ave., Minneapolis 16, Minn.  
Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
Gemex Corp., The, Industrial Products Div., 1200 Commerce Ave., Union, N. J.  
GENERAL AVIATION & ELECTRONICS MFG. CO., INC., 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
GENERAL ELECTRIC CO., SPECIALTY ELECTRONICS COMPONENTS DEPT., W. Genesee St., Auburn, N. Y. ADV. PG. 18.  
GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV., Attleboro, Mass. ADV. PG. 327.  
GIBSON CO., WILLIAM D., THE, 1800 Claybourn Ave., Chicago 14, Ill. ADV. PG. 311.  
Gleason-Avery Co., Auburn, N. Y.  
Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
GREAT EASTERN METAL PRODUCTS CO., 22 Woodworth Ave., Yonkers, N. Y. ADV. PG. 696.  
HK METAL CRAFT MFG. CORP., 3775 Tenth Ave., New York 34, N. Y. ADV. PG. 630.  
Harper Co., H. M., The, 8200 Lehigh Ave., Morton Grove, Ill.  
Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
Heldor Mfg. Corp., 238 Levis St., Paterson, N. J.  
Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
HEYMAN MFG. CO., Kenilworth 2, N. J. ADV. PG. 597.  
Hobson Bros., 4940 W. Lawrence Ave., Chicago 30, Ill.  
HUDSON TOOL & DIE CO., INC., 118 S. 14th St., Newark, N. J. ADV. PG. 185.  
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
INDUSTRIAL HARDWARE MFG. CO., INC., 109 Prince St., New York, N. Y. ADV. PG. 631.  
JOHNSON & HOFFMAN MFG. CORP., 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
KAUPP & SONS, C. B., 32 Newark Way, Maplewood, N. J. ADV. PG. 275.  
KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
King Laboratories, Inc., 127 Solar St., Syracuse 3, N. Y.  
KINGS ELECTRONICS CO., 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
Kling Metal Spinning Co., 247 Centre St., New York 13, N. Y.  
Kolton Electric Mfg. Co., 123 New Jersey Railroad Ave., Newark 5, N. J.  
LEYSE ALUMINUM CO., Kewaunee, Wis. ADV. PG. 452.  
MALCO TOOL & MFG. CO., 4025 W. Lake St., Chicago 24, Ill. ADV. PG. 252.  
Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill.  
METHODE MFG. CORP., 2021 W. Churchill St., Chicago 47, Ill. ADV. PG. 204.  
Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
Mid-West Spring Mfg. Co., Mentone, Ind.  
MILWAUKEE DIV. OF ASSOCIATED SPRING CORP., 341 E. Erie St., Milwaukee 2, Wisc. ADV. PG. 311.  
Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.  
Mobil Electronics Mfg. Co., 1111 State Rd., 67 E. Anderson, Ind.  
Mohawk Mfg. Co., Middletown, Conn.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
Nameplates, Inc., 425 E. 101st St., Brooklyn 36, N. Y.  
NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
Northern Metal Products Co., 9597 W. Grand Ave., Franklin Park, Ill.  
OHIO DIV. OF ASSOCIATED SPRING CORP., 1825 E. First St., Dayton 3, Ohio. ADV. PG. 311.  
Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.  
Olympic Metal Products Co., Inc., Third Ave., Alpha, N. J.  
Paul & Beekman Inc., 1801 Cortland St., Philadelphia 40, Pa.  
PATTON-MACGUYER CO., 17 Virginia Ave., Providence 5, R. I. ADV. PG. 590.  
Peerless Products Industries, 812 N. Pulaski St., Chicago 51, Ill.  
Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
Pfieger Products, 3901 W. 54th St., Los Angeles 43, Calif.  
FIX MFG. CO., INC., 81A Hudson St., Newark, N. J. ADV. PG. 670.  
Polan Industries Inc., P. O. Box 1720, Huntington, W. Va.

Quadrige Mfg. Co., 213 W. Grand Ave., Chicago 10, Ill. ADV. PG. 311.

Reliable Spring & Wire Forms Co., Fulton Rd. & Paris Ave., Cleveland 9, Ohio.

Repah Pacific Div. of Arnold Engineering Co., 641 E. 61st St., Los Angeles 1, Calif.

Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.

Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.

Scovill Manufacturing Co., Waterbury 20, Conn.

**SEABOARD COIL SPRING DIVISION**, 15001 S. Broadway, Gardena, Calif. ADV. PG. 311.

Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.

Sinclair Mfg. Co., Chartley, Mass.

Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.

Soldering Specialties Co., 18 Chatham Rd., Summit, N. J.

South River Metal Products Co., 377-379 Turnpike, South River, N. J.

Standard Locknut & Lockwasher Inc., 2250 Valley Ave., Indianapolis 18, Ind.

Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.

Stanley-Judd Div. of Stanley Works, Wallingford, Conn.

Stanley Pressed Metal Div. of The Stanley Works, New Britain, Conn.

**STAR EXPANSION PRODUCTS CO., INC.**, 142 Liberty St., New York 6, N. Y. ADV. PG. 588.

Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.

Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa.

Stein Co., William, 43 Breun St., Newark 5, N. J.

Stevens-Walden, Inc., 475 Shrewsbury St., Worcester 4, Mass.

Stewart Stamping Co., 630 Central Park Ave., Yonkers 4, N. Y.

Stimpson Co., Inc., Edwin B., 74 Franklin Ave., Brooklyn 5, N. Y.

Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.

Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.

**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.

**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W. Woodside 77, N. Y.

Thomas & Sons, Inc., Wilham, Slocum Ave., Ridgefield, N. J.

Tinnerman Products, Inc., P. O. Box 6688, Dept. No. 16, Cleveland 1, Ohio.

Titchener & Co., E. H., 67 Clinton St., Binghamton, N. Y.

Transformer Metal Products Corp., 36 York St., Brooklyn 1, N. Y.

Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill. ADV. PG. 64.

**UNITED-CARR FASTENER CORP.**, Cambridge 42, Mass. ADV. PG. 64.

United Screw & Bolt Corp., 2513 W. Cullerton St., Chicago 8, Ill.

United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.

**VOLKERT STAMPINGS, INC.**, 222-34 96th Ave., Queens Village 8, N. Y. ADG. PG. 103.

Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.

Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.

Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

Warren Plastics Corp., Warren, Pa.

Waterbury Companies, Inc., Waterbury 20, Conn.

Waterbury Pressed Metal Co., P-M Nut Div., 300 Chase Ave., Waterbury 14, Conn.

**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

Winzler Mfg. & Tool Co., 1716 W. Arcade Place, Chicago 12, Ill.

Worcester Pressed Aluminum Corp., 13-15 Hope Ave., Worcester, Mass.

Wrought Washer Mfg. Co., 2264 S. Bay St., Milwaukee 7, Wis.

**ZELL PRODUCTS CORP.**, 276-280 Main St., Norwalk, Conn. ADV. PG. 622, 623.

**ZERO MFG. CO.**, 1121 Chestnut St., Burbank 71, Calif. ADV. PG. 634.

**ZIERICK MFG. CORP.**, Beechwood & Rockdale Aves., New Rochelle, N. Y. ADV. PG. 605.

Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.

I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.

**KAUFF & SONS, C. B.**, 32 Newark Way, Maplewood, N. J. ADV. PG. 275.

Kling Metal Spinning Co., 247 Centre St., New York 13, N. Y.

**LEYSE ALUMINUM CO.**, Kewaunee, Wis. ADV. PG. 452.

Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.

**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.

Teiner Co., Inc., Roland, 134 Tremont St., Everett 49, Mass.

Teiner Engineering Corp., 116 Madison St., Malden, Mass.

**ZELL PRODUCTS CORP.**, 276-280 Main St., Norwalk, Conn. ADV. PG. 622, 623.

## METAL PARTS—Trimings

Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.

Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.

Croname, Inc., 1747 Grace St., Chicago 13, Ill.

I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.

**LEYSE ALUMINUM CO.**, Kewaunee, Wis. ADV. PG. 452.

Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.

**NATIONAL TEL-TRONICS CORP.**, 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.

Scovill Manufacturing Co., Waterbury 20, Conn.

## METALLIC OXIDE See RECTIFIERS

## METALS, ALLOYS, METALLIC OXIDES & COMPOUNDS

**Alnico**

**ARNOLD ENGINEERING CO.**, Marengo, Ill. ADV. PG. 322, 323.

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa. Cannon-Muskegon Corp., 2875 Lincoln St., Muskegon, Mich.

**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.

**GENERAL ELECTRIC CO., MAGNETIC MATERIALS SECTION**, 7780 Neff Rd., Edmore, Mich. ADV. PG. 16, 17.

**PERMAG CORP.**, 214 Taaffe Place, Brooklyn 5, N. Y. ADV. PG. 661.

Somers Brass Co., 94 Baldwin St., Waterbury, Conn.

Trent Tube Co., East Troy, N. Y.

**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## Aluminum

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.

Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.

American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.

**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.

**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.

Federated Metals Div. American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.

General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.

Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.

Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.

Precision Tube Co., Inc., North Wales, Pa.

Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.

Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.

Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago 16, Ill.

Scovill Manufacturing Co., Waterbury 20, Conn.

United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

## Antimony

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.

**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.

**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.

Barium & Chemicals, Inc., Willoughby, Ohio.

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa. Division Lead Co., 7742 W. 61st Place, Summit, Ill.

Federated Metals Div. American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.

General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.

Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.

Metal & Thermit Corp., Rahway, N. J.

National Lead Co., 111 Broadway, New York 6, N. Y.

United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

## Barium Compounds

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.

**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.

Barium & Chemicals, Inc., Willoughby, Ohio.

Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.

General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

King Laboratories, Inc., 127 Solar St., Syracuse 3, N. Y.

Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.

Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.

United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

## Beryllium and Beryllium Alloys

American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.

Beryllium Corp., Reading, Pa.

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.

Brush Beryllium Co., The, 4301 Perkins Ave., Cleveland 3, Ohio.

**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.

Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.

Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.

Somers Brass Co., 94 Baldwin Ave., Waterbury, Conn.

United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

## Boron

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.

**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.

**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.

General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Norton Co., 1 New Bond St., Worcester 6, Mass.

Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.

United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

## Brass and Bronze

American Brass Co., 414 Meadow St., Waterbury 20, Conn.

American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.

Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.

Bristol Brass Co., 580 Broad St., Bristol, Conn.

Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.

Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.

Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.

Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.

Phosphor Bronze Corp., 25 Franklin St., Seymour, Conn.

Precision Tube Co., Inc., North Wales, Pa.

Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.

Scovill Manufacturing Co., Waterbury 20, Conn.

Somers Brass Co., 94 Baldwin Ave., Waterbury, Conn.

Titan Metal Mfg. Co., Bellefonte, Pa.

United Wire & Supply Corp., Providence 7, R. I.

Utility Brass & Copper Corp., 255 Conover St., Brooklyn 31, N. Y.

## Cadmium

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.

**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.

**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.

**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa. Division Lead Co., 7742 W. 61st Place, Summit, Ill.

Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.

General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

**HARMON, LICHTENSTEIN & CO.**, 26 Broadway, New York 4, N. Y. ADV. PG. 661.

## METAL PARTS—Spinings

Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.

Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.

**AMERICAN ALUMINUM CO.**, Sheffield St., C, Mountain-side, N. J. ADV. PG. 604.

Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.

Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.

Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.

Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.

Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
 Johnson Mfg. Co., Inc., Mount Vernon, Iowa.  
 Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
**WILSON CO., H. A., THE**, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

## Cerium

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Delta Chemical Works, 21 W. 60th St., New York, N. Y.  
 Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
 New Process Metals, Inc., 45-65 Manufacturers Place, Newark 5, N. J.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Rare Earths, Inc., Box 488, Pompton Plains, N. J.

## Cesium Compounds

(For Photo-Tubes)

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Dow Chemical Co., Midland, Mich.  
 Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 3, N. Y.

## Chromium

**BAKER CHEMICAL CO.**, J. T., Phillipsburg, N. J. PG. 516.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
 Metal & Thermit Corp., Rahway, N. J.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Trent Tube Co., East Troy, N. Y.

## Cobalt

**BAKER CHEMICAL CO.**, J. T., Phillipsburg, N. J. ADV. PG. 516.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Cannon-Muskegon Corp., 2875 Lincoln St., Muskegon, Mich.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

## Coefficient Metals

Alloy Metal Wire Div. of H. K. Porter Co., Inc., Prospect Park, Pa.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Carpenter Steel Co., 142 W. Bern St., Reading, Pa.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## Columbium

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
 Murex Ltd., Rainham, Essex, England.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.

## Copper

American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
 American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
 Attleboro Refining Co., Inc., Attleboro, Mass.  
**BAKER CHEMICAL CO.**, J. T., Phillipsburg, N. J. ADV. PG. 516.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.  
 Bristol Brass Co., 580 Broad St., Bristol, Conn.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.

General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
 Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.  
 Precision Tube Co., Inc., North Wales, Pa.  
 Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.  
 Somers Brass Co., 94 Baldwin St., Waterbury, Conn.  
 United Wire & Supply Corp., Providence 7, R. I.  
 Utility Brass & Copper Corp., 255 Conover St., Brooklyn 31, N. Y.

## Electric Sheets—See Steel, Electric

## Foil-Aluminum, Tin or Lead

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
 Glaser Lead Co., Inc., 31 Wyckoff Ave., Brooklyn 37, N. Y.  
 Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
 Johnston Foil Mfg. Co., 6100 S. Broadway, St. Louis 11, Mo.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
**REPUBLIC FOIL & METAL MILLS, INC.**, 55 Triangle St., Danbury, Conn. ADV. PG. 416.  
 Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.  
 Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 3, N. Y.

## Germanium

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**HARMON, LICHTENSTEIN & CO.**, 26 Broadway, New York 4, N. Y. ADV. PG. 661.  
 Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
 United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.

## Gold and Gold Alloys

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
 American Platinum Works, N. J. R. R. Ave. at Oliver St., Newark 5, N. J.  
 American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 Attleboro Refining Co., Inc., Attleboro, Mass.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
 Bishop & Co., J., Platinum Works, Malvern, Pa.  
**BRAININ CO.**, C. S., 320 Washington St., Mt. Vernon, N. Y. ADV. PG. 601.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
 Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
 Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
 Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
 Improved Seamless Wire Co., 775 Eddy St., Providence 5, R. I.  
 Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.

**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Metz Refining Co., 369 Mulberry St., Newark 2, N. J.  
**NEY CO., J. M.**, 179 Elm St., Hartford, Conn. ADV. PG. 558.  
 Pease & Curran Inc., 780 Allens Ave., Providence, R. I.  
 Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
**SEL-REX CORP., PRECIOUS METALS DIV.**, 75 River Rd., Nutley 10, N. J. ADV. PG. 585.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
**TECHNIC, INC.**, P. O. Box 965, Providence 1, R. I. ADV. PG. 477.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
**WESTERN GOLD & PLATINUM CO.**, 589 Bryant St., San Francisco, Calif. ADV. PG. 593.  
 Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

## High Permeability Alloys

American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Cannon-Muskegon Corp., 2885 Lincoln St., Muskegon, Mich.  
 Carpenter Steel Co., The, 142 W. Bern St., Reading, Pa.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.  
 Trent Tube Co., East Troy, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## Indium

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Cerro De Pasco Sales Corp., 300 Park Ave., New York 22, N. Y.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
 Cominco, Metal Sales Div., 215 St. James St., W., Montreal, Canada.  
 Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
 Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
**WESTERN GOLD & PLATINUM CO.**, 589 Bryant St., San Francisco, Calif. ADV. PG. 593.

## Laminated

Alloy Metal Wire Div. of H. K. Porter Co., Inc., Prospect Park, Pa.  
 American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Utility Brass & Copper Corp., 255 Conover St., Brooklyn 31, N. Y.

## Lead

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
**BAKER CHEMICAL CO.**, J. T., Phillipsburg, N. J. ADV. PG. 516.  
 Bar-Ray Products, Inc., 209-25th St., Brooklyn 32, N. Y.  
 Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
 Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Glaser Lead Co., Inc., 31 Wyckoff Ave., Brooklyn 37, N. Y.  
 Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
**HARMON, LICHTENSTEIN & CO.**, 26 Broadway, New York 4, N. Y. ADV. PG. 661.  
 Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.



Johnson Mfg. Co., Inc., Mount Vernon, Iowa.  
National Lead Co., 111 Broadway, New York 6, N. Y.  
Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.

#### Lithium Compounds (for cathode tube screen setting)

Barium & Chemicals, Inc., Willoughby, Ohio.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Foote Mineral Co., 18 W. Cheltenham Ave., Philadelphia 44, Pa.  
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.

#### Magnesium

Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
BAKER CHEMICAL CO., J. T., Phillipsburg, N. J. ADV. PG. 516.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Dow Chemical Co., Midland, Mich.  
Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.

#### Magnesium Oxide

BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV. OF ALLIED CHEMICAL & DYE CORP., 40 Rector St., New York, N. Y. ADV. PG. 363.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Dow Chemical Co., Midland, Mich.  
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
Norton Co., 1 New Bond St., Worcester 6, Mass.

#### Magnetic Iron Oxide (for cores)

General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
Magnetic Powders, Inc., 1000 Fairview Ave., Johnsonburg, Pa.  
WILLIAMS & CO., C. K., 640 N. 13th St., Easton, Pa. ADV. PG. 318.

#### Magnetic Powdered

Antara Chemicals Div. of General Aniline & Film Corp., 435 Hudson St., New York 14, N. Y.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Magnetic Powders, Inc., 1000 Fairview Ave., Johnsonburg, Pa.

#### Magnetostriction

See Nickel & Nickel Alloys

#### Manganese

BAKER CHEMICAL CO., J. T., Phillipsburg, N. J. ADV. PG. 516.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
CRUCIBLE STEEL COMPANY OF AMERICA, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
Foote Mineral Co., 18 W. Cheltenham Ave., Philadelphia 44, Pa.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.

#### Mercury

BAKER CHEMICAL CO., J. T., Phillipsburg, N. J. ADV. PG. 516.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
WESTERN GOLD & PLATINUM CO., 589 Bryant St., San Francisco, Calif. ADV. PG. 593.  
Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

#### Molybdenum

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
BAKER CHEMICAL CO., J. T., Phillipsburg, N. J. ADV. PG. 516.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
ELECTRONIC PARTS MFG. CO., INC., 508-10 25th St., Union City, N. J. ADV. PG. 536.

Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Murex Ltd., Rainham, Essex, England.  
North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
REMBAR CO., INC., THE, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

#### Molybdenum Ribbon

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
CROSS CO., H., 15 Beekman St., New York 38, N. Y. ADV. PG. 660.  
General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
Murex Ltd., Rainham, Essex, England.  
REMBAR CO., INC., THE, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
Somers Brass Co., 94 Baldwin Ave., Waterbury, Conn.

#### Nickel and Nickel Alloys

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
Alloy Metal Wire Div. of H. K. Porter Co., Inc., Prospect Park, Pa.  
American Silver Co., Inc., 36-37 Prince St., Flushing 54, N. Y.  
BAKER CHEMICAL CO., J. T., Phillipsburg, N. J. ADV. PG. 516.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Cannon-Muskegon Corp., 2885 Lincoln St., Muskegon, Mich.  
Carpenter Steel Co., The, 142 W. Bern St., Reading, Pa.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
CRUCIBLE STEEL COMPANY OF AMERICA, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
DRIVER CO., WILBUR B., 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
DRIVER-HARRIS CO., 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
ELECTRONIC PARTS MFG. CO., INC., 508-10 25th St., Union City, N. J. ADV. PG. 536.  
Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
Haynes Stellite Co., A Div. of Union Carbide and Carbon Corp., 725 S. Lindsay St., Kokomo, Indiana.  
International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.  
Metal & Thermit Corp., Rahway, N. J.  
Precision Tube Co., Inc., North Wales, Pa.  
Phosphor Bronze Corp., 25 Franklin St., Seymour, Conn.  
Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.  
Somers Brass Co., 94 Baldwin Ave., Waterbury, Conn.  
Trent Tube Co., East Troy, N. Y.  
Vacuum Metals Corp., Div. of Crucible Steel Co., of America, P. O. Box 977, Syracuse 1, N. Y.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

#### Nickel Ribbon

Alloy Metal Wire, Div. of H. K. Porter Co., Inc., Prospect Park, Pa.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
DRIVER CO., WILBUR B., 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
DRIVER-HARRIS CO., 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
ELECTRONIC PARTS MFG. CO., INC., 508-10 25th St., Union City, N. J. ADV. PG. 536.  
LEACH & GARNER CO., Attleboro, Mass. ADV. PG. 327.  
Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
Somers Brass Co., 94 Baldwin Ave., Waterbury, Conn.

#### Palladium

AMERICAN METAL CO., LTD., 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
American Platinum Works, N. J. R. R. Ave. at Oliver St., Newark 5, N. J.  
BAKER & CO., INC., 113 Astor St., Newark, N. J. ADV. PG. 313.  
Bishop & Co., J., Platinum Works, Malvern, Pa.  
BRAININ CO., C. S., 320 Washington St., Mt. Vernon, N. Y. ADV. PG. 601.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
Derringer Metallurgical Corp., 8127 Monticello Ave., Skokie, Ill.  
Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.

Gibson Electric Co., The, Box J527, Delmont, Pa.  
Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
LEACH & GARNER CO., Attleboro, Mass. ADV. PG. 327.  
MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
Metz Refining Co., 369 Mulberry St., Newark 2, N. J.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Pease & Curran Inc., 780 Allens Ave., Providence, R. I.  
Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

#### Phosphor Bronze

American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.  
Bristol Brass Co., 580 Broad St., Bristol, Conn.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.  
Phosphor Bronze Corp., 25 Franklin St., Seymour, Conn.  
Precision Tube Co., Inc., North Wales, Pa.  
Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.  
Scovill Manufacturing Co., Waterbury 20, Conn.  
Somers Brass Co., 94 Baldwin Ave., Waterbury, Conn.  
Utility Brass & Copper Corp., 255 Conover St., Brooklyn 31, N. Y.

#### Platinum

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
AMERICAN METAL CO., LTD., 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
American Platinum Works, N. J. R. R. Ave. at Oliver St., Newark 5, N. J.  
BAKER & CO., INC., 113 Astor St., Newark, N. J. ADV. PG. 313.  
Bishop & Co., J., Platinum Works, Malvern, Pa.  
BRAININ CO., C. S., 320 Washington St., Mt. Vernon, N. Y. ADV. PG. 601.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
COHN CORP., SIGMUND, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
Derringer Metallurgical Corp., 8127 Monticello Ave., Skokie, Ill.  
Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
Goldsmith Bros. Smelting & Refining, 111 N. Wabash Ave., Chicago 2, Ill.  
LEACH & GARNER CO., Attleboro, Mass. ADV. PG. 327.  
METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
Metz Refining Co., 369 Mulberry St., Newark 2, N. J.  
Pease & Curran Inc., 780 Allens Ave., Providence, R. I.  
Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
TECHNIC INC., P. O. Box 965, Providence 1, R. I. ADV. PG. 477.  
Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
WESTERN GOLD & PLATINUM CO., 589 Bryant St., San Francisco, Calif. ADV. PG. 593.  
Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

#### Polonium

CANADIAN RADIUM & URANIUM CORP., 630 Fifth Ave., New York 20, N. Y. ADV. PG. 665.  
Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
U. S. RADIUM CORP., Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.

#### Powdered

AMERICAN METAL CO., LTD., 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
ANCHOR METAL CO., 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
Antara Chemicals Div. of General Aniline & Film Corp., 435 Hudson St., New York 14, N. Y.  
Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Foote Mineral Co., 18 W. Cheltenham Ave., Philadelphia 44, Pa.  
Gibson Electric Co., The, Box J527, Delmont, Pa.  
Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
HANDY & HARMAN, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.

Metal Hydrides, Inc., Beverly, Mass.  
Metz Refining Co., 369 Mulberry St., Newark 2, N. J.  
**NATIONAL MOLDITE CO.**, 1410 Chestnut Ave., Hillside 5, N. J. ADV. PG. 100.  
New Jersey Zinc Co., 160 Front St., New York 38, N. Y.  
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
**WESTERN GOLD & PLATINUM CO.**, 525 Harbor Blvd., Belmont, Calif. ADV. PG. 593.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
**WILLIAMS & CO.**, C. K., 640 N. 13th St., Easton, Pa. ADV. PG. 318.

## Powders, Nonmagnetic—Iron Oxide

**COLUMBIAN CARBON CO.**, MAPICO COLOR UNIT, 380 Madison Ave., New York 17, N. Y. ADV. PG. 667.  
Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
**WILLIAMS & CO.**, C. K. 640 N. 13th St., Easton, Pa. ADV. PG. 318.

## Radium

**CANADIAN RADIUM & URANIUM CORP.**, 630 Fifth Ave., New York 20, N. Y. ADV. PG. 665.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.

## Selenium

**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV. OF ALLIED CHEMICAL & DYE CORP.**, 40 Rector St., New York, N. Y. ADV. PG. 363.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.

## Silicon

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Dow Corning Corp., Midland, Mich.  
du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
Flight Research, Inc., P. O. Box 1-F, Richmond 1, Va.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.

## Silicon Carbide

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.

## Silver

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
American Platinum Works, N. J. R. R. Ave. at Oliver St., Newark 5, N. J.  
American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
Attleboro Refining Co., Inc., Attleboro, Mass.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
**BAKER CHEMICAL CO.**, J. T., Phillipsburg, N. J. ADV. PG. 516.  
**BRAININ CO., C. S.**, 320 Washington St., Mt. Vernon, N. Y. ADV. PG. 601.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
Derringer Metallurgical Corp., 8127 Monticello Ave., Skokie, Ill.  
Eastern Smelting & Refining Corp., 107-109 Brookline St., Boston 18, Mass.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
Gibson Electric Co., The, Box J527, Delmont, Pa.  
Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
Metz Refining Co., 369 Mulberry St., Newark 2, N. J.  
**NEY CO., J. M.**, 179 Elm St., Hartford, Conn. ADV. PG. 558.  
Pease & Curran Inc., 780 Allens Ave., Providence, R. I.

**SEL-REX CORP., PRECIOUS METALS DIV.**, 75 River Rd., Nutley 10, N. J. ADV. PG. 585.  
Standard Metals Corp., Broad & Whiting Sts., North Attleboro, Mass.  
Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
**WESTERN GOLD & PLATINUM CO.**, 525 Harbor Blvd., Belmont, Calif. ADV. PG. 593.  
Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.  
**WILSON CO., H. A., THE**, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

## Silver Alloys and Compounds

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
American Platinum Works, N.J.R.R. Ave. at Oliver St., Newark 5, N. J.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
**BAKER & CO., INC.**, 113 Astor St., Newark N. J. ADV. PG. 313.  
**BRAININ CO., C. S.**, 320 Washington St., Mt. Vernon, N. Y. ADV. PG. 601.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
Derringer Metallurgical Corp., 8127 Monticello Ave., Skokie, Ill.  
Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
Gibson Electric Co., The, Box J527, Delmont, Pa.  
Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
Improved Seamless Wire Co., 775 Eddy St., Providence 5, R. I.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
Mallinckrodt Chemical Works, Second and Mallinckrodt Sts., St. Louis 7, Mo.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
Metz Refining Co., 369 Mulberry St., Newark 2, N. J.  
**NEY CO., J. M.**, 179 Elm St., Hartford, Conn. ADV. PG. 558.  
Pease & Curran Inc., 780 Allens Ave., Providence, R. I.  
**SEL-REX CORP., PRECIOUS METALS DIV.**, 75 River Rd., Nutley 10, N. J. ADV. PG. 585.  
Standard Metals Corp., Broad & Whiting Sts., North Attleboro, Mass.  
Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
United Wire & Supply Corp., Providence 7, R. I.  
**WESTERN GOLD & PLATINUM CO.**, 589 Bryant St., San Francisco, Calif. ADV. PG. 593.  
Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.  
**WILSON CO., H. A., THE**, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

## Steel

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
Armco Steel Corp., 703 Curtis St., Middletown, Ohio.  
Cannon-Muskegon Corp., 2885 Lincoln St., Muskegon, Mich.  
Carpenter Steel Co., 142 W. Bern St., Reading, Pa.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago 16, Ill.  
Trent Tube Co., East Troy, N. Y.  
U. S. Steel Corp., 525 William Penn Place, Pittsburgh 30, Pa.  
Vacuum Metals Corp., Div. of Crucible Steel Co. of America, P. O. Box 977, Syracuse 1, N. Y.

## Steel, Electric

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
Armco Steel Corp., 703 Curtis St., Middletown, Ohio.  
Cannon-Muskegon Corp., 2875 Lincoln St., Muskegon, Mich.  
Carpenter Steel Co., 142 W. Bern St., Reading, Pa.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
Trent Tube Co., East Troy, N. Y.  
U. S. Steel Corp., 525 William Penn Place, Pittsburgh 30, Pa.

## Steel, Stainless

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
Alloy Metal Wire, Div. of H. K. Porter Co., Inc., Prospect Park, Pa.

American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
Armco Steel Corp., 703 Curtis St., Middletown, Ohio.  
Cannon-Muskegon Corp., 2885 Lincoln St., Muskegon, Mich.  
Carpenter Steel Co., The, 142 W. Bern St., Reading, Pa.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.  
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago 16, Ill.  
Trent Tube Co., East Troy, N. Y.  
U. S. Steel Corp., 525 William Penn Place, Pittsburgh 30, Pa.  
Vacuum Metals Corp., Div. of Crucible Steel Co. of America, P. O. Box 977, Syracuse 1, N. Y.

## Strontium Compounds

**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.  
Barium & Chemicals, Inc., Willoughby, Ohio.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
King Laboratories Inc., 127 Solar St., Syracuse 3, N. Y.  
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.

## Tantalum

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Murex Ltd., Rainham, Essex, England.

## Tellurium

**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.

## Thermostatic Bi-Metals

See Bi-Metals—Thermostatic

## Thorium

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
Delta Chemical Works, 21 W. 60th St., New York, N. Y.  
Heavy Minerals Co., 261 Madison Ave., New York 16, N. Y.  
Lindsay Chemical Co., 272 Ann St., West Chicago, Ill.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
New Process Metals, 45-65 Manufacturers Place, Newark 2, N. J.  
Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
Rare Earths, Inc., Box 488, Pompton Plains, N. J.

## Tin

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.  
Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
Johnson Mfg. Co., Inc., Mount Vernon, Iowa.  
Metal & Thermit Corp., Rahway, N. J.  
National Lead Co., 111 Broadway, New York 6, N. Y.

## Titanium

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.

American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Metal Hydrides, Inc., Beverly, Mass.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Rem-Cru Titanium, Inc., Midland, Pa.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Trent Tube Co., East Troy, N. Y.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

**Tungsten**

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
 General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
 Gibson Electric Co., The, Box 527, Delmont, Pa.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Murex, Ltd., Rainham, Essex, England.  
 North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

**Tungsten Ribbon**

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**CROSS CO., H.**, 15 Beekman St., New York 38, N. Y. ADV. PG. 660.  
 General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.

**Uranium**

**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.

**Vacuum Melted**

Cannon-Muskegon Corp., 2885 Lincoln St., Muskegon, Mich.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Vacuum Metals Corp., Div. of Crucible Steel Co. of America, P. O. Box 977, Syracuse 1, N. Y.

**Zinc**

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**AMERICAN METAL CO., LTD.**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
**BAKER CHEMICAL CO., J. T.**, Phillipsburg, N. J. ADV. PG. 516.  
 Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
**HARMON, LICHTENSTEIN & CO.**, 26 Broadway, New York 4, N. Y. ADV. PG. 661.  
 Johnson Mfg. Co., Inc., Mount Vernon, Iowa.  
 Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis 7, Mo.

National Lead Co., 111 Broadway, New York 6, N. Y.  
 New Jersey Zinc Co., 160 Front St., New York 38, N. Y.

**Zirconium**

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Carborundum Metals Co., The, P. O. Box 32, Akron, N. Y.  
 Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Jonas Co., F., 55 W. 42nd St., New York 36, N. Y.  
 Metal Hydrides, Inc., Beverly, Mass.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Murex, Ltd., Rainham, Essex, England.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.

**METEOROLOGICAL EQUIPMENT—Electronic**

Advance Instrument Corp., 1709 F. St., Belmar, N. J.  
 Aeronautical Communications Equipment, Inc., 3090 S.W. 37th Ave., Miami 33, Fla.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Beckman & Whitley, Inc., 913 San Carlos Ave., San Carlos, Calif.  
 Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles 64, Calif.  
 Friez Instrument Division, Bendix Aviation Corp., Baltimore 4, Md.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W.C. 2, England. ADV. PG. 560.  
 Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J.

**METERS—Acceleration**

See **ACCELEROMETERS**

**METERS—Attenuation**

Admittance-Namco Corp., Farmingdale, N. Y.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**DEMORNAY-BONARDI, INC.**, 780 S. Aaroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 WaçLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.

**METERS—Cable Testing**

**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Borden Engineering Co. Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Liquidometer Corp., The, Skillman Ave. at 36th St., Long Island City 1, N. Y.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
**PHOTOGRAPHIC PRODUCTS, INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**PRECISE MEASUREMENTS CO., R. D. #1**, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
**RADAR ENGINEERS**, 403 E. 45th St., Seattle 5, Wash. ADV. PG. 462.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**METERS—Conductance**

Bruel & Kjaer, Naerum, Denmark.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.

**METERS—Counting Rate**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

Bruel & Kjaer, Naerum, Denmark.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
 Douglas Radio Labs., 176 Norfolk Ave., Boston 19, Mass.  
 Electronic Products Co., 111 E. Third St., Mt. Vernon, N. Y.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Leighton Labs., H. W. Sunset Lane & York Rd., Hatboro, Pa.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 NRDI Instrument Co., 6425 Etzel Ave., St. Louis 14, Mo.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
 Nuclearne Company of America, 196 DeGraw St., Brooklyn 31, N. Y.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
 Radiation Instrument Development Labs., 2337 W. 67th St., Chicago 36, Ill.  
 Synshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
 Technical Measurement Corp., 140-142 State St., New Haven 11, Conn.  
**VICTOREEN INSTRUMENTS CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.

**METERS—d'Arsonval**

See Also **Galvanometers**

**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**ASSEMBLY PRODUCTS, INC.**, Chesterland 6, Ohio. ADV. PG. 504, 505.  
**BEEDE ELECTRICAL INSTRUMENT CO., INC.**, Penacook, N. H. ADV. PG. 626.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
**DEJUR-AMSCO CORP.**, Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 Electric Design & Mfg. Corp., Burlington, Iowa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**HICKOK ELECTRICAL INSTRUMENT CO.**, 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
**HOYT ELECTRICAL INSTRUMENT WORKS, INC.**, 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
**IDEAL PRECISION METER CO., INC.**, 126 Greenpoint Ave., Brooklyn 22, N. Y. ADV. PG. 651.  
**INTERNATIONAL INSTRUMENTS, INC.**, P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
 Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
 Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Q.V.S. Inc., 20 N. 15th St., East Orange, N. J.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 WaçLine, Inc., 35 S. St. Clair St., Dalton 2, Ohio.  
**WATERS MANUFACTURING, INC.**, Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**METERS—Decibel**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**BEEDE ELECTRICAL INSTRUMENT CO., INC.**, Penacook, N. H. ADV. PG. 626.  
 Clough-Bregle Co., 6014 N. Broadway, Chicago, Ill.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**DEJUR-AMSCO CORP.**, Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 Electric Design & Mfg. Corp., Burlington, Iowa.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.

HICKOK ELECTRICAL INSTRUMENT CO., 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
 HOYT ELECTRICAL INSTRUMENT WORKS, INC., 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
 INTERNATIONAL INSTRUMENTS, INC., P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
 Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
 Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Q.V.S. Inc., 20 N. 15th St., East Orange, N. J.  
 Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 WATERS MANUFACTURING, INC., Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### METERS—Distortion and Noise

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 BOONTON ELECTRONICS CORP., 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 Bruel & Kjaer, Naerum, Denmark.  
 Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.  
 DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
 DeMORNAY-BONARDI, INC., 780 S. Arroya Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 DYNA-EMPIRE, INC., 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
 EMPIRE DEVICES PRODUCTS CORP., 38-25 Bell Blvd., Bayside 61, N. Y. ADV. PG. 388.  
 FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 MEASUREMENTS CORP., Boonton, N. J. ADV. PG. 94.  
 Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

### METERS—Elapsed Time

Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
 BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond, Calif. ADV. PG. 73-80  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
 DEJUR-AMSCO CORP., Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
 Foxboro Co., The, Foxboro, Mass.  
 HAYDON CO., A. W., 238 N. Elm St., Waterbury, Conn. ADV. PG. 531.  
 HAYDON MFG. CO., INC., 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
 HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
 INDUSTRIAL TIMER CORP., 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
 Ingraham Co., E., Bristol, Conn.  
 J-B-T INSTRUMENTS, INC., 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 STICHT CO., INC., HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 UNIWAIVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### METERS—Electronic Capacitance

### METERS—Field Strength

See INSTRUMENTS—Electrical Measuring

### METERS—Flow, Electronic

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 COMPUTER-MEASUREMENT CORP., 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa. Foxboro Co., The, Foxboro, Mass.  
 GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Hastings-Raydist, Inc., Hampton 9, Va.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
 Industrial Development Labs., Inc., 17 Pollock Ave., Jersey City 5, N. J.  
 LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Nuclear Research Corp., Southampton, Pa.  
 POTTER AERONAUTICAL CORP., Route #22, Union, N. J. ADV. PG. 372, 373.  
 REVERSE CORP. OF AMERICA, SUB. OF NEPTUNE ME-TER CO., Wallingford 2, Conn. ADV. PG. 516.  
 WAUGH ENGINEERING CO., 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.

### METERS—Flutter

See METERS—Wow and Flutter

### METERS—F-M Deviation

See INSTRUMENTS—Electrical Measuring

### METERS—Footcandle

DEJUR-AMSCO CORP., Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Specialties, Inc., Skunks Misery Rd., Syosset, N. Y.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### METERS—Frequency

See INSTRUMENTS—Electrical Measuring

### METERS—Frequency, Microwave

See MICROWAVE ACCESSORIES

### METERS—Grid Dip

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 BOONTON ELECTRONICS CORP., 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
 HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
 MEASUREMENTS CORP., Boonton, N. J. ADV. PG. 94.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

### METERS—Impedance

See INSTRUMENTS—Electrical Measuring

### METERS—Light

Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
 DEJUR-AMSCO CORP., Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.

SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, N. Y. ADV. PG. 733-739.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
 Zoomar, Inc., Glen Cove, N. Y.

### METERS—Microroll

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
 American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
 BOONTON RADIO CORP., Boonton, N. J. ADV. PG. 427.  
 CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 DEJUR-AMSCO CORP., Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 KEITHLEY INSTRUMENTS, INC., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.

### METERS—Microwave

See MICROWAVE ACCESSORIES

### METERS—Modulation

See INSTRUMENTS—Electrical Measuring

### METERS—Moisture, Electronic

BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Delmhorst Instrument Co., 601 Cedar St., Boonton, N. J.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Foxboro Co., The, Foxboro, Mass.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 Kahn & Co., Inc., 541 Wndors St., Hartford 1, Conn.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Moisture Register Co., 1510 W. Chestnut St., Alhambra, Calif.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### METERS—Null

### METERS—Output

### METERS—Panel

See INSTRUMENTS—Electrical Measuring

### METERS—pH Meters, Recorders & Comparators

Analytical Measurements, Inc., 585 Main St., Chatham, N. J.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
 Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.  
 Foxboro Co., The, Foxboro, Mass.  
 HICKOK ELECTRICAL INSTRUMENT CO., 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.

Phillips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 Photovolt Corp., 95 Madison Ave., New York 16, N. Y.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 Q.V.S. Inc., 20 N. 15th St., East Orange, N. J.  
 Scientific Instruments Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

**METERS—Phase Angle**

See INSTRUMENTS—Electrical Measuring

**METERS—Photoelectric Reflection**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Gardner Lab., Inc., 4723 Elm St., Bethesda 14, Md.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photovolt Corp., 95 Madison Ave., New York 16, N. Y.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 Zoomar, Inc., Glen Cove, N. Y.

**METERS—Power Factor**

See INSTRUMENTS—Electrical Measuring

**METERS—Power, Microwave**

See MICROWAVE ACCESSORIES

**METERS—Power Output**

AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 AMERAC, INC., 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 CUBIC CORP., 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
 INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
 RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 SIERRA ELECTRONIC CORP., 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**METERS—Q****METERS—RF Power**

See INSTRUMENTS—Electrical Measuring

**METERS—Sound Level**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
 BEEDE ELECTRICAL INSTRUMENT CO., INC., Penacook, N. H. ADV. PG. 626.  
 Bruel & Kjaer, Naerum, Denmark.  
 Chesapeake Instrument Corp., Shadyside, Md.  
 DYNA-EMPIRE, INC., 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago 41, Ill.  
 Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
 Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
 Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

Triplet Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

**METERS—Standing Wave Ratio**

See INSTRUMENTS—Electrical Measuring

**METERS—Thermocouple**

ASSEMBLY PRODUCTS, INC., Chesterland 6, Ohio. ADV. PG. 504, 505.  
 Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
 BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP., 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Foxboro Co., The, Foxboro, Mass.  
 Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 LEWIS ENGINEERING CO., 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Q. V. S., Inc., 20 N. 15th St., East Orange, N. J.  
 RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Simpson Electric Co. Div., American Gage & Machine Co., 5218 Kinzie St., Chicago 44, Ill.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
 Triplet Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**METERS—Vibration**

Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
 Bruel & Kjaer, Naerum, Denmark.  
 Chesapeake Instrument Corp., Shadyside, Md.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Dubrow Development Co., 235 B Penn St., Burlington, N. J.  
 EASTERN PRECISION RESISTOR CORP., 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Epic, Inc., 154 Nassau St., New York 38, N. Y.  
 Erwood, Inc., 1770 Berteau Ave., Chicago 13, Ill.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 International Research & Development Corp., 769 Thomas-Lane, P. O. Box 1707, Cleveland 16, Ohio.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 LING ELECTRONICS, INC., 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 MB MFG. CO., A DIV. OF TEXTRON AMERICAN, INC., 1060 State St., New Haven 11, Conn. ADV. PG. 552.

**METERS—Viscosity, Electronic**

Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.

**METERS—Volt-Ohm, Electronic**

ACTION LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.  
 Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Alpha Instrument Co., 43 Hempstead St., New London, Conn.  
 American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
 BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.

Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.

HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.

HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.

HICKOK ELECTRICAL INSTRUMENT CO., 10514 Dupont Ave., Cleveland 8, Ohio. ADV. PG. 66.

Hycon Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
 Leitch Engineering Corp., 326 Lincoln St., Manchester, N. H.

Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.

MEASUREMENTS CORP., Boonton, N. J. ADV. PG. 94.

Metronix, Inc., Mill Lane, Waterford, Conn.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.

Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.

North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y.

Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.

NORTHEASTERN ENGINEERING, INC., Manchester, N. H. ADV. PG. 518, 519.

Pameco, Mill Lane, Waterford, Conn.  
 Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.

Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.

RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.

Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
 Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.

Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.

SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.

Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.

Telotronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Triplet Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.

**METERS—Wave**

See INSTRUMENTS—Electrical Measuring

**METERS—Wow and Flutter**

Amplifier Corp. of America, 396 Broadway, New York 13, N. Y.  
 D & R, LTD., 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
 DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

**METERS—X-Ray Intensity**

See INSTRUMENTS—Electrical Measuring

**MICA**

See INSULATION MATERIALS

**MICROAMMETERS****MICROFARADMMETERS**

See INSTRUMENTS—Electrical Measuring

**MICROMETERS—Electronic**

American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.

**MICRO-MICROAMMETERS**

See INSTRUMENTS—Electrical Measuring

**MICRO-OHMMETERS**

American Metrix Corp., 40 Haddon Ave., Camden 2, N. J.  
 ANTON ELECTRONIC LABS, INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Dice Co., J. W., Englewood, N. J.  
 Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.  
 SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.

STICHT CO., INC., HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## MICROPHONES—Aircraft Type

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 American Microphone Co., 370 S. Fair Oaks Ave., Pasadena 1, Calif.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Universal Microphone Co., Box 55, Inglewood, Calif.

## MICROPHONES—Carbon

American Microphone Co., 370 S. Fair Oaks Ave., Pasadena 1, Calif.  
 Astatic Corporation, The, Conneaut, Ohio.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.  
 Philmore Mfg. Co., Inc., 113 University Place, New York 3, N. Y.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Turner Co., The, 909 17th St., N. E., Cedar Rapids, Iowa.  
 Universal Microphone Co., Box 55, Inglewood, Calif.  
 UNIVERSITY LOUDSPEAKERS, INC., 80 S. Kensico Ave., White Plains, N. Y. ADV. PG. 514.

## MICROPHONES—Condenser

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 American Elite, Inc., (Telefunken), 7 Park Ave., New York 16, N. Y.  
 Audio Instrument Co., Inc., 133E W. 14th St., New York 11, N. Y.  
 Bruel & Kjaer, Naerum, Denmark.  
 BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Capps & Co., Inc., 20 Addison Place, Valley Stream, N. Y.  
 Electrovert Inc., 489 Fifth Ave., New York 17, N. Y.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 INTERSEARCH, INC., 7 Arcadia Place, Cincinnati 8, Ohio. ADV. PG. 480.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Photocon Research Products, 421 N. Altadena Dr., Pasadena, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Universal Microphone Co., Box 55, Inglewood, Calif.

## MICROPHONES—Contact

American Microphone Co., 370 S. Fair Oaks Ave., Pasadena 1, Calif.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Universal Microphone Co., Box 55, Inglewood, Calif.  
 Webcor, Inc., Chicago, Ill.

## MICROPHONES—Crystal

American Microphone Co., 370 So. Fair Oaks Ave., Pasadena 1, Calif.  
 Astatic Corporation, The, Conneaut, Ohio.

Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.  
 BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Capps & Co., Inc., 20 Addison Place, Valley Stream, N. Y.  
 Chesapeake Instrument Corp., Shadyside, Md.  
 DYNA-EMPIRE, INC., 1975 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Rye Sound Corp., 21 Rye Rd., Rye, N. Y.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Tibbetts Industries, Inc., Camden, Maine.  
 Turner Co., The, 909 17th St., N. E., Cedar Rapids, Iowa.  
 Universal Microphone Co., Box 55, Inglewood, Calif.

## MICROPHONES—Dynamic

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 American Elite, Inc., (Telefunken), 7 Park Ave., New York 16, N. Y.  
 American Microphone Co., 370 So. Fair Oaks Ave., Pasadena 1, Calif.  
 Astatic Corporation, The, Conneaut, Ohio.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 Electrovert Inc., 489 Fifth Ave., New York 17, N. Y.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 INTERSEARCH, INC., 7 Arcadia Place, Cincinnati 8, Ohio. ADV. PG. 480.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telephonics Corp., Park Avenue, Huntington, N. Y.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Turner Co., The, 909 17th St., N. E., Cedar Rapids, Iowa.  
 Universal Microphone Co., Box 55, Inglewood, Calif.

## MICROPHONES—Magnetic

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 American Microphone Co., 370 S. Fair Oaks Ave., Pasadena 1, Calif.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 DYNA-EMPIRE, INC., 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 KNOWLES ELECTRONICS, INC., 9400 Belmont Ave., Franklin Park, Ill. ADV. PG. 178.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Turner Co., The, 909 17th St., N. E., Cedar Rapids, Iowa.  
 Universal Microphone Co., Box 55, Inglewood, Calif.

## MICROPHONES—Noise Cancelling

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 American Microphone Co., 370 S. Fair Oaks Ave., Pasadena 1, Calif.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.

Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Turner Co., The, 909 17th St., N. E., Cedar Rapids, Iowa.  
 Universal Microphone Co., Box 55, Inglewood, Calif.

## MICROPHONES—Velocity

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 American Microphone Co., 370 S. Fair Oaks Ave., Pasadena 1, Calif.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Universal Microphone Co., Box 55, Inglewood, Calif.

## MICROSCOPES—Electron

Farrand Optical Co., Inc., Bronx Blvd. at 238th St., New York 70, N. Y.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453 Third & Fourth Covers.

## MICROWAVE ACCESSORIES Amplifiers, Microwave to Wavemeters inclusive

### AMPLIFIERS—Microwave

AIRCOM INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
 AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Alfred Electronics, 897 Commercial St., Palo Alto, Calif.  
 AMERAC, INC., 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
 AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 DeMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.  
 HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CO., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Levinthal Electronic Products, Inc., 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.  
 Pennsylvania Testing Lab, Inc., Doylestown, Pa.  
 POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
 WAVE/PARTICLE CO., P. O. Box 252, Menlo Park, Calif. ADV. PG. 591.  
 White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**AMPLIFIERS—Microwave Radar**  
 AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 AMERAC, INC., 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
 APPLIED RESEARCH, INC., 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.

**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
**RS Electronics Corp.**, 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 Telephonics Corp., Park Ave., Huntington, N. Y.

**ANALYZERS—Microwave Radar**

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Electronics & Avionics Div. of The Emerson Electric Mfg. Co., 8300 Florissant Ave., St. Louis 21, Mo.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
**VECTRON, INC.**, 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.

**ANTENNAS—Microwave**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass. ADV. PG. 589.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Alpar Manufacturing Corp., 2910 Spring St., Redwood City, Calif.  
 American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**BOGART MFG. CORP.**, 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Dalmo Victor Co., Div. of Tectron, Inc., 1515 Industrial Way, Belmont, Calif.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
 Dorne and Margolin Inc., 30 Sylvester St., Westbury, N. Y.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Fretco, Inc., 406 N. Craig St., Pittsburgh 13, Pa.  
**GABRIEL ELECTRONICS DIV., THE GABRIEL CO.**, 135 Crescent Rd., Needham Heights 94, Mass. ADV. PG. 382.  
 Gar Precision Parts, Inc., 703 Pacific St., Stamford, Conn.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.

**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KENNEDY & CO. D. S.**, Cohasset, Mass. ADV. PG. 43.  
**KENT CO., F. C.**, 64 Howard St., Irvington, N. J. ADV. PG. 634.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
**MARK PRODUCTS CO.**, 6412 W. Lincoln Ave., Morton Grove, Ill. ADV. PG. 574.  
 Maryland Electronic Mfg. Corp., College Park, Md.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.

Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
 Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.  
 Production Research Corp., Thornwood, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
**SANDERS ASSOCIATES, INC.**, Nashua, N. H. ADV. PG. 534.  
 Scientific-Atlanta, Inc., 2162 Piedmont Rd., N.E., Atlanta 9, Ga.  
 Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Stainless, Inc., Third St., North Wales, Pa.  
 Sterling Precision Corp., Instrument Div., 34-17 Lawrence St., Flushing 54, N. Y.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Terpening Co., L. H., 16 W. 61st St., New York, N. Y.  
 Tower Construction Co., 2700 Hawkeye Drive, Sioux City, Iowa.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveguide, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**ATTENUATORS—Microwave, Adjustable & Calibrated**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**AMERAC, INC.**, 116 Topsfield Rd., Wenhams, Mass. ADV. PG. 412.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
 Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
 Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Elco Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y.  
**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL COMMUNICATION CO.**, 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 Gombos Co., Inc., John, 103 Montgomery Ave., Irvington 11, N. J.  
 Graham Mfg. Co., Inc., 247 Bridge St., East Greenwich, R. I.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.

**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KEARFOTT CO., INC., WESTERN DIV.**, 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
 Metavac, Inc., 45-68 162nd St., Flushing 58, N. Y.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
 Pacific Universal Products Corp., 168 Vista Ave., Pasadena 8, Calif.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
 Radiation, Inc., Melbourne, Fla.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
**SANDERS ASSOCIATES, INC.**, Nashua, N. H. ADV. PG. 534.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
 Terpening Co., L. H., 16 W. 61st St., New York, N. Y.  
**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.  
 Transline Associates, 95 Summit St., Newark 3, N. J.  
**VECTRON, INC.**, 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveguide, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
**WEINSCHEL ENGINEERING CO. INC.**, 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.  
 Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.  
 White Electron Devices Inc., Roger, Fourth Ave., Haskell, Ind.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**ATTENUATORS—Microwave Coaxial Fixed**

Admittance-Namco Corp., Farmingdale, N. Y.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 Bellaire Electronics, Inc., 62 White St., Red Bank N. J.  
**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**ELECTROMATION CO.**, 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
 Electron-Radar Products, P. O. Box 50, Route No. 30, Aurora, Ill.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.  
**EMPIRE DEVICES PRODUCTS CORP.**, 38-15 Bell Blvd., Bayside 61, N. Y. ADV. PG. 388.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL COMMUNICATION CO.**, 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.

J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Metavac, Inc., 45-68 162nd St., Flushing 58, N. Y.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**MICROPHASE CORP.**, P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
 Pitometer Long Corp., 237 Lafayette St., New York 12, N. Y.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
 Schutter Co., Carl W., 80 E. Montauk Pkwy., Lindenhurst, N. Y.  
**STODDART AIRCRAFT RADIO CO.**, 6644 Santa Monica Blvd Hollywood 38, Calif. ADV. PG. 498, 499.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Telewave Laboratories, Inc., 43-20 34th St., Long Island City, N. Y.  
**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.  
 Transline Associates, 95 Summit St., Newark 3, N. J.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
**U. S. RUBBER CO.**, 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
 Weinschel, Inc., 35 S. St. Claire St., Dayton 2, Ohio.  
**WEINSCHTEL ENGINEERING CO., INC.**, 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

## ATTENUATORS—Microwave Step

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircorn Inc., 1209 E. Grand St., Elizabeth, N. J.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**CUSTOM COMPONENTS, INC.**, Caldwell, N. J. ADV. PG. 626.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DEMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.  
 Electrovac, Inc., 489 Fifth Ave., New York 17, N. Y.  
**EMPIRE DEVICES PRODUCTS CORP.**, 38-15 Bell Blvd., Bayside 61, N. Y. ADV. PG. 388.  
**GENERAL COMMUNICATION CO.**, 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 Metavac, Inc., 45-68 162nd St., Flushing 58, N. Y.  
**MICROLAB**, 71 Okner Parkway Livingston, N. J. ADV. PG. 284.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 N. R. K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 New London Instrument Co., P. O. Box 189, New London, Conn.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Schutter Co., Carl W., 80 E. Montauk Pkwy., Lindenhurst, N. Y.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
**STODDART AIRCRAFT RADIO CO.**, 6644 Santa Monica Blvd., Hollywood 38, Calif. ADV. PG. 498, 499.

Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
**TRAD ELECTRONICS CORP.**, 1001 First Ave., Asbury Park, N. J. ADV. PG. 522.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
**WEINSCHTEL ENGINEERING CO., INC.**, 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

## BENDS—Microwave

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircorn Inc., 1209 E. Grand St., Elizabeth, N. J.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Chemalloy Electronics Corp. Gillespie Field, Santee, Calif.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DEMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Elco Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KENT CO., F. C.**, 64 Howard St., Irvington, N. J. ADV. PG. 634.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
**SPECIALTY AUTOMATIC MACHINE CORP.**, 100 Gerrish Ave., Chelsea, Mass. ADV. PG. 672.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveguide, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.  
 Waveline, Inc., Box 470, Caldwell, N. J.

## CALORIMETERS—Microwave

Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195, 198.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.

## CAVITIES—Microwave

Admittance-Namco Corp., Farmingdale, N. Y.  
**AIRCORN INC.**, 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
 Aircorn Inc., 1209 E. Grand St., Elizabeth, N. J.  
**AMERAC, INC.**, 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
**C.G.S. Laboratories, Inc.**, 391 Ludlow St., Stamford, Conn.  
 Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 335 N. Newport Blvd., Newport Beach, Calif.  
**DEMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
**FREQUENCY STANDARDS, INC.**, P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.

Gar Precision Parts, Inc., 703 Pacific St., Stamford, Conn.  
**GENERAL COMMUNICATION CO.**, 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 Gombos Co., Inc., John, 103 Montgomery Ave., Irvington 11, N. J.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROPHASE CORP.**, P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Terpening Co., L. H., 16 W. 61st St., New York, N. Y.  
**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
**VECTRON, INC.**, 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
 Waveguide, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.  
 Waveline, Inc., Box 470, Caldwell, N. J.

## COUPLERS—Directional

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircorn Inc., 1209 E. Grand St., Elizabeth, N. J.  
**AIRCORN INC.**, 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**AUTOMATIC METAL PRODUCTS CORP.**, 315 Berry St., Brooklyn 11, N. Y. ADV. PG. 626.  
**BIRD ELECTRONIC CORP.**, 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
**BOGART MFG. CORP.**, 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DEMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**ELECTROMATION CO.**, 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**JONES ELECTRONICS CO., INC.**, M. C., 185 N. Main St., Bristol, Conn. ADV. PG. 376.  
**KEARFOTT CO., INC. WESTERN DIV.**, 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 Microwave Development Labs. Inc., 92 Broad St., Babson Park 57, Mass.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.



N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
**RS Electronics Corp.**, 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
 Terpening Co., L. H., 16 W. 61st St., New York, N. Y.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

**COUPLINGS—Microwave**

Admittance-Namco Corp., Farmingdale, N. Y.  
**Aircorn Inc.**, 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 Gombos Co., Inc., John, 103 Montgomery Ave., Irvington 11, N. J.  
**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KEARFOTT CO., INC. ENGINEERING & SALES DIV.**, 1378 Main St., Clifton, N. J. ADV. PG. 181.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
 Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Prödelin, Inc., 307 Bergen Ave., Kearny, N. J.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Research Development Manufacture, Inc., 429 E. Collom St., Philadelphia 44, Pa.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Transline Associates, 95 Summit St., Newark 3, N. J.  
 Tru-Connector Corp., 416 Union St., Lynn, Mass.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveline, Inc., Box 470, Caldwell, N. J.

**CRYSTAL MOUNTS AND MIXERS**

Admittance-Namco Corp., Farmingdale, N. Y.  
**Aircorn Inc.**, 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky.  
**AUTOMATIC METAL PRODUCTS CORP.**, 315 Berry St., Brooklyn 11, N. Y. ADV. PG. 626.  
 British-Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.

**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Elco Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**FREQUENCY STANDARDS, INC.**, P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 Javex P. O. Box 646, Redlands, Calif.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
 Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
**STANDARD CRYSTAL CO.**, 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
**TRAD ELECTRONICS CORP.**, 1001 First Ave., Asbury Park, N. J. ADV. PG. 522.  
 Tru-Connector Corp., 416 Union St., Lynn, Mass.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Warren Plastics Corp., Warren, Pa.

**DIODES—Microwave Mixer**

**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
 Kemtron Electron Products, Inc., 5 Prince Place, Newbury Port, Mass.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

**DIVIDERS—Power**

Admittance-Namco Corp., Farmingdale, N. Y.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**EMPIRE DEVICES PRODUCTS CORP.**, 38-15 Bell Blvd., Bayside 61, N. Y. ADV. PG. 388.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.

**DUPLEXERS—Microwave**

Admittance-Namco Corp., Farmingdale, N. Y.  
**Aircorn Inc.**, 1209 E. Grand St., Elizabeth, N. J.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**BOGART MFG. CORP.**, 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.

Elco Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**FREQUENCY STANDARDS, INC.**, P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KEARFOTT CO., INC. WESTERN DIV.**, 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
**KENNEDY & CO., D. S.**, Cohasset, Mass. ADV. PG. 43.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
 Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROPHASE CORP.**, P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 Microwave Development Labs., Inc., 92 Broad St., Babylon Park 57, Mass.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Terpening Co., L. H., 16 W. 61st St., New York, N. Y.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Victor R. F. & Microwave Co., 36 Water St., Wakefield, Mass.  
 Waveline, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.  
 Waveline, Inc., Box 470, Caldwell, N. J.

**FILTERS—Microwaw**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AIRCORN INC.**, 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Allied Research & Engineering Div., Allied Record Mfg. Co., 6916 Santa Monica Blvd., Hollywood 38, Calif.  
**AMERAC, INC.**, 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
 American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
**BIRD ELECTRONIC CORP.**, 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
**BOGART MFG. CORP.**, 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
**FILTER NETWORKS, INC.**, 24 Charfotte St., Binghamton, N. Y. ADV. PG. 496.  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
**FREQUENCY STANDARDS, INC.**, P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
 Gombos Co., Inc., John, 103 Montgomery Ave., Irvington 11, N. J.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**HERMETIC SEAL TRANSFORMER CO.**, 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**MICROPHASE CORP.**, P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.

**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass.  
**NYT Electronics, Inc.**, 2979 N. Ontario St., Burbank, Calif.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
**Polytronic Research, Inc.**, 7660 Woodbury Drive, Silver Spring, Md.  
**Portchester Instrument Corp.**, 114 Wilkins Ave., Port Chester, N. Y.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
**Pye Telecommunications Ltd.**, Newmarket Rd., Cambridge, England.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
**Sage Laboratories, Inc.**, 30 Guinan St., Waltham 54, Mass.  
**Standard Coil Products Co.**, 2085 N. Hawthorne St., Melrose-Park, Ill.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TOBE DEUTSCHMANN CORP.**, 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
**Victor R. F. & Microwave Co.**, 36 W. Water St., Wakefield, Mass.  
**Waveline, Inc.**, Box 470, Caldwell, N. J.

### FLANGES—Microwave

**Admittance-Namco Corp.**, Farmingdale, N. Y.  
**Aircrom Inc.**, 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**American Radar Components, Inc.**, Route 10, Whippany, N. J.  
**Connector Corp. of America**, 3223 Burton Ave., Burbank, Calif.  
**Defance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**Electrovert, Inc.**, 489 Fifth Ave., New York 17, N. Y.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**Microwave Development Labs., Inc.**, 92 Broad St., Babson Park 57, Mass.  
**N.R.K. Mfg. & Engineering Co.**, 4601 W. Addison St., Chicago 41, Ill.  
**Polytronic Research, Inc.**, 7660 Woodbury Drive, Silver Spring, Md.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
**Victor R. F. & Microwave Co.**, 36 W. Water St., Wakefield, Mass.  
**Waveguide, Inc.**, P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.  
**Waveline, Inc.**, Box 470, Caldwell, N. J.

### HORNS—Microwave

**Admittance-Namco Corp.**, Farmingdale, N. Y.  
**AINSLIE CORP.**, 312 Quincy Ave., Quincy 69, Mass. ADV. PG. 589.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**Aircrom Inc.**, 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**American Electronic Labs., Inc.**, 121 N. 7th St., Philadelphia 6, Pa.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**Bellaire Electronics, Inc.**, 62 White St., Red Bank, N. J.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
**Canoga Corp.**, 5955 Sepulveda Blvd., Van Nuys, Calif.  
**Daimo Victor Co., Div. of Textron, Inc.**, 1515 Industrial Way, Belmont, Calif.  
**Defance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**Electronic Specialty Co.**, 5121 San Fernando Rd., Los Angeles 39, Calif.

**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
**LEICO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
**N.R.K. Mfg. & Engineering Co.**, 4601 W. Addison St., Chicago 41, Ill.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
**Omega Laboratories, Inc.**, P. O. Box 264, Rowley, Mass.  
**Portchester Instrument Corp.**, 114 Wilkins Ave., Port Chester, N. Y. ADV. PG. 683.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
**Pye Telecommunications Ltd.**, Newmarket Rd., Cambridge, England.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
**Roffan Co.**, Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
**Sperry Gyroscope Co. Div. of Sperry Rand Corp.**, Great Neck, N. Y.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
**Terpening Co., L. H.**, 16 W. 61st St., New York 23, N. Y.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
**Victor R. F. & Microwave Co.**, 36 W. Water St., Wakefield, Mass.  
**Waveguide, Inc.**, P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.  
**Waveline, Inc.**, Box 470 Caldwell N. J.

### HYBRID JUNCTIONS—Microwave

**Admittance-Namco Corp.**, Farmingdale, N. Y.  
**Aircrom Inc.**, 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**ALFORD MFG. CO., INC.**, 299 Atlantic Ave., Boston, Mass. ADV. PG. 398.  
**BOGART MFG. CORP.**, 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
**Defance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
**Gombos Co., Inc.**, John, 103 Montgomery St., Irvington 11, N. J.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**KEARFOTT CO., INC., WESTERN DIV.**, 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**Meridian, Inc.**, 880 Main St., Stamford, Conn.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
**Microwave Development Labs., Inc.**, 92 Broad St., Babson Park 57, Mass.  
**Omega Laboratories, Inc.**, P. O. Box 264, Rowley, Mass.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**Polytronic Research, Inc.**, 7660 Woodbury Drive, Silver Spring, Md.  
**Portchester Instrument Corp.**, 114 Wilkins Ave., Port Chester, N. Y.  
**Pye Telecommunications Ltd.**, Newmarket Rd., Cambridge, England.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
**Sage Laboratories, Inc.**, 30 Guinan St., Waltham 54, Mass.  
**SANDERS ASSOCIATES, INC.**, Nashua, N. H. ADV. PG. 534.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
**Terpening Co., L. H.**, 16 W. 61st St., New York, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**Transline Associates**, 95 Summit St., Newark 3, N. J.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
**Victor R. F. & Microwave Co.**, 36 W. Water St., Wakefield, Mass.  
**Waveline, Inc.**, Box 470, Caldwell, N. J.

### JOINTS—Rotary Microwave

**Admittance-Namco Corp.**, Farmingdale, N. Y.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**Aircrom Inc.**, 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
**Canoga Corp.**, 5955 Sepulveda Blvd., Van Nuys, Calif.  
**Daimo Victor Co., Div. of Textron, Inc.**, 1515 Industrial Way, Belmont, Calif.  
**Defance Engineering & Microwave Corp.**, Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**Gombos Co., Inc.**, John, 103 Montgomery St., Irvington 11, N. J.  
**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**Litton Industries, Components Div.**, 5873 Rodeo Rd., Los Angeles 16, Calif.  
**Litton Industries, Beverly Hills, Calif.**  
**MAKEPEACE CO., D. E. DIV., OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
**N. R. K. Mfg. & Engineering Co.**, 4601 W. Addison St., Chicago 41, Ill.  
**Omega Laboratories, Inc.**, P. O. Box 264, Rowley, Mass.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
**Sage Laboratories, Inc.**, 30 Guinan St., Waltham 54, Mass.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
**Terpening Co., L. H.**, 16 W. 61st St., New York, N. Y.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
**Victor R. F. & Microwave Co.**, 36 W. Water St., Wakefield, Mass.  
**Waveline, Inc.**, Box 470, Caldwell, N. J.

### LINKS—Television Microwave

**Admittance-Namco Corp.**, Farmingdale, N. Y.  
**Canadian Marconi Co.**, 2442 Trenton Ave., Montreal 16, Quebec.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**Federal Telecommunication Labs., A Div. of IT&T**, 500 Washington Ave., Nutley 10, N. J.  
**General Electric Co., Technical Products Dept Electronics Park**, Syracuse, N. Y.  
**Intercontinental Electronics Corp.**, 1551 Franklin Ave., Mineola, N. Y.  
**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.  
**Palmer, Inc.**, M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
**Portchester Instrument Corp.**, 114 Wilkins Ave., Port Chester, N. Y.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
**Pye Telecommunications Ltd.**, Newmarket Rd., Cambridge, England.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
**Standard Telephones & Cables, Ltd.**, Connaught House, Aldwych, London, W.C. 2, England.

### MARKERS—Frequency, Microwave

**APPLIED RESEARCH, INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**Mag-Electric Products, Inc.**, 12822 Yukon Ave., Hawthorne, Calif.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**Portchester Instrument Corp.**, 114 Wilkins Ave., Port Chester, N. Y.

### METERS—Frequency, Microwave

**Admittance-Namco Corp.**, Farmingdale, N. Y.  
**AIRCROM INC.**, 354 Main St., Winthrop 52, Mass. ADV. PG. 652.

AMERAC, INC., 116 Topsfield Rd., Wenhams, Mass. ADV. PG. 412.  
 AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 BOGART MFG. CO., 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
 BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
 COLORTONE ELECTRONICS, INC., 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
 DeFrance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DE MORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 FREQUENCY STANDARDS, INC., P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
 GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
 GENERAL RF FITTINGS, INC., 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 Gombos Co., Inc., John, 103 Montgomery St., Irvington 11, N. J.  
 HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-30.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
 KEARFOTT CO., INC., WESTERN DIV., 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
 LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
 LIECO, INC., 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
 MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 MICO INSTRUMENT CO., 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.  
 POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 RADAR DESIGN CORP., 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 TELERAD MFG. CORP., 1440 Broadway, New York 18, N. Y. ADV. PG. 632.

**METERS—Microwave**  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
 DeFrance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DEMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 FREQUENCY STANDARDS INC., P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
 Gombos Co., Inc., John, 103 Montgomery St., Irvington 11, N. J.  
 HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-30.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
**METERS—Power, Microwave**  
 AIRCOM INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
 Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.  
 Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
 CUBIC CORP., 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
 DEMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
 HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-30.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 KINGS ELECTRONICS CO., 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 RADAR DESIGN CORP., 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
 SIERRA ELECTRONIC CORP., 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Waveline, Inc., Box 470, Caldwell, N. J.

**MICROWAVE TRANSMISSION LINES**  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
 AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 DeFrance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DOUGLAS MICROWAVE CO., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Elco Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 Fairchild Electronics Division, 118 E. 16th St., Costa Mesa, Calif.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Gombos Co., Inc., John, 103 Montgomery St., Irvington 11, N. J.  
 KINGS ELECTRONICS CO., 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 LIECO, INC., 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 MERIDIAN METALCRAFT, INC., 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
 Polytronic Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Schutter Co., Carl W., 80 E. Montauk Pkwy., Lindenhurst, N. Y.  
 TECHNICRAFT LABORATORIES, INC., Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
 TELERAD MFG. CORP., 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Terpening Co., L. H., 16 W. 61st St., New York 23, N. Y.  
 Transline Associates, 95 Summit St., Newark 3, N. J.  
 UNIWAIVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Wavguide, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**MIXERS—Microwave**  
 ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
 AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 BUDD-STANLEY CO., INC., 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.

COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 DeFrance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 DOUGLAS MICROWAVE CO., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 FREQUENCY STANDARDS INC., P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
 I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. 474, 475.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
 KEARFOTT CO., INC., WESTERN DIV., 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
 MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392.  
 MERIDIAN METALCRAFT, INC., 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 Microwave Development Laboratories, Inc., 92 Broad St., Babson Park 57, Mass.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 TELERAD MFG. CORP., 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Terpening Co., L. H., 16 W. 61st St., New York, N. Y.  
 UNIWAIVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Waveline, Inc., Box 470, Caldwell, N. J.

**OSCILLATORS—Microwave Power**  
 AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 AIRCOM INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
 AMERAC, INC., 116 Topsfield Rd., Wenhams, Mass. ADV. PG. 412.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
 Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
 DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-30.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Levinthal Electronic Products, Inc., 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.  
 POLARAD ELECTRONICS CORP., 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
 POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Radiation, Inc., Melbourne, Fla.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 STEWART ENGINEERING CO., Box 277, Soquel, Calif. ADV. PG. 668, 669.  
 VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
 WEINSCHTEL ENGINEERING CO., INC., 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.  
 White Electron Devices Inc., Roger, Fourth Ave., Haskell, N. J.

**PROBES—Microwave**  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 AIRCOM INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
 BOGART MFG. CO., 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
 BUDD-STANLEY CO., INC., 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.

**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Gombos Co., Inc., John, 103 Montgomery St., Irvington 11, N. J.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Jovill Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
 Scala Radio Co., 2814 19th St., San Francisco 10, Calif.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Tru-Connector Corp., 416 Union St., Lynn, Mass.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Waveline, Inc., Box 470, Caldwell, N. J.

## RECEIVERS—Microwave

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
 Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Engineering Associates, 434 Patterson Rd., Dayton 9, Ohio.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 General Electric Co., Communications Products Dept., Electronics Park, Syracuse, N. Y.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.  
 Haller, Raymond & Brown, Inc., State College, Pa.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Motorola Communications & Electronics Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
 Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Philco Corp., Government & Industrial Div., 4700 Wisahickon Ave., Philadelphia 44, Pa.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Production Research Corp., Thornwood, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RS Electronics Corp.**, 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO ENGINEERING LABS, INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, -251.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
**VECTRON, INC.**, 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

## SHIFTERS—Phase, Microwave

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
**CUBIC CORP.**, 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**KEARFOTT CO., INC., WESTERN DIV.**, 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
**TELERAD MFG. CORP.**, 1440 Broadway, New York 18, N. Y. ADV. PG. 632.  
 Terpening Co., L. H., 16 W. 61st St., New York, N. Y.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 White Electron Devices Inc., Roger, Fourth Ave., Haskell, N. J.

## STANDARDS—Frequency, Microwave

**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
**COLORTONE ELECTRONICS INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Norman Laboratories Ernst, Williams Bay, Wis.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Scientific Associates, Inc., 2162 Piedmont Rd., N. E., Atlanta 9, Ga.  
 Scientific-Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta 9, Ga.

## STRIP TRANSMISSION LINES—Microwave

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**NARDA CORP.**, 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.

## SWITCHES—Microwave

Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
**BOGART MFG. CO.**, 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DEMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL COMMUNICATION CO.**, 681 Beacon St., Boston 15, Mass. ADV. PG. 563.

**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 Naybor Labs., Inc., E. V., 2 Yenncock Ave., Port Washington, N. Y.  
**PREMIER INSTRUMENT CORP.**, 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Bldvs., Palisades Park, N. J.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
 Thompson Products, Inc., Electronics Div., 2196 Clarkwood Ave., Cleveland 3, Ohio.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
 Waveline, Inc., Box 470 Caldwell, N. J.  
 White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.

## TERMINATIONS—Microwave

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircom Inc., 1209 E. Grand St., Elizabeth, N. J.  
**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
**AMERAC, INC.**, 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
**APPLIED RESEARCH INC.**, 463-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
**BIRD ELECTRONIC CORP.**, 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
**BOGART MFG. CO.**, 315 Siegel St., Brooklyn 6, N. Y. ADV. PG. 415.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
**F-R MACHINE WORKS INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RF FITTINGS, INC.**, 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Gombos Co., Inc., John, 103 Montgomery Ave., Irvington, N. J.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Holland Electronics, 40 Great Jones St., New York 12, N. Y.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**KEARFOTT CO., INC., WESTERN DIV.**, 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
**MERIDIAN METALCRAFT, INC.**, 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**TECHNICRAFT LABORATORIES, INC.**, Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.  
 Transline Associates, 95 Summit St., Newark 3, N. J.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
**U. S. RUBBER CO.**, 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Waveline, Inc., Box 470, Caldwell, N. J.

**TESTERS—Microwave Testing Equipment**  
 Admittance-Namco Corp., Farmingdale, N. Y.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AMERAC, INC.**, 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.

AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
 BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
 BRUNO-NEW YORK INDUSTRIES CORP., 460 W. 34th St., New York 1, N. Y. ADV. PG. 236.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
 Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
 CUBIC CORP., 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
 DeFrance Engineering & Microwave Corp., Box 488 Beverly Airport, Beverly, Mass.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 ELECTRO IMPULSE LABS., 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
 Engineering Associates, 434 Patterson Rd., Dayton 9, Ohio.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
 Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.  
 I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
 MARCONI INSTRUMENTS, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 MERIDIAN METALCRAFT, INC., 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
 Microtronics, Inc., Porete Ave., North Arlington, N. J.  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.  
 POLARAD ELECTRONICS CORP., 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
 POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
 Pye Telecommunications, Ltd., Newmarket Rd., Cambridge, England.  
 RADAR DESIGN CORP., 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Transline Associates, 95 Summit St., Newark 3, N. J.  
 U. S. Electronics Corp. of America, 800 Slater Lane, Alexandria, Va.  
 VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Waveline, Inc., Box 470, Caldwell, N. J.  
 WEINSCHEL ENGINEERING CO., INC., 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.  
 White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.

**TRANSFORMERS—Microwave**  
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ACME ELECTRIC CORP., 31 Water St., Cuba, N. Y. ADV. PG. 378. (h)  
 Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J. (h)  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
 ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)  
 Central Transformer Co., 910 W. Jackson Ave., Chicago, Ill. (h)  
 DeFrance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.

GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12. (h)  
 INDUSTRIAL TRANSFORMER CORP., Gouldsboro, Pa. ADV. PG. 454, 455.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 KEARFOTT CO., INC., WESTERN DIV., 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
 LIECO, INC., 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa. (h)  
 MERIDIAN METALCRAFT, INC., 8739 S. Millergrrove Drive, Whittier, Calif. ADV. PG. 540.  
 MICROLAB, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
 MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 MICROTRAN CO., INC., 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646. (h)  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis. (h)  
 N.R.K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)  
 Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
 NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)  
 TOROTEL, INC., 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539. (h)  
 Transline Associates, 95 Summit St., Newark 3, N. J.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. (h)

**TRANSMITTERS—Microwave**

AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 AIRCOM INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
 AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas 27, Texas.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 LABORATORY FOR ELECTRONICS, INC., 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Levintal Electronic Products, Inc., 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.  
 Motorola Communication & Electronics Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
 Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
 Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
 Philco Corp., Government & Industrial Div., 4700 Wissahickon Ave., Philadelphia 44, Pa.  
 Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
 Pye Telecommunications, Ltd., Newmarket Rd., Cambridge, England.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 RADIO ENGINEERING LABORATORIES, INC., 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
 RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 SARKES TARZIAN, INC., RECTIFIER DIV., 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**TUBES—Microwave**

AMPEREX ELECTRONIC CORP., 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
 BOMAC LABORATORIES, INC., Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.

Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
 EITEL-McCULLOUGH, INC., San Bruno, Calif. ADV. PG. 128, 129.  
 GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 HUGGINS LABORATORIES, 711 Hamilton Ave., Menlo Park, Calif. ADV. PG. 320, 321.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 KENT CO., F. C., 64 Howard St., Irvington, N. J. ADV. PG. 634.  
 Litton Industries, Beverly Hills, Calif.  
 MACHLETT LABORATORIES, INC., Springdale, Conn. ADV. PG. 469.  
 MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 POLARAD ELECTRONICS CORP., 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS, Waltham 54, Mass. ADV. PG. 249.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
 RED BANK DIV., BENDIX AVIATION CORP., Red Bank, N. J. ADV. PG. 332  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.  
 White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.

**TUBES—Microwave Receiving**

BOMAC LABORATORIES, INC., Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
 EITEL-McCULLOUGH, INC., San Bruno, Calif. ADV. PG. 128, 129.  
 GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Cover.  
 RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUNERS—Microwave**

Admittance-Namco Corp., Farmingdale, N. Y.  
 AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 AMERAC, INC., 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
 BUDD-STANLEY CO., INC., 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
 DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
 DUNN ENGINEERING ASSOCIATES, INC., 186 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 695.  
 Engineering Associates, 434 Patterson Rd., Dayton 9, Ohio.  
 FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 FREQUENCY STANDARDS INC., P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
 Gombos Co., Inc., John, 103 Montgomery St., Irvington 11, N. J.  
 Haller, Raymond & Brown, Inc., State College, Pa.  
 I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 MICROLAB, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
 MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.  
 Microtronics, Inc., Porete Ave., North Arlington, N. J.  
 NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
 POLARAD ELECTRONICS CORP., 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.

POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.

Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.

PREMIER INSTRUMENT CORP., 52 W. Houston St., New York 12, N. Y. ADV. PG. 683.

Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.

RADAR DESIGN CORP., 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.

Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.

TECHNICRAFT LABORATORIES, INC., Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.

Transline Associates, 95 Summit St., Newark 3, N. J.

VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.

Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

Warren Mfg. Co., Inc., The Newtown Rd., Littleton, Mass.

Waveline, Inc., Box 470, Caldwell, N. J.

WAVEGUIDE TEST EQUIPMENT

Admittance-Namco Corp., Farmingdale, N. Y.

AMERAC, INC., 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.

Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.

BROWNING LABORATORIES INC., Main St., Winchester, Mass. ADV. PG. 614.

California Technical Industries, 1421 Old County Rd., Belmont, Calif.

Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.

Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.

Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.

DEMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.

DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.

DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.

Elco Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y.

F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.

General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.

Graham Mfg. Co., Inc., 247 Bridge St., East Greenwich, R. I.

HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.

I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.

J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.

LIECO, INC., 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.

Meridian, Inc., 880 Main St., Stamford, Conn.

MERIDIAN METALCRAFT, INC., 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.

MICROPHASE CORP., P. O. Box 1166X, Greenwich, Conn. ADV. PG. 528.

Microtronics, Inc., Porete Ave., North Arlington, N. J.

MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.

Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass.

NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.

Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.

Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.

POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.

Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.

Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.

RADAR DESIGN CORP., 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.

Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.

Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

TECHNICRAFT LABORATORIES, INC., Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.

Transline Associates, 95 Summit St., Newark 3, N. J.

Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

WaClLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.

Waveline, Inc., Box 470, Caldwell, N. J.

WAVEGUIDE DISSIPATIVE STRIPS

AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.

Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.

CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.

Electro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.

Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.

Hansen Electronics, 7117 Santa Monica Blvd., Los Angeles 46, Calif.

J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.

Metavac, Inc., 45-68 162nd St., Flushing 58, N. Y.

U. S. RUBBER CO., 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.

WAVEGUIDES

C-Combination Rigid & Flexible Type

F-Flexible Type

R-Rigid Type

ACF Electronics, 800 N. Pitt St., Alexandria, Va. R

Admittance-Namco Corp., Farmingdale, N. Y. R

Aircorn Inc., 1209 E. Grand St., Elizabeth, N. J. C-F-R

AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532. C-F-R

Allied Research & Engineering Div., Allied Record Mfg. Co., 6916 Santa Monica Blvd., Hollywood 38, Calif. R

American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md. R

ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112. R

Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y. C-R

BUDD-STANLEY CO., INC., 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511. C-R

Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J. R

COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600. R

Co-Operative Industries, Inc., 100 Oakdale Rd., Chester, N. J. C-F

Decade Instrument Co., Box 153, Caldwell, N. J. C-R

Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass. C-F-R

DEMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375. R

DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337. R

DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310. C-R

Elco Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y. C-F-R

F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198. C-R

Gar Precision Parts, Inc., 703 Pacific St., Stamford, Conn. R

General Bronze Corp., 711 Stewart Ave., Garden City, N. Y. C-R

Graham Mfg. Co., Inc., 247 Bridge St., East Greenwich, R. I. R

I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475. R

J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640. C-R

KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483. R

KENNEDY & CO., D. S., Cohasset, Mass. ADV. PG. 43. R

KENT CO., F. C., 64 Howard St., Irvington, N. J. ADV. PG. 634. C-R

LEICO, INC., 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686. C-R

MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392. R

Meridian, Inc., 880 Main St., Stamford, Conn. C-R

MERIDIAN METALCRAFT, INC., 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540. R

METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167. R

Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass. R

N. R. K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill. R

NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184. R

Nevada Air Products Co., P. O. Box 2472, Reno, Nev. R

Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y. C-F-R

Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. R

Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England. R

Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass. C-R

Schutter Co., Carl W., 80 E. Montauk Pkwy., Lindenhurst, N. Y. C-R

Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass. R

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J. R

TECHNICRAFT LABORATORIES, INC., Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545. C-F-R

TELERAD MFG. CORP., 1440 Broadway, New York 18, N. Y. ADV. PG. 632. R

TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281. R

Transline Associates, 95 Summit St., Newark 3, N. J. R

UNIWAIVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428. R

Wavelength, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif. R

Waveline, Inc., Box 470, Caldwell, N. J. C-R

WAVEMETERS—Microwave

Admittance-Namco Corp., Farmingdale, N. Y.

AIRCORN INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.

AMERAC, INC., 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.

BUDD-STANLEY CO., INC., 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.

Decade Instrument Co., Box 153, Caldwell, N. J.

Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.

DEMORNAY-BONARDI, INC., 780 S. Arroyo Parkway, Pasadena, Calif. ADV. PG. 374, 375.

DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.

DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.

F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.

FREQUENCY STANDARDS INC., P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.

GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. ADV. PG. 563.

Gombos Co., Inc., John, 103 Montgomery Ave., Irvington N. J.

HEWLETT-PACKARD CO., 275 Page Hill Rd., Palo Alto, Calif. ADV. PG. 29-40.

J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.

KEARFOTT CO., INC., WESTERN DIV., 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.

KINGS ELECTRONICS CO., 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.

LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.

LIECO, INC., 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.

Meridian, Inc., 880 Main St., Stamford, Conn.

Microtronics, Inc., Porete Ave., North Arlington, N. J.

MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.

Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Mass.

NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.

Omega Laboratories, Inc., P. O. Box 264, Rowley, Mass.

Pennsylvania Testing Lab., Inc., Doylestown, Pa.

POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.

Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.

RADAR DESIGN CORP., 210 Fifth Ave., New York 16, N. Y. ADV. PG. 615.

Radiation, Inc., Melbourne, Fla.

Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

UNIWAIVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.

Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

Waveline, Inc., Box 470, Caldwell, N. J.

MICROWAVE TRANSMISSION LINES

See MICROWAVE ACCESSORIES

MILLIAMMETERS

See INSTRUMENTS—Electrical Measuring

MILLIOHMETERS

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.

New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.

Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.

STICHT CO., INC., HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.

TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

Triplet Electrical Instrument Co., Harmon Road, Bluffton, Ohio.

Videon Electronic Corp., 902 E. Michigan St., Indianapolis 2, Ind.

Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frellinghuysen Ave., Newark 12, N. J.

MILLIVOLTMETERS

See INSTRUMENTS—Electrical Measuring

MIRRORS—Special Purpose

Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.

Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.

BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.

Buhl Optical Co., 1009 Beech Ave., Pittsburgh 33, Pa.

Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.  
 Gaertner Scientific Corp., 1239 Wrightwood Ave., Chicago 14, Ill.  
 Keim Precision Mirrors, 1346 E. Colorado St., Glendale 5, Calif.  
 Lewis Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.  
 O & S Research, Inc., 1811 Bannard St., Riverton, N. J.  
 Pacific Universal Products Corp., 168 Vista Ave., Pasadena 8, Calif.  
 Pittsburgh Plate Glass Co., 1 Gateway Center, Pittsburgh 22, Pa.  
 Scientific Instruments Service Co., 44 Bromfield St., Boston 8, Mass.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Zenith Optical Laboratory, 1940 Great Neck Rd., Copiague, N. Y.

**MIRRORS—Television**

Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.  
 Buhl Optical Co., 1009 Beach Ave., Pittsburgh 33, Pa.  
 Keim Precision Mirrors, 1346 E. Colorado St., Glendale 5, Calif.  
 Pacific Universal Products Corp., 168 Vista Ave., Pasadena 8, Calif.  
 Zenith Optical Laboratory, 1940 Great Neck Rd., Copiague, N. Y.

**MIXERS—Microwave**

See **MICROWAVE ACCESSORIES**

**MIXERS—Portable**

See **AMPLIFIERS—Audio Frequency**

**MODULATORS—Magnetic**

Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
**GENERAL MAGNETICS, INC.**, 135 Bloomfield Ave., Bloomfield, N. J. ADV. PG. 426.  
**MCKAY ELECTRIC CO.**, 19790 Stahelin Ave., Detroit 19, Mich. ADV. PG. 638.  
**MAGNETIC AMPLIFIERS, INC.**, 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
**MAGNETIC RESEARCH CORP.**, 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.  
**VECTROL ENGINEERING, INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.

**MODULATORS—Phase**

**BRADLEY LABS, INC.**, 170 G. Columbus Ave., New Haven 11, Conn. ADV. PG. 260.  
 Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst, N. Y. ADV. PG. 510.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**VECTROL ENGINEERING, INC.**, P. O. Box 1089, Stamford, Conn. ADV. PG. 632.

**MODULATORS—Pulse**

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
**AMERAC, INC.**, 116 Topsfield Rd., Wenham, Mass. ADV. PG. 412.  
 Applied Radiation Corp., 1210 Spring Brook Rd., Walnut Creek, Calif.  
**BRADLEY LABS, INC.**, 170 G. Columbus Ave., New Haven 11, Conn. ADV. PG. 260.  
 Carad Corp., 2850 Bay Rd., Redwood City, Calif.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.  
 Dormitzer Electric & Mfg. Co., Inc., 5 Hadley St., Cambridge, Mass.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**MAGNETIC RESEARCH CORP.**, 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
**MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
**NJE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.

**NORTHEAST SCIENTIFIC CORP.**, 617 Concord Ave., Cambridge 38, Mass. ADV. PG. 641.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
**SANDERS ASSOCIATES, INC.**, Nashua, N. H. ADV. PG. 534.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**MODULES**

See **CIRCUITS—PRINTED**

**MOISTURE**

See **INDICATORS**

**MOLDERS OF PLASTIC MATERIALS**

See **INSULATION PARTS**

**Plastic Insulation Parts—Molded**

**MONITORS—AM-FM Transmitter**

**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.

**MONITORS—Frequency**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Barker & Williamson, 235 Fairfield Av., Upper Darby, Pa.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Cinema-Television Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Electric Regulator Corp., Pearl St., Norwalk, Conn.  
**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Gates Radio Co., Quincy, Ill.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
**NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
**POTTER AERONAUTICAL CORP.**, Route No. 22, Union, N. J. ADV. PG. 372, 373.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.

**MONITORS—Modulation**

**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Ave., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Gates Radio Co., Quincy, Ill.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Gosnet Co., 801 S. Main St., Burbank, Calif.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**LAMPKIN LABORATORIES, INC.**, Bradenton 1, Fla. ADV. PG. 623.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.

**MONITORS—Phase**

**ADVANCE ELECTRONICS LAB, INC.**, 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
 Maryland Electronic Mfg. Corp., College Park, Md.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Nems-Clarke, Inc., Silver Springs, Md.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**MONITORS—Shift**

Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
**NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**MONITORS—Television, Transmitter**

Cinema-Television, Ltd., Worsley Bridge Rd., London SE 26, England.  
 Dage Television Div., Thompson Products, Inc., W. 10th St., Michigan City, Ind.  
 Diamond Power Specialty Corp., Electronics Dept., Lancaster, Ohio.  
 DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Philco Corp., Government & Industrial Div., 4700 Wissahickon Ave., Philadelphia 44, Pa.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Setchell Carlson, Inc., 330 Fifth Ave., New Brighton, Minn.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
 Wickes Engineering & Construction Co., P. O. Box 590, Camden 1, N. J.

**MOTOR CONTROLS AC**

See **CONTROLS—Electronic AC Motor Speed**

**MOTORS**

1. Fractional hp
2. Gear
3. Phonograph
4. Remote Control
5. Servo
6. Speed Regulation
7. Synchronous
8. Timing

Aerolab Development Co., 330 W. Holly St., Pasadena, Calif. 1-2-5-7.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J. 1.  
 Airborne, Inc., 4868 N. Clark, Chicago 40, Ill. 1-2.  
**AIR-MARINE MOTORS, INC.**, 365 Bayview Ave., Amityville, N. Y. 1-2-7. ADV. PG. 569.  
 Allis-Chalmers Mfg. Co., 935 S. 70th St., Milwaukee 1, Wis. 7.  
 American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif. 1-2-5-7.  
 Amglo Corp., 4333 N. Ravenswood Ave., Chicago 13, Ill. 8.  
 Ashland Electric Products, Inc., 32-02 Queens Blvd., Long Island City 1, N. Y. 1-2-3-7.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. 1-2-3-5-7. ADV. PG. 430.  
 Basler Electric Co., 605 Fifth St., Highland, Ill. 5.  
 Bekey Electric Co., Inc., 1327 S. Main St., Los Angeles 15, Calif. 1-4-5-6-7.

Bendix Aviation Corp., Montrose Div., South Montrose, Pa. 1.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif. 1-4-5.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y. 5.  
 Bodine Electric Co., Ohio St. & Oakley Blvd., Chicago 12, Ill. 1-2-3-4-5-6-7-8.  
**BORG EQUIPMENT DIV., THE GEORGE W. BORG CORP.**, Janesville, Wis. 1-2-7. ADV. PG. 142.  
 Borg-Warner Corp., Pesco Products Div., 24700 North Miles Rd., Bedford, Ohio. 1-2.  
 Brevil Products Corp., 601 W. 26th St., New York 1, N. Y. 1-2.  
 Bristol Co., The P. O. Box 1790 EBG, Waterbury 20, Conn. 5.  
 Bristol Motor Division, Vocaline Company of America, Inc., Old Saybrook, Conn. 7-8.  
 Carron Mfg. Co., 415 S. Aberdeen Ave., Chicago, Ill. 1-2-3-4.  
 Cedar Engineering, Inc., 5806 W. 36th St., Minneapolis 16, Minn. 5-7.  
**CELCO**, Island Ave., Mahwah, N. J. 1-5-7. ADV. PG. 138, 139.  
 Century Electric Co., 1806 Pine St., St. Louis 3, Mo. 1-2-7.  
**CHASE ELECTRONICS INC.**, 82-31 51st Ave., Elmhurst, N. Y. 1-2-3-4-5-6-7-8. ADV. PG. 601.  
**CLIFTON PRECISION PRODUCTS CO., INC.**, Broadway at Marple Ave., Clifton Heights, Pa. 5. ADV. PG. 134, 135.  
**CONTINENTAL ELECTRIC CO., INC.**, 334 Ferry St., Newark 5, N. J. 1-7. ADV. PG. 557.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn. 7-8.  
 Dalmotor Co., 1375 Clay St., Santa Barbara, Calif. 1-2-5-6-7.  
 Diehl Manufacturing Co., Somerville, N. J. 1-2-4-5-6.  
**EASTERN AIR DEVICES, INC.**, 385 Central Ave., Dover, N. H. 1-2-3-4-5-6-7-8. ADV. PG. 312.  
**ECLIPSE PIONEER DIV. BENDIX AVIATION CORP.**, Teterboro, N. J. 5. ADV. PG. 333-336.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. 5. ADV. PG. 144-146.  
 Eicor, Inc., 4235 W. North Ave., Chicago 39, Ill.  
 Electric Auto-Lite Co., The Champlain St., Toledo 1, Ohio.  
 Electric Indicator Co., Inc., Camp Avenue, Springdale, Conn. 1-5-6-7.  
 Electric Motor & Specialties, Inc., King & Hamscher Sts., Garrett, Ind. 1.  
**ELECTRIC SPECIALTY CO.**, 300 South St., Stamford, Conn. 5-7. ADV. PG. 490.  
**ELECTRO AIRE DIV., HYDRO AIRE, INC.**, 6909 Farmdale Ave., North Hollywood, Calif. 1-2-6-7. ADV. PG. 510.  
 Electro Engineering Products Co., 609 W. Lake St., Chicago, Ill. 1-2.  
 Electronics & Avionics Div. of the Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis, Mo. 1.  
 El Ray Motor Co., Inc., 11747 Vose St., North Hollywood, Calif. 1-2-8.  
 Fairchild Camera & Instrument Corp., Electrical Products Div., 110 Main St., Burlington, Vt. 1-5-7.  
 Fairchild Electrical Products Division, 110 Main St., Burlington, Vt. 1-2-5-7.  
 Fasco Industries, Inc., Rochester 2, N. Y. 1-6.  
 Foote Brothers Gear & Machine Corp., 4545 S. Western Blvd., Chicago 9, Ill. 2.  
 Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y. 5.  
 G-M Laboratories, Inc., 4336 N. Knox Ave., Chicago, Ill. 5-7.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. 1-4-5. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. 1-2-3-5-6-7-8-12. ADV. PG. 1-12.  
 General Industries Co., Taylor & Olive Sts., Elyria, Ohio. 1-3.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. 6. ADV. PG. 316, 317.  
 Gleason-Avery Co., Auburn, N. Y. 1-2-3-7-8.  
 Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio. 1-2-4-5-6-7-8.  
 Grant Gear Works, Inc., 154 W. Second St., South Boston, Mass. 2.  
**GREENLEAF MFG. CO., THE**, 7814 Maplewood Industrial Court, St. Louis 17, Mo. 5. ADV. PG. 219.  
 Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill. 8.  
 Hansen Mfg. Co., Inc., Princeton, Ind. 7-8.  
**HAYDON CO., A. W., THE**, 238 N. Elm St., Waterbury, Conn. 6-7-8. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington, Conn. 7-8. ADV. PG. 157.  
**HEINZE ELECTRIC CORP.**, 685 Lawrence St., Lowell, Mass. 1-2. ADV. PG. 657.  
 Helipot Corp., Newport, Calif. 5.  
 Hertner Electric Co., 12690 Elmwood Ave., Cleveland 11, Ohio. 1-2-7.  
 Holtzer-Cabot Div. of National Pneumatic Co., Inc., 125 Armory St., Boston 19, Mass. 1-2-5-7-8.  
 Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles 25, Calif. 1-2-5-7.  
 Howard Industries, Inc., Divisions: Cyclohm Motor Corp.; Electric Motor Corp., Racine, Wis. 1-2-5-6-7-8.  
**INDUCTION MOTORS CORP.**, 570 Main St., Westbury, N. Y. 1-2-3-5-6-7. ADV. PG. 266.  
 Ingraham Co., E., Bristol, Conn. 7-8.  
**INTERSEARCH, INC.**, 7 Arcadia Place, Cincinnati 8, Ohio. 1-3. ADV. PG. 480.

Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. 9th Ave., Portland 2, Ore. 1.  
 Jack & Heintz, Inc., Cleveland 1, Ohio. 1.  
 Janette Electric Mfg. Co., Morton Grove, Ill. 2.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. 4-5-7. ADV. PG. 181.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England. 1-5-6-7.  
 Kollsman Instrument Corp., Sub of Standard Coil Products Co., Inc., 80-08 45th Ave., Elmhurst, N. Y. 2-5-7.  
 L & R Mfg. Co., 580 Elm St., Arlington, N. J. 1.  
 Leach Corp., Inet-Palmer Div., 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif. 7.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif. 1-2-5-6-7.  
 Leland Electric Co., Div. of The American Machine & Foundry Co., 1501 Webster St., Dayton 1, Ohio. 1.  
 Lesa, Via Bergamo 21, Milan, Italy. 1-2-3-7.  
**MACARR, INC.**, 2543 Boston Rd., Bronx 67, N. Y. 2-6-8-9. ADV. PG. 640.  
 Master Appliance Mfg. Co., Fourth & Ontario Sts., Racine, Wis. 1-3.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgeway Rd., Minneapolis 13, Minn. 1-5-7.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. 5-7. ADV. PG. 447.  
 Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N. Hopkins, Minn. 5.  
 Motordyne Inc., 2661 S. Myrtle Ave., Monrovia, Calif. 1-2-6.  
 Motoresearch Co., 1600 Junction Ave., Racine, Wis. 1-2.  
 Muihrhead & Co., Ltd., Beckenham, Kent, England. 5-7.  
 Nemeth, Inc., 2223 S. Carmelina Ave., Los Angeles 64, Calif. 5-6-8.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn. 2-4-5.  
**OSTER MFG. CO., JOHN, AVIONICS DIV.**, 1 N. Main St., Racine, Wis. 1-2-4-5-6-7-8. ADV. PG. 130.  
 P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y. 5.  
 Rae Motor Corp., P. O. Box 269, Racine, Wis. 1-2-3-6.  
 Redmond Co., Inc., Owosso, Mich. 1-3.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Culver City, Calif. 5.  
 Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa. 1.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill. 1-7.  
 Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield 99, Ohio. 1.  
 Rotating Components, Inc., 269 Green St., Brooklyn 22, N. Y. 1-2-5-7.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. 1-7-8.  
 Scruggs Co., Loyd, P. O. Drawer 232, Festus, Mo. 1-2.  
**SERVOMECHANISMS, INC., MECHATROL DIV.**, 625 Main St., Westbury, N. Y. 1-2-4-5-7-8. ADV. PG. 25.  
 Servo-Tek Products Co., Inc., 1086 Goffe Rd., Hawthorne, N. J. 1-2-4-5-6-8.  
 Sessions Clock Co., Industrial Products Div., Forestville, Conn. 7-8.  
 Small Motors, Inc., 2076 Elston Ave., Chicago 14, Ill. 1-2-5-6-7.  
 Speedway Mfg. Co., 1834 S. 52nd Ave., Cicero 50, Ill. 1-2.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill. 1-4-5-7-8.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y. 1-6.  
 Syntorque, Inc., 601 W. 26th St., New York 1, N. Y. 1-5-7.  
 Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif. 7.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif. 1-2-5.  
**TIMES FACSIMILE CORP.**, 540 W. 58th St., New York 19, N. Y. 7. ADV. PG. 468.  
**TRANSICOIL CORP.**, Worcester, Penna. 2-5. ADV. PG. 324.  
 United Press Products Co., 741 W. Harrison St., Chicago 7, Ill. 1-2-3-4-6.  
 Universal Electric Co., 300 E. Main St., Owosso, Mich. 1-3.  
**VECTROL ENGINEERING, INC.**, P. O. Box 1089, Stamford, Conn. 6. ADV. PG. 632.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio. 1-4-5-6.  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif. 1-2-7.  
 Wagner Electric Corp., 6400 Plymouth Ave., St. Louis 14, Mo. 1.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y. 1-5-7-8.  
 Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif. 1-2-4.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. 1-7. ADV. PG. 205-216.  
 White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo. 1-5.  
 Wincharger Corp., E Seventh & Division Sts., Sioux City, Iowa. 1.

**BARRY CONTROLS, INC.**, 711 Pleasant St., Watertown 72, Mass. ADV. PG. 49.  
 Boston Felt Co., 210 South St., Boston 11, Mass.  
 Chicago Die Mold Div. of U. S. Rubber Co., 4300 New Haven Ave., Fort Wayne 4, Ind.  
**CHURCHILL LIGHTING CORP.**, 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
 Cutler Metal Products Co., 1025 Line St., Camden, N. J. Federal Shock Mount Corp., 1060 Washington Ave., New York 56, N. Y.  
**FINN & CO., INC., T. R.**, 200 Central Ave., Hawthorne, N. J. ADV. PG. 575.  
 General Tire & Rubber Co., The Akron, Ohio.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Lord Mfg. Co., 1635 W. 12th St., Erie, Pa.  
**MB MFG. CO., A DIV. OF TEXTRON AMERICAN, INC.**, 1060 State St., New Haven 11, Conn. ADV. PG. 552.  
**MERCURY ELECTRONIC CO.**, Box 450, Red Bank, N. J. ADV. PG. 61.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgeway Rd., Minneapolis 13, Minn.  
 Pneumafit Corp., Charlotte, N. C.  
 Ray-O-Vac Co., 212 E. Washington Ave., Madison, Wis.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Robinson Aviation Inc., Teterboro Air Terminal, Teterboro, N. J.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**UCINITE CO., DIV. OF UNITED-CARR FASTENER CORP.**, 459 Watertown St., Newtonville, Mass. ADV. PG. 65.  
 Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.

### MOUNTS—Antenna

**AINSLIE CORP.**, 312 Quincy Ave., Quincy, Mass. ADV. PG. 589.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
 Antlab, 4950 N. High St., Columbus 14, Ohio.  
 Channel Master Co., Ellenville, N. Y.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1, N. Y.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
**DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT**, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 I. E. Manufacturing, 325 N. Hoyle Ave., Chicago 12, Ill.  
**I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV.**, 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Kenwood Engineering Co., Inc., 265 Colfax Ave., Kenilworth, N. J.  
**KINGS ELECTRONICS CO.**, 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles 15, Calif.  
 Modern-Aire Mfg. Co., 4436 W. Roosevelt Rd., Chicago 24, Ill.  
 National Electric Products Co., 140 Stanwix St., Pittsburgh 22, Pa.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
 Premax Products Div., Chisholm-Ryder Co., Inc., Highland & College Aves., Niagara Falls, N. Y.  
 Rofan Co., Corner Route 1, & Camp Meeting Rd., Topsfield, Mass.  
**ROHN MFG. CO.**, 116 Limestone, Bellevue, Peoria, Ill. ADV. PG. 525.  
 South River Metal Products Co., 377-379 Turnpike, South River, N. J.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**TECHNICAL APPLIANCE CORP.**, Sherburne, N. Y. ADV. PG. 641.  
 Video Industries Co., 242 Madison Ave., Port Chester, N. Y.  
 Walnut Machine Co., 1529 S. Walnut St., South Bend 14, Ind.  
 Wind Turbine Co., E. Market St. & Penna. R.R., West Chester, Pa.

### MOUNTS—Shock

See MOUNTINGS—Vibration and Shock

### MOUNTS—Thermistor

Admittance-Namco Corp., Farmingdale, N. Y.  
 Aircorn Inc., 1209 E. Grand St., Elizabeth, N. J.  
**BUDD-STANLEY CO., INC.**, 43-01 22nd St., Long Island City 1, N. Y. ADV. PG. 511.  
**GENERAL COMMUNICATIONS CO.**, 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Kybernetes, Co., 9 E. 40th St., New York 16, N. Y.

### MOUNTINGS

See also BASES

### MOUNTINGS—Vibration and Shock

American Felt Co., Glenville, Conn.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.



Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO.,**  
 INC., 202 Tillary St., Brooklyn 1, N. Y. ADV. PG.  
 164, 165.  
**TALERAD MFG. Corp.**, 1440 Broadway, New York 18,  
 N. Y. ADV. PG. 632.  
 Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, 25,  
 Ohio.

**MULTIMETERS**

Alpha Instrument Co., 43 Hempstead St., New London,  
 Conn.  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
 Carol Electronics Corp., 315 W. Stephen St., Martins-  
 burg, W. Va.  
 Dubrow Development Co., 235B Penn St., Burlington,  
 N. J.  
**HEATH & CO., A SUB. OF DAYSTROM, INC.**, Benton  
 Harbor 14, Mich. ADV. PG. 575.  
 Millivac Instrument Corp., 2315 Second Ave., Carman,  
 P. O. Box 997, Schenectady, N. Y.  
 Northeast Electronics Corp., P. O. Box 425, Municipal  
 Airport, Concord, N. H.  
 Phaotron Instrument & Electronic Co., 151 Pasadena  
 Ave., South Pasadena, Calif.  
 Precision Apparatus Co., Inc., 70-31 84th St., Glen-  
 dale 27, N. Y.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter  
 St., Cambridge 42, Mass. ADV. PG. 528.  
**WESTHOUSE ELECTRIC CORP.**, P. O. Box 868,  
 Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom,  
 Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**MULTIPLEX SYSTEMS—Frequency Division**

**APPLIED RESEARCH, INC.**, 163-07 Depot Rd., Flush-  
 ing, N. Y. ADV. PG. 672.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester,  
 Mass. ADV. PG. 614.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**GENERAL DEVICES, INC.**, P. O. Box 253, Princeton,  
 N. J. ADV. PG. 559.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14,  
 N. Y.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave.,  
 Lyons, Ill. ADV. PG. 640.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny  
 Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Lynch Carrier Systems, Inc., 695 Bryant St., San  
 Francisco 7, Calif.  
**NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St.,  
 New York 11, N. Y. ADV. PG. 200-202.  
 Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton,  
 Mass.

**MULTIPLIERS—Crystal**

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country  
 Rd., Mineola, N. Y. ADV. PG. 253.  
**DeMORNAY-BONARDI, INC.**, 780 S. Arroyo Parkway,  
 Pasadena, Calif. ADV. PG. 374, 375.  
**DOUGLAS MICROWAVE CO.**, 252 E. Third St., Mt.  
 Vernon, N. Y. ADV. PG. 310.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave.,  
 Lyons, Ill. ADV. PG. 640.  
**KEARFOTT CO., INC., WESTERN DIV.**, 14844 Oxnard  
 St., Van Nuys, Calif. ADV. PG. 182.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV.  
 PG. 284.

**MULTIPLIERS—Diode**

American Research & Mfg. Corp., 920 Halpine Ave.,  
 Rockville, Md.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave.,  
 Lyons, Ill. ADV. PG. 640.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New  
 York 28, N. Y. ADV. PG. 437.

**MULTIPLIERS—Electronic**

American Research & Mfg. Corp., 920 Halpine Ave.,  
 Rockville, Md.  
 Analogue Controls, Inc., 39 Roselle St., Mineola, N. Y.  
 Barden Corp., E. Franklin St., Danbury, Conn.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**,  
 Dept. G-13, 2200 Wright Ave., Richmond 3, Calif.  
 ADV. PG. 73-80.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown,  
 Pa. ADV. PG. 286.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St.,  
 St., Brooklyn, N. Y. ADV. PG. 451.  
 Electronic Associates, Inc., Long Branch, N. J.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank,  
 Calif.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St.,  
 New York 3, N. Y. ADV. PG. 676.  
 Mid-Century Instrument Corp., 611 Broadway, New  
 York 12, N. Y.  
 Philbrick Researches, Inc., George A., 230 Congress St.,  
 Boston 10, Mass.  
 Southern Instruments Ltd., Computer Div., Frimley Rd.,  
 Camberley, Surrey.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons,  
 Park Ave., Huntington Station, N. Y.

**MULTIPLIERS—Frequency**

**AMERAC, INC.**, 116 Topsfield Rd., Wenham, Mass. ADV.  
 PG. 412.  
 American Research & Mfg. Corp., 920 Halpine Ave.,  
 Rockville, Md.  
 Avion Division, ACF Industries, Inc., 11 Park Place,  
 Paramus, N. J.  
**DOUGLAS MICROWAVE CO.**, 252 E. Third St., Mt.  
 Vernon, N. Y. ADV. PG. 310.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNI-  
 VERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21,  
 MO. ADV. PG. 649.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro,  
 Pa.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25  
 Amity St., Little Falls, N. J.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave.,  
 Lyons, Ill. ADV. PG. 640.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV.  
 PG. 284.  
 Ohio Crankshaft Co., Tocco Div., 3800 Harvard Ave.,  
 Cleveland, Ohio.  
 Pantek Co., Box 212, El Segundo, Calif.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**,  
 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164,  
 165.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great  
 Neck, N. Y.  
**TELEONIC INDUSTRIES**, 73 N. 2nd Ave., Beach Grove,  
 Ind. ADV. PG. 535.

**MULTIPLIERS—Magnetic**

American Research & Mfg. Corp., 920 Halpine Ave.,  
 Rockville, Md.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNI-  
 VERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21,  
 MO. ADV. PG. 649.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave.,  
 York, Pa.  
**GENERAL MAGNETICS, INC.**, 135 Bloomfield Ave.,  
 Bloomfield, N. J. ADV. PG. 426.  
**MC KAY ELECTRIC CO.**, 19790 Stahelin Ave., Detroit  
 19, Mich. ADV. PG. 638.

**MULTIPLIERS—Meter**

**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**HOYT ELECTRICAL INSTRUMENT WORKS, INC.**, 42  
 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO.,**  
 INC., Oakland Garden Sta., Flushing 64, N. Y. ADV.  
 PG. 601.  
 Phaotron Instrument & Electronic Co., 151 Pasadena  
 Ave., South Pasadena, Calif.  
 Precision Resistor Co., 109 U. S. Highway #22, Hillside  
 5, N. J.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main  
 St., New Rochelle, N. Y. ADV. PG. 618.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon  
 Ave., Dallas 9, Texas. ADV. PG. 280, 281.

**MULTIPLIERS—Servo**

American Research & Mfg. Corp., 920 Halpine Ave.,  
 Rockville, Md.  
 Analogue Controls, Inc., 39 Roselle St., Mineola, N. Y.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**,  
 Dept. G-13, 2200 Wright Ave., Richmond 3, Calif.  
 ADV. PG. 73-80.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St.,  
 New York 38, N. Y.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown,  
 Pa. ADV. PG. 286.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury,  
 N. Y.  
 Dynalysis Development Labs., Inc., 11941 Wilshire Blvd.,  
 Los Angeles 25, Calif.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**,  
 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-  
 146.  
 Electronic Associates, Inc., Long Branch, N. J.  
 Feedback Controls, Inc., 899 Main St., Waltham 54,  
 Mass.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York,  
 Pa.  
**INDUSTRIAL CONTROL CO.**, 805 Albin Ave., Lindenhurst,  
 N. Y. ADV. PG. 510.  
 Mid-Century Instrument Corp., 611 Broadway, New York  
 12, N. Y.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New  
 York 28, N. Y. ADV. PG. 437.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New  
 Hyde Park, N. Y.  
 Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons,  
 Park Ave., Huntington Station, N. Y.

**MULTITESTERS**

See TESTERS—Multitesters

**MULTIVIBRATORS**

See VIBRATORS—Multivibrators

**MUSIC SYSTEMS—Industrial and Commercial**

Allmetal Screw Products Co., Inc., 821 Stewart Ave.,  
 Garden City, N. Y.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester,  
 Mass. ADV. PG. 614.  
 Dukane Corp., St. Charles, Ill.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Magnecord, Inc., 1101 S. Kilbourn Ave., Chicago 24, Ill.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41,  
 Ill.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Holly-  
 wood 38, Calif.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver,  
 Wash.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS  
 DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth  
 Covers.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long  
 Island City 3, N. Y.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp.,  
 100 Carlson Rd., Rochester 3, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los  
 Angeles 38, Calif.  
 Webster Electric Co., 1900 Clark St., Racine, Wis.

**NAILS—Special**

Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
 American Steel & Wire Div., U. S. Steel Corp., Rocke-  
 feller Bldg., Cleveland 13, Ohio.  
 Anti-Corrosive Metal Products Co., Castleton-on-Hudson,  
 N. Y.  
 Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Water-  
 bury 20, Conn.  
 Hassall, Inc., John, P. O. Box 2242, Westbury, N. Y.  
 I. E. Manufacturing, 325 N. Hoyle Ave., Chicago 12, Ill.  
 National Screw & Mfg. Co., The, Cleveland 4, Ohio.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.

**NAME PLATES**

See PLATES, NAME—Metal or Plastic

**NEEDLES—Cutting**

American Laubscher Corp., 250 W. 57th St., Fisk Bldg.,  
 New York 19, N. Y.  
 Audio Devices, Inc., 444 Madison Ave., New York 22,  
 N. Y.  
 Capps & Co., Inc., 20 Addison Place, Valley Stream,  
 N. Y.  
 Duotone Co., Inc., Keyport, N. J.  
 Electrovox Co., Inc., 60 Franklin St., East Orange, N. J.  
 Fidelitone, Inc., 6415 Ravenswood, Chicago 26, Ill.  
 Jensen Industries, Inc., 7333 W. Harrison, Forest Park,  
 Ill.  
 Lipps, Inc., Edwin A., 5485 W. Washington Blvd.,  
 Los Angeles 16, Calif.  
 Miller Mfg. Co., M. A., 4th & Church Sts., Libertyville,  
 Ill.  
 Permo, Inc., 6415 Ravenswood Ave., Chicago 26, Ill.  
 Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
 Recoton Corp., 52-35 Barnett Ave., Long Island City 4,  
 N. Y.  
 Reeves Soundcraft Corp., 10 E. 52nd St., New York 22,  
 N. Y.

**NEEDLES—Diamond**

Audak Co., 500 Fifth Ave., New York, N. Y.  
 Duotone Co., Inc., Keyport, N. J.  
 Electrovox Co., Inc., 60 Franklin St., East Orange, N. J.  
 Fidelitone, Inc., 6415 Ravenswood, Chicago 26, Ill.  
 Jensen Industries, Inc., 7333 W. Harrison, Forest Park,  
 Ill.  
 Lipps, Inc., Edwin A., 5485 W. Washington Blvd., Los  
 Angeles 16, Calif.  
 Miller Mfg. Co., M. A., Fourth & Church Sts., Liberty-  
 ville, Ill.  
 Permo, Inc., 6415 Ravenswood Ave., Chicago 26, Ill.  
 Pfanstiehl Chemical Corp., 104 Lake View Ave., Wau-  
 kegan, Ill.  
 Recoton Corp., 52-35 Barnett Ave., Long Island City 4,  
 N. Y.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Tetrad Co., Inc., The, 62 St. Mary St., Yonkers 2, N. Y.  
 Waltham Watch Co., Instrument & Industrial Products,  
 Waltham 54, Mass.

**NEEDLES—Playback**

American Laubscher Corp., 250 W. 57th St., Fisk Bldg.,  
 New York 19, N. Y.  
 Audak Co., 500 Fifth Ave., New York, N. Y.  
 Audio Devices, Inc., 444 Madison Ave., New York 22,  
 N. Y.  
 Capps & Co., Inc., 20 Addison Place, Valley Stream,  
 N. Y.  
 Duotone Co., Inc., Keyport, N. J.  
 Electrovox Co., Inc., 60 Franklin St., East Orange, N. J.  
 Fidelitone, Inc., 6415 Ravenswood, Chicago 26, Ill.  
 General Electric Co., Technical Products Dept., Elec-  
 tronics Park, Syracuse, N. Y.  
 Jensen Industries, Inc., 7333 W. Harrison, Forest Park,  
 Ill.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.

Miller Mfg. Co., M. A., 4th & Church Sts., Libertyville, Ill.  
Pacific Transducer EBG Corp., 11836 W. Pico Blvd., Los Angeles 64, Calif.  
Permo, Inc., 6415 Ravenswood Ave., Chicago 26, Ill.  
Pfanstielh Chemical Corp., 104 Lake View Ave., Waukegan, Ill.  
Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
Recoton Corp., 52-35 Barnett Ave., Long Island City 4, N. Y.  
Reeves Soundcraft Corp., 10 E. 52nd St., New York 22, N. Y.  
Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.

## NETWORKS—Crossover

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
Bozak Mfg. Co., R. T., The, Box 966, Darien, Conn.  
DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
National Capacitor Co., 18 Webster St., Brookline, Mass.  
ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
Racon Electric Co., 1261 Broadway, New York 1, N. Y.  
Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
Tranonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
Trutone Electronic, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
Vidaire Electronics Mfg. Corp., 576 W. Merrick Rd., Lynnbrook, N. Y.

## NETWORKS—Directional Antenna Phasing

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
Collins Radio Co., Cedar Rapids, Iowa.  
ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
Q.R.K. Electronic Products, 445 N. Circle Drive, Fresno 4, Calif.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.

## NETWORKS—Matching

Admittance-Namco Corp., Farmingdale, N. Y.  
AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
ANDREW CORP., 363 E. 75th St., Chicago 19, Ill. ADV. PG. 112.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
Dmeter Mfg., Co., Inc., 22-24 Larkin Plaza, Yonkers 2, N. Y.  
ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
EASTERN PRECISION RESISTOR CORP., 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
Holland Electronics, 40 Great Jones St., New York 12, N. Y.  
Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
MICROLAB, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
PRECISION CAPACITORS, INC., 150 W. Cypress Ave., Burbank, Calif. ADV. PG. 318.  
Q.R.K. Electronic Products, 445 N. Circle Drive, Fresno 4, Calif.  
Sage-Craft, Inc., Norwich, N. Y.  
SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
SOUTHERN ELECTRONICS CORP., 150 W. Cypress Ave., Burbank, Calif. ADV. PG. 166.

Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Tranonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
UNIVERSITY LOUDSPEAKERS, INC., 60 S. Kensico Ave., White Plains, N. Y. ADV. PG. 514.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

## NETWORKS—Pulse Forming

AMP INC., 2100 Paxton St., Harrisburg, Pa. ADV. PG. 339.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
Carad Corp., 2850 Bay Rd., Redwood City, Calif.  
COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
Condenser Products Div., New Haven Clock & Watch Co., 140 Hamilton St., New Haven, Conn.  
DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171.  
FILTRON CO., INC., 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
National Capacitor Co., 18 Webster St., Brookline, Mass.  
NAVIGATION COMPUTER CORP., 1621 Snyder Ave., Philadelphia 45, Pa. ADV. PG. 585.  
ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
Sickles, F.W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
TECHNITROL ENGINEERING CO., 1952 E. Allegheny Ave., Philadelphia 34, Pa. ADV. PG. 309.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton, London W. 3, England.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
TOBE DEUTSCHMANN CORP., 921 Providence Highway, Norwood, Mass. ADV. PG. 645.  
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.

## NULL

See DETECTORS

## NUTS

Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles 44, Calif.  
ALDEN PRODUCTS CO., 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
Anti-Corrosive Metal Products Co., Castleton-on-Hudson, N. Y.  
Atlas Screw & Specialty Co., 450 Broome St., New York 13, N. Y.  
Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
Blake & Johnson Co., 1495 Thomaston Ave., Waterville 48, Conn.  
Boots Aircraft Nut Corp., Newton Ave., Norwalk, Conn.  
Central Screw Co., 3501 Shields Ave., Chicago 9, Ill.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
Elastic Stop Nut Corp., 2330 Vauxhall Rd., Union, N. J.  
FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
Greer Stop Nut Co., 2620 W. Fluoroy St., Chicago 12, Ill.  
GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
Harper Co., H. M., 8200 Lehigh Ave., Morton Grove, Ill.  
Haynes Stellite Co., A Div. of Union Carbide & Carbon Corp., 725 S. Lindsay St., Kokomo, Ind.

I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill.  
Jacobson Nut Mfg. Corp., Market St., Kenilworth 2, N. J.  
KEYSTONE BOLT & NUT CORP., 127 Church St., New York 7, N. Y. ADV. PG. 683.  
Klincher Locknut Corp., 2153 Hillside Ave., Indianapolis 18, Ind.  
Lamson & Sessions Co., 1971 W. 85th St., Cleveland 2, Ohio.  
LERCO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664.  
National Screw & Mfg. Co., The, Cleveland 4, Ohio.  
Nugent Electronics Co., New Albany, Ind.  
Parker-Kalon Div. of General American Transportation Corp., Clifton, N. J.  
Pheoil Mfg. Co., 5700 Roosevelt Rd., Chicago 50, Ill.  
Progressive Mfg. Co., 50 Norwood St., Torrington, Conn.  
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
Rosan Inc., 2901 West Coast Highway, Newport Beach, Calif.  
Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Sinclair Mfg. Co., Chartley, Mass.  
Standard Locknut & Lockwasher Inc., 2250 Valley Ave., Indianapolis 18, Ind.  
Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill.  
Tinnerman Products, Inc., P. O. Box 6688, Dept. No. 16, Cleveland 1, Ohio.  
UNITED-CARR FASTENER CORP., Cambridge 42, Mass. ADV. PG. 64.  
United Screw & Bolt Corp., 2513 W. Cullerton St., Chicago 8, Ill.  
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
Walsco Electronics Mfg. Co., 300 Green St., Rockford, Ill.  
Weckesser Co., 5701 Northwest Highway, Chicago 50, Ill.

## NUTS—Self-Locking

Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
Anti-Corrosive Metal Products Co., Castleton-on-Hudson, N. Y.  
Boots Aircraft Nut Corp., Newton Ave., Norwalk, Conn.  
Central Screw Co., 3501 Shields Ave., Chicago 9, Ill.  
Eaton Mfg. Co., Reliance Div., 25 Charles Ave., S. E., Massillon, Ohio.  
Elastic Stop Nut Corp., 2330 Vauxhall Road, Union, N. J.  
FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
Greer Stop Nut Co., 2620 W. Fluoroy St., Chicago 12, Ill.  
Haynes Stellite Co., A Div. of Union Carbide & Carbon Corp., 725 S. Lindsay St., Kokomo, Ind.  
Jacobson Nut Mfg. Corp., Market St., Kenilworth 2, N. J.  
Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
KEYSTONE BOLT & NUT CORP., 127 Church St., New York 7, N. Y. ADV. PG. 683.  
Klincher Locknut Corp., 2153 Hillside Ave., Indianapolis 18, Ind.  
Lamson & Sessions Co., 1971 W. 85th St., Cleveland 2, Ohio.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
National Screw & Mfg. Co., The, Cleveland 4, Ohio.  
Nylok Corp., The, 611 Industrial Ave., Paramus, N. J.  
Palnut Co., The, 77 Glen Rd., Mountainside, N. J.  
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
Rosan, Inc., 2901 West Coast Highway, Newport Beach, Calif.  
Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Shakeproof Div. of Illinois Tool Works, St. Charles Rd., Elgin, Ill.  
Shearcut Tool Co., 7045 Darby Ave., Reseda, Calif.  
Standard Pressed Steel Co., Box 775, Jenkintown 10, Pa.  
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.  
Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill.  
Thompson-Bremer & Co., 520 N. Dearborn, Chicago 10, Ill.  
Tinnerman Products, Inc., P. O. Box 6688, Dept. No. 16, Cleveland 1, Ohio.  
UNITED-CARR FASTENER CORP., Cambridge 42, Mass. ADV. PG. 64.  
Waterbury Pressed Metal Co., P-M Nut Div., 300 Chase Ave., Waterbury 14, Conn.

## NYLON

See INSULATING MATERIALS

## OHMMETERS

See INSTRUMENTS—Electrical Measuring

## O RINGS

See GASKETS

WASHERS—Insulating

**OPTICAL EQUIPMENT AND SPECIALTIES**

American Optical Co., Instrument Div., Box A, Buffalo 15, N. Y.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
 Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
 Buhl Optical Co., 1009 Beech Ave., Pittsburgh 33, Pa.  
 Camera Mart Inc., 1845 Broadway, New York 23, N. Y.  
 Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
 Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
 Eichner Instruments, L. C., 19 Sebago St., Clifton, N. J.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Farrand Optical Co., Inc., Bronx Blvd. at 238th St., New York 70, N. Y.  
 Gaertner Scientific Corp., 1239 Wrightwood Ave., Chicago 14, Ill.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
 Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.  
 Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.  
 Keim Precision Mirrors, 1346 E. Colorado St., Glendale 5, Calif.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Keuffel & Esser Co., Hoboken, N. J.  
 O & S Research, Inc., 1811 Bannard St., Riverton, N. J.  
 Perkin-Elmer Corp., Main Ave., Norwalk, Conn.  
 Polan Industries Inc., P. O. Box 1720, Huntington, W. Va.  
**PRECISE MEASUREMENTS CO., R.D. #1**, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 Research Development Manufacture Inc., 429 E. Colom St., Philadelphia 44, Pa.  
 Scientific Instruments Service Co., 44 Bromfield St., Boston 8, Mass.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
 Van Keuren Co., 176 Waltham St., Watertown, Mass.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Zenith Optical Laboratory, 1940 Great Neck Rd., Copaque, N. Y.  
 Zoomar, Inc., Glen Cove, N. Y.

**OSCILLATORS—Audio Fork Controlled**

**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
**AMERICAN TIME PRODUCTS, INC.**, 580 Fifth Ave., New York 36, N. Y. ADV. PG. 440.  
 Anlab, 4950 N. High St., Columbus 14, Ohio.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
 Riverbank Laboratories, Dept. of Engineering, P. O. Box 65, Geneva, Ill.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**TIMES FACSIMILE CORP.**, 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
**WEINSCHEL ENGINEERING CO., INC.**, 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.

**OSCILLATORS—Audio Frequency**

Adler Electronic, Inc., 1 LeFevre Lane, New Rochelle, N. Y.  
 Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
**AMERICAN TIME PRODUCTS, INC.**, 580 Fifth Ave., New York 36, N. Y. ADV. PG. 440.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 Bruel & Kjaer, Naerum, Denmark.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.  
 Cinema-Television Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 Clough Brengle Co., 6014 N. Broadway, Chicago, Ill.  
 Conn. Ltd. C. G., 1101 E. Beardsley Ave., Elkhart, Ind.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 Dynac, Inc., 395 Page Mill Rd., Palo Alto, Calif.

Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
**ELGIN NATIONAL WATCH CO., ELECTRONICS DIV.**, 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
 Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Instrument Laboratories, 315 W. Walton Place, Chicago 10, Ill.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**KROHN-HITE CORP.**, 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
 L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
**LING ELECTRONICS, INC.**, 5170 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
**M F ELECTRONICS**, 122 E. 25th St., New York 10, N. Y. ADV. PG. 512.  
 Maico Co., Inc., 21 N. 3rd St., Minneapolis, Minn.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Metronix, Inc., Mill Lane, Waterford, Conn.  
 Muirhead & Co., Inc., Beckenham, Kent, England.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
 Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
 Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
 Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.  
 Radex Corp., 2076 N. Elston Ave., Chicago 14, Ill.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Ransom Research, Box 382, San Pedro, Calif.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.  
 Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
**TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
**TELONIC INDUSTRIES**, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Waveforms, Inc., 333 Sixth Ave., New York 14, N. Y.  
**WEINSCHEL ENGINEERING CO., INC.**, 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.

**OSCILLATORS—Cavity**

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
 C.G.S. Laboratories, Inc., 391 Ludlow St., Stamford, Conn.  
 Cavitron Electron Oscillator Co. Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**DOUGLAS MICROWAVE CO., INC.**, 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
**FREQUENCY STANDARDS, INC.**, P. O. Box 504, Asbury Park, N. J. ADV. PG. 578.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Gombos Co., Inc., John, 103 Montgomery Ave., Irvington, N. J.

**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
 Maxson Instruments A Div. of the W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
 Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.  
 Woodwelding, Inc., 3000 W. Olive, Burbank, Calif.

**OSCILLATORS—Crystal**

Airmec Ltd., High Wycombe Buckinghamshire, England.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
**BLILEY ELECTRIC CO.**, Union Station Bldg., Erie, Pa. ADV. PG. 178, 179.  
**BULOVA WATCH CO., INC., ELECTRONICS DIV.**, 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
 Decade Instrument Co., Box 153, Caldwell, N. J.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
**HYCON EASTERN, INC.**, Dept. EBG, 75 Cambridge Parkway, Cambridge, Mass. ADV. PG. 400, 401.  
 International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**KNIGHTS CO., JAMES, THE**, Sandwich, Ill. ADV. PG. 521.  
**MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
**MCCOY ELECTRONICS CO.**, Mount Holly Springs, Pa. ADV. PG. 286.  
 Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J.  
 Norram Laboratories, Ernst, Williams Bay, Wis.  
 Precision Crystal Laboratory, 223 Warwick Ave., Santa Monica, Calif.  
 Prescise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Ransom Research, Box 382, San Pedro, Calif.  
 Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
**SCIENTIFIC RADIO PRODUCTS, INC.**, 215 S. 11th, Omaha, Neb. ADV. PG. 657.  
**STANDARD CRYSTAL CO.**, 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Trip-T Co., Electronics, Box 5352, Pasadena, Calif.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa.

**OSCILLATORS, GRIP DIP—High Frequency & vhf**  
 Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
 Cavitron Electron Oscillator Co. Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**MEASUREMENTS CORP.**, Boonton, N. J. ADV. PG. 94.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
 Woodwelding, Inc., 3000 W. Olive, Burbank, Calif.

**OSCILLATORS—Microwave Power**  
 See MICROWAVE ACCESSORIES

**OSCILLATORS—Oven Crystal Control**  
 Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
**BULOVA WATCH CO., INC., ELECTRONICS DIV.**, 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
**KNIGHTS CO., JAMES, THE**, Sandwich, Ill. ADV. PG. 521.  
**MCCOY ELECTRONICS CO.**, Mount Holly Springs, Pa. ADV. PG. 286.

# ELECTRONIC and ALLIED PRODUCTS

# OSCILLOGRAPHS

MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
Precision Crystal Laboratory, 2223 Warwick Ave., Santa Monica, Calif.  
Premier Research Laboratories Inc., 83 Seventh Ave., New York 11, N. Y.  
Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
STANDARD CRYSTAL CO., 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.

## OSCILLATORS—Pulsed

ARENBERG ULTRASONIC LABORATORY, INC., 94 Green St., Jamaica Plain 30, Mass. ADV. PG. 672.  
CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
EASTERN PRECISION RESISTOR CORP., 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
ELECTRO-PULSE, INC., 11861 Teale St., Culver City, Calif. ADV. PG. 651.  
ELECTROMATION CO., 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
ENGINEERED ELECTRONICS CO., 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
Northeast Electronics Corp., P. O. 425, Municipal Airport, Concord, N. H.  
ELONIC INDUSTRIES, 73 N. 2nd Ave., Beech Grove, Ind. ADV. PG. 535.  
ARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
WEINSCHTEL ENGINEERING CO., INC., 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.

## OSCILLATORS—Pushbutton

KROHN-HITE CORP., 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
Tuse Techniques, Inc., 1411 Palisades Ave., West Englewood, N. J.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
Metronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
WEINSCHTEL Engineering Co., Inc., 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.

## OSCILLATORS—Radio Frequency

MANSON LABORATORIES, INC., 533 Main St., Acton, Mass. ADV. PG. 267.  
BORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
Tremec Ltd., High Wycombe, Buckinghamshire, England.  
Aladdin Electronics, A Div. of Aladdin Industries, Inc., 711 Murfreesboro Rd., Nashville 2, Tenn.  
ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
Sema-Television, Ltd., Worsley Bridge Rd., London SE 26, England.  
CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
Hugh Bregle Co., 6014 N. Broadway, Chicago, Ill.  
Mins Radio Co., Cedar Rapids, Iowa.  
COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
MOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
EASTERN PRECISION RESISTOR CORP., 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
Lico Engineering Corp., Addison, Ill.  
FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
General Radio Co., Quincy, Ill.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Clyn Engineering Co., 2151 N. Damen Ave., Chicago, Ill.  
Go Electronics Co., 325 Canal St., New York, N. Y.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.

Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J.  
MULLARD OVERSEAS LTD., EQUIPMENT DIV., Century House, Shaftesbury Ave., London W. C. 2, England. ADV. PG. 560.  
Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
NORTHERN RADIO CO., INC., 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Press Wireless Laboratories, Inc., 25 Prospect Pl., West Newton 65, Mass.  
Production Research Corp., Thornwood, N. Y.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.  
Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
Teleto Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
TELONIC INDUSTRIES, 73 N. Second Ave., Beach Grove, Ind. ADV. PG. 535.  
Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
WEINSCHTEL ENGINEERING CO., INC., 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.  
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.  
Woodwelding, Inc., 3000 West Olive, Burbank, Calif.

## OSCILLATORS—Sweeping

Alfred Electronics, 897 Commercial St., Palo Alto, Calif.  
Bruehl & Kjaer, Naerum, Denmark.  
Clough-Bregle Co., 6014 N. Broadway, Chicago, Ill.  
Decade Instrument Co., Box 153, Caldwell, N. J.  
Dyncac, Inc., 395 Page Mill Rd., Palo Alto, Calif.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
LING ELECTRONICS, INC., 5170 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
POLARAD ELECTRONICS CORP., 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
Servomex Controls Ltd., 80 Shore Rd., Port Washington, N. Y.  
Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
TELONIC INDUSTRIES, 73 N. Second Ave., Beach Grove, Ind. ADV. PG. 535.  
TRANSITRON, INC., 186 Granite St., Manchester, N. H. ADV. PG. 326.  
Triplett Electrical Instrument Co., Harmon Rd., Bluffton, Ohio.  
VARI-L CO., INC., P. O. Box 1433, Stamford, Conn. ADV. PG. 608.  
White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.

## OSCILLATORS—Ultra-Low Frequency

BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
Donner Scientific Co., 888 Galindo St., Concord, Calif.

Dubrow Development Co., 2358 Penn St., Burlington, N. J.  
DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.  
HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
Hill Electronic Engineering & Mfg. Co., Inc., New Kings-town, Pa.  
KROHN-HITE CORP., 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
Servomex Controls Ltd., 80 Shore Rd., Port Washington, N. Y.  
Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.  
STANDARD CRYSTAL CO., 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
Waveforms, Inc., 333 Sixth Ave., New York 14, N. Y.  
Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va.

## OSCILLATORS—Ultrasonic

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
ARENBERG ULTRASONIC LABORATORY, INC., 94 Green St., Jamaica Plain 30, Mass. ADV. PG. 672.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
BRANSON ULTRASONIC CORP., 1 Brown House Rd., Stamford, Conn. ADV. PG. 605.  
Bruehl & Kjaer, Naerum, Denmark.  
BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
Cavitron Electron Oscillator Co. Div. of Short Wave Plastic Forming Co., 355 N. Newport Blvd., Newport Beach, Calif.  
Decade Instrument Co., Box 153, Caldwell, N. J.  
DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
KROHN-HITE CORP., 580 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 82, 83.  
McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
McKenna Laboratories, Santa Monica 6, Calif.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Metronix, Inc., Mill Lane, Waterford, Conn.  
Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
Power Supplies, Inc., 1007 Olive St., Highland, Ill.  
Production Research Corp., Thornwood, N. Y.  
Riverbank Laboratories, Dept. of Engineering, P. O. Box 65, Geneva, Ill.  
Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Telephonics Corp., Park Ave., Huntington, N. Y.  
Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
Waveforms, Inc., 333 Sixth Ave., New York 14, N. Y.  
Woodwelding, Inc., 3000 W. Olive, Burbank, Calif.

## OSCILLOGRAPHS

### See OSCILLOSCOPES

## OSCILLOGRAPHS—Cathode Ray Camera

Allegany Instrument Co., Inc., 1091 Willis Mountain, Cumberland, Md.  
Cinema-Television Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

## OSCILLOGRAPHS—Cathode Ray Recording, Multichannel

Allegany Instrument Co., Inc., 1091 Willis Mountain, Cumberland, Md.

Amelco, Inc., 2040 Colorado Ave., Santa Monica, Calif.  
 Central Research Laboratories, Inc., Red Wing, Minn.  
 Cinema-Television Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Electro-Science Industries, Box 10066 International Airport, Los Angeles 45, Calif.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
 Hathaway Instrument Div., Hamilton Watch Co., 5800 E. Jewell Ave., Denver 22, Colo.  
 Levinthal Electronic Products, Inc., 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.  
 Miller Instruments, Inc., William, 325 N. Halstead Ave., Pasadena 8, Calif.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.

Hathaway Instrument Div., Hamilton Watch Co., 580 E. Jewell Ave., Denver 22, Colo.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
 Mid-Century Instrument Corp., 611 Broadway, New York 12, N. Y.  
 Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
 Miller Instruments, Inc., William, 325 N. Halstead Ave., Pasadena 8, Calif.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
 Photron Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
**REEVES INSTRUMENT CORP.**, 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
 Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Railway Communications, Inc., 9351 E. 59th St., Raytown, Mo.  
 Republic Electronic Industries Corp., 31 W. 27th St., New York 1, N. Y.  
 Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
 Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
 Tektronix, Inc., P. O. Box 831, Portland 7, Ore.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
**TRAD ELECTRONICS CORP.**, 1001 First Ave., Asbury Park, N. J. ADV. PG. 522.  
**WATERMAN PRODUCTS CO., INC.**, 2445-63 Emerald St., Philadelphia 25, Pa. ADV. PG. 172, 173.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**OSCILLOGRAPHS—Direct Writing**

**ACTON LABORATORIES, INC.**, 533 Main St., Acton, Mass. ADV. PG. 267.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Amelco, Inc., 2040 Colorado Ave., Santa Monica, Calif.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Century Electronics & Instruments, Inc., P. O. Box 6216, Pine Station, Tulsa 10, Okla.  
 Cinema-Television Ltd., Worsley Bridge Rd., London S.E. 26, England.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Cossor (Canada) Ltd., 301-303 Windsor St., Halifax, N. S., Canada.  
 Edin Co., Inc., 207 Main St., Worcester, Mass.  
 Electro-Medical Lab., Inc., South Woodstock 8, Vt.  
 Epic, Inc., 154 Nassau St., New York 38, N. Y.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
 Mid-Century Instrument Corp., 611 Broadway, New York 12, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
 Photron Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.

**OSCILLOGRAPHS—Multi-Element**

**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Amelco, Inc., 2040 Colorado Ave., Santa Monica, Calif.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Century Electronics & Instruments, Inc., P. O. Box 6216, Pine Station, Tulsa 10, Okla.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Epic, Inc., 154 Nassau St., New York 38, N. Y.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Hathaway Instrument Div., Hamilton Watch Co., 5800 E. Jewell Ave., Denver 22, Colo.  
 Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
 Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
 Miller Instruments, Inc., William, 325 N. Halstead Ave., Pasadena 8, Calif.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
 Photron Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.

**OSCILLOGRAPHS—Recording**

**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
 Berndt-Bach, Inc., Auricon Div., 6924 Romaine St., Hollywood 38, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
 Cinema-Television Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Edin Co., Inc., 20 Main St., Worcester, Mass.  
 Epic, Inc., 154 Nassau St., New York 38, N. Y.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.

**OSCILLOGRAPHS—Transient Study**

See **OSCILLOSCOPES—Cathode Ray**

**OSCILLOSCOPES**

See **OSCILLOGRAPHS ACCESSORIES**  
 See **TRACERS—Manual, for Oscilloscopes**

**OSCILLOSCOPES—Cathode Ray**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.  
 Cinema-Television Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
 Cossor (Canada) Ltd., 301-303 Windsor St., Halifax, N. S., Canada.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 Du Mont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 Eberline Instrument Division, P. O. Box 279, Santa Fe, N. M.  
 Edgerton, Germeshausen & Grier, Inc., 160 Brookline Ave., Boston, Mass.  
 Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
 Electronic Measurements Corp., 280 Lafayette St., New York 12, N. Y.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**HEWETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Hycon Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
 Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
 Jovill Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.  
 Polytron Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.

**OSCILLOSCOPES, Cathode Ray—Multiple Channel**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
 American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
 Cinema-Television Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
 Du Mont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Electro-Science Industries, Box 10066 International Airport, Los Angeles 45, Calif.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
**HEWETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London W. C. 2, England. ADV. PG. 560.  
 Photron Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
 Railway Communications, Inc., 9351 E. 59th St., Raytown, Mo.  
 Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
 Tektronix, Inc., P. O. Box 831, Portland 7, Ore.  
**WATERMAN PRODUCTS CO., INC.**, 2445-63 Emerald St., Philadelphia 25, Pa. ADV. PG. 172, 173.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**OSCILLOSCOPES—Portable**

Cossor (Canada) Ltd., 301-303 Windsor St., Halifax, N. S., Canada.  
 Du Mont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
 Hycon Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
 Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Jovill Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
**P. B. R. MFG. CO.**, H. & Luzerne, Philadelphia 24, Pa. ADV. PG. 684.  
 Polytron Research, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
**PROBESCOPE CO.**, 44-05 30th Ave., Long Island City 3, N. Y. ADV. PG. 697.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third and Fourth Covers.  
 Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Spivey, Inc., James S., 4908 Hamden Lane, Washington 14, D. C.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Tektronix, Inc., P. O. Box 831, Portland 7, Oregon.

**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
**WATERMAN PRODUCTS CO., INC.**, 2445-63 Emerald St., Philadelphia 25, Pa. ADV. PG. 172, 173.

## OSCILLOSCOPES—Portable Projection

**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.

## OVENS—Crystal

**BILLEY ELECTRIC CO.**, Union Station Bldg., Erie, Pa. ADV. PG. 178, 179.  
**BULOVA WATCH CO., INC., ELECTRONICS DIV.**, 40-06 2nd St., Woodside 77, N. Y. ADV. PG. 504.  
**CLARK CRYSTAL CO.**, Farm Rd., Marlboro, Mass. ADV. PG. 512.

**Cox & Co., Inc.**, 115 E. 23rd St., New York 10, N. Y. Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y. Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
**HUNT CORP.**, 453 Lincoln St., Carlisle, Pa. ADV. PG. 532.  
 Hupp Electronics Co., 265 E. Pomfret St., Carlisle, Pa. International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.

**JOHNSON & HOFFMAN MFG. CORP.**, 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
**KAHLE ENGINEERING CO.**, 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
 Kinney Mfg. Div. of The New York Air Brake Co., 3529 Washington St., Boston, Mass.  
**KNIGHTS CO., JAMES, THE**, Sandwich, Ill. ADV. PG. 521.

**L & O Research & Development Corp.**, 134 N. Wayne Ave., Wayne, Pa.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
**MCCOY ELECTRONICS CO.**, Mount Holly Springs, Pa. ADV. PG. 286.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind. **MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.

**MIDLAND MFG. CO., INC.**, 3155 Fiberglass Rd., Kansas City 16, Kansas. ADV. PG. 367.  
 Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J.  
 Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.

**NORTHERN ENGINEERING LABS., INC.**, 372 Wilmet Ave., Burlington, Wis. ADV. PG. 668.  
 Precision Crystal Laboratory, 2223 Warwick Ave., Santa Monica, Calif.  
 Premier Research Laboratories Inc., 83 Seventh Ave., New York 11, N. Y.  
 Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
**SCIENTIFIC RADIO PRODUCTS, INC.**, 215 S. 11th Omaha, Neb. ADV. PG. 657.  
**STANDARD CRYSTAL CO.**, 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
**VALPEY CRYSTAL CORP.**, 1244 Highland St., Holliston, Mass. ADV. PG. 561.  
 Williamson Development Co., Inc., 317 Main St., West Concord, Mass.

**OVENS—Electric**  
 Acme Electric Heating Co., 1217 Washington St., Boston, Mass.  
 Blue M Electric Co., 138th & Chatham St., Blue Island, Ill.  
 Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.  
**Cox & Co., Inc.**, 115 E. 23rd St., New York 10, N. Y. Despatch Oven Co., Minneapolis, Minn.  
 Fostoria Pressed Steel Corp., Fostoria, Ohio.  
 Grieve-Hendry Co., Inc., 1401-17 W. Carroll Ave., Chicago 7, Ill.  
 Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I. Hudson Bay Co., Div. of Labline, Inc., 3070 W. Grand Ave., Chicago 22, Ill.  
 Huppert Co., K., H., 6824 S. Cottage Grove Ave., Chicago 37, Ill.

**KAHLE ENGINEERING CO.**, 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
 Miskella Infra-Red Co., The, 73rd & Grand Ave., Cleveland 4, Ohio.  
 New England Oven & Furnace Co., Post Rd., Orange, Conn.  
 Pimeo Inc., 18 E. 60th St., New York 22, N. Y. Steiner-Ives Co., Springfield Rd., Union, N. J.  
 United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
 Young Brothers Co., 1829 Columbus Rd., Cleveland, Ohio.

## OVENS—Infra-Red Drying

Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.  
 Fostoria Pressed Steel Corp., Fostoria, Ohio.  
**KAHLE ENGINEERING CO.**, 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
 Miskella Infra-Red Co., The, 73rd & Grand Ave., Cleveland 4, Ohio.  
 New England Oven & Furnace Co., Post Rd., Orange, Conn.  
 Steiner-Ives Co., Springfield Rd., Union, N. J.

## PACKAGING—Electronic Equipment, Service Only

Boiling Industries, Inc., 1117 N. Main Ave., Scranton 2, Pa.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
**BRIGGS ASSOCIATES, INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.

Cargo Packers, 37-20 14th Ave., Brooklyn, N. Y.  
 ConRay Corp., 29 W. Apple St., Dayton 2, Ohio.  
 Decatur Electronics Industries Corp., 203 Ornicco Drive, Brightwater, N. Y.

**DUNN ENGINEERING ASSOCIATES INC.**, 186 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 695.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Electronic Assembly Co., Inc., 5 Prescott St., Boston 19, Mass.

**ELECTRONIC PLASTICS CORP.**, 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.  
 Electronics Research Labs., 85 Surrey St., Brighton 35, Mass.

**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
 Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.

**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne Valley Stream, N. Y. ADV. PG. 679.

Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.  
 Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
 Long Packaging Co., W. D., 157 Santa Clara St., Arcadia, Calif.

**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Mutron Corp., 125 Perkins Ave., Brockton, Mass.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.

Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
**SONEX, INC.**, 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
 Spivey Inc., James S., 4908 Hampden Lane, Washington 4, D. C.

**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 White Aircraft Corp., Palmer, Mass.

## PACKAGING MATERIALS

Applegate & Co., C. J., 1840 24th St., Boulder, Colo.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Blocksom & Co., Michigan City, Ind.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Cafresin Corp., 4543 Brazil St., Los Angeles 39, Calif.  
 Celanese Corp. of America, Plastics Div., 290 Ferry St., Newark 5, N. J.

**Continental Can Co.**, 100 E. 42nd St., New York 17, N. Y.  
 Corrugated Paper Products, Inc., 2233 Utica Ave., Brooklyn 34, N. Y.  
 Deubert Chemical Co., 333 N. Michigan Ave., Chicago 1, Ill.

du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.

**Fox Co., C. J., The**, 236 Aborn St., P. O. Box 1186, Providence 1, R. I.  
**GOODRICH SPONGE PRODUCTS, B. F., A DIV. OF THE B. F. GOODRICH CO.**, Shelton, Conn.—ADV. PG. 147.  
 Hinde & Dauch, Sandusky, Ohio.  
 Koch & Sons, H., Corte Madera, Calif.

**LERMER PLASTICS, INC.**, 522 South Ave., Garwood, N. J. ADV. PG. 585.  
 Marvellum Co., Holyoke, Mass.  
**MOSINEE PAPER MILLS, INC.**, Dept. EB-7, Mosinee, Wis. ADV. PG. 81.  
 Muckle Mfg. Co., Owatonna 55, Minn.  
 Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.

**Olympic Plastics Co., Inc.**, 3471 S. LaCienega Blvd., Los Angeles 16, Calif.  
**PETER PARTITION CORP.**, 124 Boerum Place, Brooklyn 1, N. Y. ADV. PG. 556.  
 Peters-Dalton, Inc., 17872 Ryan Rd., Detroit 12, Mich.  
 Protective Coatings Corp., 596 River Rd., Clifton, N. J.  
 Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.

Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Texloid Products Co., 81 Rumford Ave., Waltham, Mass.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.  
 White Aircraft Corp., Palmer, Mass.

## PAINTS—Conductive (for Printed Circuits)

Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.  
 Anderson Associates, H. V., 239 Park Ave., Berkeley Heights, N. J.  
 California Bent Glass Corp., Torrance, Calif.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Delaware.

**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
 Micro-Circuits Co., New Buffalo, Mich.  
 Midland Paint & Varnish Co., 9115 Reno Ave., Cleveland 5, Ohio.

Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Tempil Corp., 132 W. 22nd St., New York 11, N. Y.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.

## PAINTS—Resistive (for Printed Circuits)

Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.  
 California Bent Glass Corp., Torrance, Calif.  
 Cudner & O'Connor Co., 4035 W. Kinzie Ave., Chicago 24, Ill.  
 Micro-Circuits Co., New Buffalo, Mich.  
 Midland Industrial Finishes Corp., Dept. I-20, Waukegan, Ill.

Naz-Dar Co., 465 Milwaukee Ave., Chicago 10, Ill.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.

## PANEL LIGHTS

See LIGHTS—Dial, Panel and Pilot

## PANELS—Instrument

A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.  
**ABALON PRECISION MFG. CORP.**, 540 Cassanova St., Bronx 59, N. Y. ADV. PG. 644.  
**ACKERMAN ENGRAVERS**, 458 Broadway, New York, N. Y. ADV. PG. 642.

Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
**ALLIED ALLEGRI INC.**, 141 River Rd., Nutley, N. J. ADV. PG. 650.  
 Amco Engineering Co., 7335 Ainslie St., Chicago 31, Ill.

Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.  
 Art-Lloyd Metal Products Corp., 2973 Cropsey Ave., Brooklyn 14, N. Y.  
 Atlantic Engravers, Inc., 52 Ocean Ave., Amityville, N. Y.

Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
**CANADIAN RADIUM & URANIUM CORP.**, 630 Fifth Ave., New York 20, N. Y. ADV. PG. 665.  
**CHURCHILL LIGHTING CORP.**, 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
 Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.

Columbia Metal Box Co., 260 E. 143rd St., New York, N. Y.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1, N. Y.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.

Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Cutler Metal Products Co., 1025 Line St., Camden, N. J.  
 Devco Engineering Inc., P. O. Box 387, Caldwell, N. J.  
 Diamond-Union Stamp Works, 81 Washington St., Boston 8, Mass.

Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
 Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.  
 Donnelly Mfg. Co., Div. of The Indian Co., 580 Winter St., Waltham 54, Mass.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.

Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.

Etched Products Corp., 39-01 Queens Blvd., Long Island City 4, N. Y.  
 Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.

Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
 Falls Metal Works, Ltd., 414 Main St., Little Falls, N. J.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
 Hoffman Engineering Corp., Anoka, Minn.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 I. E. Manufacturing, 325 N. Hoynes Ave., Chicago 12, Ill.  
 Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
 Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Keil Engineering Products Co., 6833 Manchester, St. Louis, Mo.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Metal-Craft, Inc., Burgess Place, Mountain View, N. J.  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67E, Anderson, Ind.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Panelgraphic Corp., P. O. Box 254, Caldwell, N. J.  
 Park Nameplate Co., Inc., 34-10 Linden Place, Flushing 54, N. Y.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
 Pfefer Products, 3901 W. 54th St., Los Angeles, Calif.  
 Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.  
 Plasteck, Inc., Poteau, Okla.  
 REF Mfg. Corp., Jericho Turnpike, Mineola, N. Y.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
**RICHARDSON CO., THE**, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
 Sierra Electric Corp., 15100 S. Figueroa St., P.O. Box 85, Gardena, Calif.  
 Sightmaster Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Stamford Metal Specialty Co., 429 W. Broadway, New York 12, N. Y.  
 Sun Dial Corp., E. Passaic Ave., Caldwell, N. J.  
 Supreme Process Corp., 44 Bond St., Westbury, N. Y.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
 Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Trimm Mfg. Co., W. H., 1811 Johnston St., Los Angeles 31, Calif.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.  
 Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.  
 White Aircraft Corp., Palmer, Mass.

**PANELS-Jack**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**ALLIED ALLEGRI, INC.**, 141 River Rd., Nutley, N. J. ADV. PG. 650.  
 Amco Engineering Co., 7335 Ainslie St., Chicago 31, Ill.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
 Falls Metal Works, Ltd., 414 Main St., Little Falls, N. J.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Metal Products Co., 1010-14 Centre St., Easton, Pa.

Holland Electronics, 40 Great Jones St., New York 12, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 I. E. Manufacturing, 325 N. Hoynes Ave., Chicago 12, Ill.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
**KEYSTONE ELECTRONIC CORP.**, 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67 E, Anderson, Ind.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Nems-Clarke, Inc., Silver Spring, Md.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 Pfefer Products, 3901 W. 54th St., Los Angeles, Calif.  
**POMONA ELECTRONICS CO., INC.**, 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Roftan Co., Corner Route 1 & Camp Meeting Rd., Topshfield, Mass.  
**SEAELECTRO CORP.**, 610 Fayette Ave., Mamaroneck, N. Y. ADV. PG. 484.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
**SWITCHCRAFT, INC.**, 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.

**PANELS-Receiver & Transmitter**

**ALLIED ALLEGRI, INC.**, 141 River Rd., Nutley, N. J. ADV. PG. 650.  
 Amco Engineering Co., 7335 Ainslie St., Chicago 31, Ill.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1, N. Y.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Cutler Metal Products Co., 1025 Line St., Camden, N. J.  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
 Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
 Falls Metal Works, Ltd., 414 Main St., Little Falls, N. J.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 I. E. Manufacturing, 325 N. Hoynes Ave., Chicago 12, Ill.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Metal-Craft, Inc., Burgess Place, Mountain View, N. J.  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67 E, Anderson, Ind.  
 Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
 Pfefer Products, 3901 W. 54th St., Los Angeles, Calif.  
 Plasteck, Inc., Poteau, Okla.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Trimm Mfg. Co., W. H., 1811 Johnston St., Los Angeles 31, Calif.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.

**PANELS-Relay Rack**

**ABALON PRECISION MFG. CORP.**, 540 Casanova St., Bronx 59, N. Y. ADV. PG. 644.  
**ALLIED ALLEGRI, INC.**, 141 River Rd., Nutley, N. J. ADV. PG. 650.  
 Amco Engineering Co., 7335 Ainslie St., Chicago 31, Ill.  
 Art-Lloyd Metal Products Corp., 2973 Cropsey Ave., Brooklyn 14, N. Y.  
 Artisan Metal Works Co., 11410 Madisop Ave., Cleveland 2, Ohio.

Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
**CHURCHILL LIGHTING CORP.**, 344 Franklin St., Melrose 76, Mass. ADV. PG. 605.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Conrad & Moser, 2 Borden Ave., Long Island City 1, N. Y.  
 Cutler Metal Products Co., 1025 Line St., Camden, N. J.  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
 Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
 Falls Metal Works, Ltd., 414 Main St., Little Falls, N. J.  
**FALSTROM CO.**, 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.  
 Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
**HAMNER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. ADV. PG. 671.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 I. E. Manufacturing, 325 N. Hoynes Ave., Chicago 12, Ill.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Metal-Craft, Inc., Burgess Place, Mountain View, N. J.  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67E, Anderson, Ind.  
 Par-Metal Products Corp., 32-62 49th St., Long Island City 3, N. Y.  
 Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.  
 Pfefer Products, 3901 W. 54th St., Los Angeles, Calif.  
**PREMIER METAL PRODUCTS CO.**, 337 Manida St., Bronx 59, N. Y. ADV. PG. 646.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 Walter Co., Inc., S., 1400 Atlantic Ave., Brooklyn 16, N. Y.  
 Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.

**PAPER**

See **INSULATION MATERIALS**

**PAPER-Facsimile Recording**

Acme Telectronix Div., NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
**ALFAX PAPER & ENGINEERING CO.**, Washington St., P. O. Box 125, Westboro, Mass. ADV. PG. 566.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Bruning Co., Inc., Charles, 4700 Montrose Ave., Chicago 41, Ill.  
 General Photo Products Co., Inc., General Photo Bldg., 15 Summit Ave., Chatham, N. J.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
**TIMES FACSIMILE CORP.**, 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.  
 Western Union Telegraph Co., 60 Hudson St., New York 13, N. Y.

**PAPER-Recording**

Acme Telectronix Div., NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
**ALFAX PAPER & ENGINEERING CO.**, Washington St., P. O. Box 125, Westboro, Mass. ADV. PG. 566.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.

Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
Schweitzer, Inc., Peter J., 261 Madison Ave., New York 16, N. Y.  
TIMES FACSIMILE CORP., 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.  
Western Union Telegraph Co., 60 Hudson St., New York 13, N. Y.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

## PARTS FOR COLOR TV TUBES

**Crystals—Color TV Frequency Control to Spacers—Bar**

### CRYSTALS—Color TV Frequency Control

BLILEY ELECTRIC CO., Union Station Bldg., Erie, Pa. ADV. PG. 178, 179.  
BULOVA WATCH CO., INC., ELECTRONICS DIV., 40-06 62nd St., Woodside 77, N. Y. ADV. PG. 504.  
C-W Mfg. Co., Box 2065, El Monte, Calif.  
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
Eidson Electronic Co., 1902 N. Third St., Temple, Texas.  
Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.  
HUNT CORP., THE, 453 Lincoln St., Carlisle, Pa. ADV. PG. 532.  
Hupp Electronics Co., 265 E. Pomfret St., Carlisle, Pa. International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.  
KEYSTONE ELECTRONICS CO., 65 Seventh Ave., Newark, N. J. ADV. PG. 614.  
KNIGHTS CO., JAMES, THE, Sandwich, Ill. ADV. PG. 521.  
MCCOY ELECTRONICS CO., Mount Holly Springs, Pa. ADV. PG. 286.  
MIDLAND MFG. CO., INC., 3155 Fiberglass Rd., Kansas City 15, Kansas. ADV. PG. 367.  
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.  
Nebel Laboratory, R. E., 1624 E. 12th St., Brooklyn 29, N. Y.  
Pan-Electronics Corp., Box 404, Griffin, Ga.  
Premier Research Laboratories Inc., 83 Seventh Ave., New York 11, N. Y.  
Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
SCIENTIFIC RADIO PRODUCTS, INC., 215 S. 11th, Omaha, Neb. ADV. PG. 657.  
Sherold Crystals, Inc., 1510 McGee St., Kansas City, Mo. STANDARD CRYSTAL CO., 1714 Locust St., Kansas City 8, Mo. ADV. PG. 558.  
Wright Electronics Inc., 1519 McGee St., Kansas City 8, Mo.

### DELAY LINES—Color TV

ADVANCE ELECTRONICS LAB., INC., 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
Aerocol, Inc., 24 Cliff St., Jersey City, N. J.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Bel-Fuse, Inc., 311 Mountain Rd., Union City, N. J.  
BREW & CO., INC., RICHARD D., Concord, N. H. ADV. PG. 524.  
Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
Cinema-Television, Ltd., Worsley Bridge Rd., London S.E. 26, England.  
COLUMBIA TECHNICAL CORP., 61-02 31 Ave., Woodside 77, N. Y. ADV. PG. 517.  
CONTROL ELECTRONICS CO., INC., 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63.  
Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
FILTRON CO., INC., 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433.  
Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y.  
Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y.  
Leonard Electric Products Co., Inc., 67 Thirty-Fourth St., Brooklyn 32, N. Y.  
PACKARD-BELL CO., 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268.  
Ratigan Electronics Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
U. S. ELECTRONICS CORP., 276 Warren St., Lyndhurst, N. J. ADV. PG. 220.  
Wickes Engineering & Construction Co., P. O. Box 590, Camden 1, N. J.

### FRAMES—Grid

GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT., W. Genesee St., Auburn, N. Y. ADV. PG. 18.

### MASKS—Aperture

JOHNSON & HOFFMAN MFG. CORP., 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.

### PLATES—Phosphor

Sillcocks-Miller Co., Maplewood, N. J.  
U. S. RADIUM CORP., Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.

### SHIFTERS—Color Phase

ADVANCE ELECTRONICS LAB., INC., 249-259 Terhune Ave., Passaic, N. J. ADV. PG. 420.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

### SPACERS—Bar

BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
Greer Stop Nut Co., 2620 W. Fluornoy St., Chicago 12, Ill.  
Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn.

### PERFORATED MATERIALS FOR ELECTRONIC EQUIPMENT

Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.  
Ferguson Perforating & Wire Co., 130 Ernest St., Providence 5, R. I.  
Harrington & King Perforating Co., 5653 Fillmore St., Chicago 44, Ill.  
LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
LAMTEX INDUSTRIES, INC., 51 State St., Westbury, N. Y. ADV. PG. 596.  
MUNDT & SONS, CHARLES, 53 Fairmount Ave., Jersey City 4, N. J. ADV. PG. 662.  
Polyken Sales Div. of The Kendall Co., 309 W. Jackson Blvd., Chicago 6, Ill.

### PERMEAMETERS—High H

Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.

### PERMEATERS—R-F

National Electronics Laboratories, Inc., 1713 Kalorama Rd., N.W., Washington 9, D. C.

### PH

See INDICATORS

### PHENOLIC MOLDING COMPOUNDS

See INSULATING COMPOUNDS

### PHONOGRAPHS—Electric Phonographs & Record Players

Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
Andrea Radio Corp., 27-01 Bridge Plaza N., Long Island City 1, N. Y.  
Audio Industries Inc., Michigan City, Ind.  
Audio-Master Corp., 17 E. 45th St., New York 17, N. Y.  
Audiobox, Inc., 123 Worcester St., Boston 18, Mass.  
Autocrat Electronics Co., 5024 Elm St., Skokie, Ill.  
Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
Califone Corp., 1041 N. Sycamore Ave., Hollywood 38, Calif.  
Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill.  
Collaro, Ltd., (Rockbar Corp.), 650 Halstead Ave., Mamaroneck, N. Y.  
Dukane Corp., St. Charles, Ill.  
Electron Enterprise, 6917-19-21 Stanley Ave., Berwyn, Ill.  
Emerson Radio & Phonograph Corp., 14th & Coles Sts., Jersey City, N. J.  
Fidelity Amplifier Co., 703 Willow St., Chicago 14, Ill.  
Hoffman Radio Div. of Hoffman Electronics Corp., 6200 S. Avalon Blvd., Los Angeles, Calif.  
Lesla, Via Bergamo 21, Milan, Italy.  
MP Engineering Co., Fairfield 3, Conn.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.  
Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.  
Radio Corp. of America, Consumer Products Div., Camden 8, N. J.  
Rek-O-Kut Co., 38-01 Queens Blvd., Long Island City 1, N. Y.

Seeburg, J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.  
Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carison Rd., Rochester 3, N. Y.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
V-M Corp., Benton Harbor, Mich.  
Waters Conley Co., 501 First St., N. W., Rochester, Minn.  
Webcor, Inc., Chicago, Ill.  
Weingarten Electronics Labs, Inc., 7556 Melrose Ave., Los Angeles 46, Calif.  
Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago 39, Ill.

### PHONOGRAPHS—Transistor Operated

Electron Enterprises, 6917-19-21 Stanley Ave., Berwyn, Ill.  
Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.

### PHOTO ETCHED COMPONENTS

Allied Products Div., Hamilton Watch Co., Lancaster, Pa. Amelco, Inc., 2040 Colorado Ave., Santa Monica, Calif.  
Ansley Mfg. Corp., Arthur, New Hope, Pa.  
Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.  
Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
CG Electronics Div. of Gulton Industries, Inc., 305 Dallas St., N. E., Albuquerque, N. M.  
Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.  
Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
ENGINEERED ELECTRONICS CO., 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
MINITRON, INC., 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
Pacific Universal Products Corp., 168 Vista Ave., Pasadena 8, Calif.  
PHOTO CIRCUITS CORP., Glen Cove, N. Y. ADV. PG. 396.  
Polan Industries Inc., P. O. Box 1720, Huntington, W. Va.  
Sibley Co., The, Haddam, Conn.  
Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.

### PHOTOFLASH EQUIPMENT—Electronic

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673  
American Speedlight Corp., 63-01 Metropolitan Ave., Middle Village 79, N. Y.  
Anglo Corp., 4333 N. Ravenswood Ave., Chicago, 13, Ill.  
Dormitzer Electric & Mfg. Co., Inc., 5 Hadley St., Cambridge, Mass.  
Edgerton, Germeshausen & Grier Inc., 160 Brookline Ave., Boston, Mass.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
Hauman Instrument Co., Inc., 70 Coolidge Hill Rd., Watertown 72, Mass.  
Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
Kemite Laboratories, 1819 W. Grand Ave., Chicago 22, Ill.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
Nems-Clarke, Inc., Silver Spring, Md.  
Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486  
PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton, London W. 3, England.

### PHOTOGRAPHIC MATERIALS—Films and Papers

#### For Recording Instruments

du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Delaware.  
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.



**HUNT CO., PHILIP A.**, Palisades Park, N. J. ADV. PG. 602.  
Peerless Photo Products, Inc., Shoreham, N. Y.

**PHOTOGRAPHIC MATERIALS—Spectrographic Instruments**

Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
**HUNT CO., PHILIP A.**, Palisades Park, N. J. ADV. PG. 602.

**PHOTOGRAPHIC MATERIALS—X-Ray Films**

du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Delaware.  
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
**HUNT CO., PHILIP A.**, Palisades Park, N. J. ADV. PG. 602.  
X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

**PHOTOMETERS**

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
Farrand Optical Co., Inc., Bronx Blvd. at 238th St., New York 70, N. Y.  
Gardner Lab., Inc., 4723 Elm St., Bethesda 14, Md.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
Photovolt Corp., 95 Madison Ave., New York 16, N. Y.  
Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Ultrasonic Engineering Co., 2402 Second St., Peru, Ill.  
Zoomar, Inc., Glen Cove, N. Y.

**PHOTOTUBES AND PHOTOCELLS**  
See **TUBES**

**PICKUP UNITS—Mobile Television**

DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.

**PICKUPS—Crystal**  
See **CRYSTAL CARTRIDGES**

**PICKUPS—Industrial**

Dynapar Corp., 5150 Church St., Skokie, Ill.  
Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.  
Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.

**PICKUPS—Magnetic**

A. P. W. Co., 72 W. Main St., Rockaway, N. J.  
Audak Co., 500 Fifth Ave., New York, N. Y.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
Chesapeake Instrument Corp., Shadyside, Md.  
Dynapar Corp., 5150 Church St., Skokie, Ill.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
Electro-Tech Pacific, Santa Barbara Airport, P. O. Box 455, Goleta, Calif.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.  
North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
Pacific Transducer EBG Corp., 11836 W. Pico Blvd., Los Angeles 64, Calif.  
**PICKERING & CO.**, 309 Woods Ave., Oceanside, N. Y. ADV. PG. 617.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Recoton Corp., 52-35 Barnett Ave., Long Island City 4, N. Y.  
Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**PICKUPS—Photoelectric**

**BAIRD-ATOMIC INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.  
Ess Specialty Corp., 96 S. Washington Ave., Bergenfield 10, N. J.  
**FARMER ELECTRIC PRODUCTS CO., INC.**, 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
Machinery Electrification, Inc., Northboro, Mass.  
Magnuson Engineers, Inc., 509 Emory St., San Jose 10, Calif.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Optron Corp., 3526 State St., Santa Barbara, Calif.  
Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**PICKUPS—Quartz Crystal**

Birmingham Sound Reproducers, Ltd., Monarch Works, Old Hill, Powke Lane, Staffs, England.  
Chesapeake Instrument Corp., Shadyside, Md.  
**ELGIN NATIONAL WATCH CO., ELECTRONICS DIV.**, 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.

**PICKUPS—Transcription and Phonograph**

Astatic Corporation, The, Conneaut, Ohio.  
Audak Co., 500 Fifth Ave., New York, N. Y.  
Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
**ELGIN NATIONAL WATCH CO., ELECTRONICS DIV.**, 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
**ERIE RESISTOR CORP.**, Erie 6, Pa. ADV. PG. 170, 171.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
Gray Research & Development Co., Inc., 685 Hillard St., Manchester, Conn.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
**INTERSEARCH, INC.**, 7 Arcadia Place, Cincinnati 8, Ohio. ADV. PG. 480.  
Les, Via Bergamo 21, Milan, Italy.  
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.  
Pacific Transducer EBG Corp., 11836 W. Pico Blvd., Los Angeles 64, Calif.  
**PICKERING & CO.**, 309 Woods Ave., Oceanside, N. Y. ADV. PG. 617.  
Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
Weathers Industries, 66 E. Gloucester Pike, Burlington, N. J.  
Webster Electric Co., 1900 Clark St., Racine, Wis.

**PILOT LIGHTS**

See **LIGHTS—Dial, Panel and Pilot**

**PILOT LIGHT ASSEMBLIES**

Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
Aeronautical Electric Co., 5656 Northwest Highway, Chicago 30, Ill.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton, Mass. ADV. PG. 567.  
Alden Systems, Inc., Alden Research Center, Westboro, Mass.  
Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**CIRCON COMPONENT CO.**, Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
**DIALIGHT CORPORATION**, 60 Stewart Ave., Brooklyn 37, N. Y. ADV. PG. 120.  
Drake Mfg. Co., 1713 W. Hubbard St., Chicago 22, Ill.  
**FEDERAL SCREW PRODUCTS, INC.**, 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
Hetherington, Inc., Sharon Hill, Pa.  
Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
Marco Industries Co., 207 S. Helena St., Anaheim, Calif.  
Micarta Fabricators, Inc., 5412 N. Clark, Chicago 40, Ill.  
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.  
Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
Tingsol Co., 1461 W. Grand Ave., Chicago 22, Ill.  
Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**PILOTS—Automatic**

Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
Collins Radio Co., Cedar Rapids, Iowa.  
**ECLIPSE-PIONEER DIV., BENDIX AVIATION CORP.**, Teterboro, N. J. ADV. PG. 333-336.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.

**PINS—Tubular**

American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
**BEAD CHAIN MFG. CO.**, 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
**CIRCON COMPONENT CO.**, Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
Standard Pressed Steel Co., Box 775, Jenkintown 10, Pa.

**PITCH**

See **INSULATING COMPOUNDS**

**PLASTIC INSULATION PARTS**

See **INSULATION PARTS—Plastic Insulation Parts**

**PLASTIC MATERIALS**

**Allyls**

American Cyanamid Co., 38 Rockefeller Plaza, New York 20, N. Y.  
Cast Optics Corp., 123-125 Newman St., Hackensack, N. J.  
Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
Laminated Sheet Products Corp., 449 Neponset St., P.O. Box 390, Norwood, Mass.  
Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
Ohio-Apex Div., Food Machinery & Chemical Corp., Nitro, W. Va.

**Cellulose Acetate**

Ace Plastic Co., 91-54 Van Wyck Expressway, Jamaica 35, N. Y.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
American Molding Powder & Chemical Corp., 703 Bedford Ave., Brooklyn 6, N. Y.  
American Products Mfg. Co., Inc., 8127-33 Oleander St., New Orleans 18, La.  
Celanese Corp. of America, Plastics Div., 290 Ferry St., Newark 5, N. J.  
du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Delaware.  
Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
Gering Products, Inc., N. Seventh St., at Monroe Ave., Kenilworth, N. J.  
Hercules Powder Co., Inc., 900 Market St., Wilmington 99, Del.  
Laminated Sheet Products Corp., 449 Neponset St., P.O. Box 390, Norwood, Mass.  
Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.  
Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.

**Cellulose Acetate Butyrate**

Ace Plastic Co., 91-54 Van Wyck Expressway, Jamaica 35, N. Y.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
American Molding Powder & Chemical Corp., 703 Bedford Ave., Brooklyn 6, N. Y.  
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
Gering Products, Inc., N. Seventh St. at Monroe Ave., Kenilworth, N. J.  
Laminated Sheet Products Corp., 449 Neponset St., P.O. Box 390, Norwood, Mass.  
Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.  
Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.

**Cellulose Nitrate**

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
Hercules Powder Co., Inc., 900 Market St., Wilmington 99, Delaware.  
Laminated Sheet Products Corp., 449 Neponset St., P.O. Box 390, Norwood, Mass.  
Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.

**Epoxy Resins**

ACME WIRE CO., New Haven 14, Conn. ADV. PG. 611.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
Aries Laboratories, Inc., 45-33 Davis St., Long Island City 1, N. Y.

Armstrong Products Co., P.O. Box 1-EB, Warsaw, Ind.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp.,  
 30 E. 42nd St., New York 17, N. Y.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles  
 64, Calif.  
 Bomyte Co., The, Green St., Silverdale, Pa.  
 Borden Co., The, Chemical Div., 350 Madison Ave.,  
 New York 17, N. Y.  
 Ciba Co., Inc., Plastics Div., Kimberton, Pa.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey  
 St., Brooklyn, N. Y. ADV. PG. 451.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi  
 Blvd., Copiague, N. Y. ADV. PG. 699.  
 Eilanor Chemical Co., 2308 Oakton St., Evanston, Ill.  
 Emerson & Cuming, Inc., 869 Washington St., Canton,  
 Mass.  
 Enjay Inc., 15 W. 51st St., New York 20, N. Y.  
 Epoxy Products, Inc., 137 Coit St., Irvington, N. J.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St.,  
 Brooklyn 27, N. Y. ADV. PG. 460.  
 Furane Plastics, Inc., 4516 Brazil St., Los Angeles 39,  
 Calif.  
 Houghton Laboratories, Inc., 322 Houghton Ave., Olean,  
 N. Y.  
 Insulating Fabricators, Inc., 150 Union Ave., East  
 Rutherford, N. J.  
 Laminated Sheet Products Corp., 449 Neponset St.,  
 P.O. Box 390, Norwood, Mass.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis  
 6, Ind.  
 Marlette Corp., 37-21 30th St., Long Island City 1,  
 N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div.,  
 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Minnesota Mining & Mfg. Co., 900 Fauquier Ave.,  
 St. Paul 6, Minn.  
 National Engineering Products, Inc., 435 Washington  
 Bldg., Washington 5, D. C.  
 New England Tape Co., Hudson, Mass.  
 Nureco, Inc., 1100 Pontiac Ave., Cranston 10, R. I.  
 Plastronics, P. O. Box 96, Winter Hill 45, Mass.  
 Shell Chemical Corp., 380 Madison Ave., New York 17,  
 N. Y.  
 Smooth-On Mfg. Co., 572 Communipaw Ave., Jersey  
 City 4, N. J.  
 Taylor Fibre Co., Norristown, Pa.  
 Terrell Corp., 19 Lane St., Waltham 54, Mass.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloom-  
 field, N. J. ADV. PG. 603.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.

## Ethyl Cellulose

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New  
 York 38, N. Y. ADV. PG. 247.  
 American Molding Powder & Chemical Corp., 703 Bedford  
 Ave., Brooklyn 6, N. Y.  
 American Products Mfg. Co., Inc., 8127-33 Oleander  
 St., New Orleans 18, La.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa.  
 ADV. PG. 557.  
 Dow Chemical Co., Midland, Mich.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61,  
 N. Y.  
 Gering Products, Inc., N. Seventh St., at Monroe Ave.,  
 Kenilworth, N. J.  
 Hercules Powder Co., Inc., 900 Market St., Wilmington  
 99, Del.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O.  
 Box 390, Norwood, Mass.  
 Parisian Novelty Co., 3510 S. Western Ave., Chicago 9,  
 Ill.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.

## Melamine Formaldehyde

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New  
 York 38, N. Y. ADV. PG. 247.  
 American Cyanamid Co., 38 Rockefeller Plaza, New York  
 20, N. Y.  
 Barrett Division, Allied Chemical & Dye Corp., 40 Rector  
 St., New York 6, N. Y.  
 Bomyte Co., The, Green St., Silverdale, Pa.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa.  
 ADV. PG. 557.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi  
 Blvd., Copiague, N. Y. ADV. PG. 699.  
 Franklin-Fibre-Lamitex Corp., 411 E. Front St., Wil-  
 mington, Del.  
 Insulating Fabricators, Inc., 150 Union Ave., East  
 Rutherford, N. J.  
 Laminated Sheet Products Corp., 449 Neponset St.,  
 P. O. Box 390, Norwood, Mass.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis  
 6, Ind.  
 Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda,  
 N. Y.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
 Willson Camera Co., Inc., 1395 Lawrence Rd., Haver-  
 town, Pa.

## Methyl Methacrylate

Ace Plastic Co., 91-54 Van Wyck Expressway, Jamaica  
 35, N. Y.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New  
 York 38, N. Y. ADV. PG. 247.

American Molding Powder & Chemical Corp., 703 Bed-  
 ford Ave., Brooklyn 6, N. Y.  
 American Products Mfg. Co., Inc., 8127-33 Oleander  
 St., New Orleans 18, La.  
 Cast Optics Corp., 123-125 Newman St., Hackensack,  
 N. J.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa.  
 ADV. PG. 557.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New  
 York 16, N. Y.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi  
 Blvd., Copiague, N. Y. ADV. PG. 699.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61,  
 N. Y.  
 Franklin-Fibre-Lamitex Corp., 411 E. Front St., Wil-  
 mington, Del.  
 Gering Products, Inc., N. Seventh St. at Monroe Ave.,  
 Kenilworth, N. J.  
 Insulating Fabricators, Inc., 150 Union Ave., East  
 Rutherford, N. J.  
 Laminated Sheet Products Corp., 449 Neponset St.,  
 P. O. Box 390, Norwood, Mass.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni  
 Mills, Pa. ADV. PG. 557.

## Nylon

See **INSULATING MATERIALS**

## Phenol Formaldehyde—(Phenolics)

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New  
 York 38, N. Y. ADV. PG. 247.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp.,  
 30 E. 42nd St., New York 17, N. Y.  
 Barrett Division, Allied Chemical & Dye Corp., 40 Rector  
 St., New York 6, N. Y.  
 Bomyte Co., The, Green St., Silverdale, Pa.  
 Borden Co., The, Chemical Div., 350 S. Madison Ave.,  
 New York 17, N. Y.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa.  
 ADV. PG. 557.  
 Durez Plastics Div. Hooker Electrochemical Co., 1921  
 Walck Rd., North Tonawanda, N. Y.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi  
 Blvd., Copiague, N. Y. ADV. PG. 699.  
 Franklin Fibre-Lamitex Corp., 411 E. Front St., Wil-  
 mington, Del.  
 General Electric Co., Chemical Materials Dept., Pitts-  
 field, Mass.  
 Illumitronic Engineering, 680 E. Taylor, Sunnyvale, Calif.  
 Insulating Fabricators, Inc., 150 Union Ave., East Ruther-  
 ford, N. J.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O.  
 Box 390, Norwood, Mass.  
 Marlette Corp., 37-21 30th St., Long Island City 1,  
 N. Y.  
 Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
**NEW ENGLAND LAMINATES CO., INC.**, P. O. Box 43,  
 481 Canal St., Stamford, Conn. ADV. PG. 648.  
**PACIFIC MOULDED PRODUCTS**, 905 E. 59th St., Los  
 Angeles, Calif. ADV. PG. 462.  
 Plastics Engineering Co., 1607 Geale Ave., Sheboygan,  
 Wis.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
 Rogers Corp., Goodyear, Conn.  
 Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago  
 16, Ill.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda,  
 N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore,  
 N. Y.  
 Synthane Corp., Oaks, Pa.  
 Taylor Fibre Co., Norristown, Pa.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni  
 Mills, Pa. ADV. PG. 557.  
 Wilmington Fibre Specialty Co., New Castle, Del.

## Polyethylene

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New  
 York 38, N. Y. ADV. PG. 247.  
 American Molding Powder & Chemical Corp., 703 Bed-  
 ford Ave., Brooklyn 6, N. Y.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp.,  
 30 E. 42nd St., New York 17, N. Y.  
 Catalin Corp. of America, 1 Park Ave., New York 16,  
 N. Y.  
 Celanese Corp. of America, Plastics Div., 290 Ferry St.,  
 Newark 5, N. J.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa.  
 ADV. PG. 557.  
 Dow Chemical Co., Midland, Mich.  
 du Pont de Nemours & Co., Inc., E. I. Wilmington 98,  
 Del.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New  
 York 16, N. Y.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61,  
 N. Y.  
 Enjay Inc., 15 W. 51st St., New York 20, N. Y.  
 Gering Products, Inc., N. Seventh St. at Monroe Ave.,  
 Kenilworth, N. J.  
 Hercules Powder Co., Inc., 900 Market St., Wilmington  
 98, Del.  
 Illumitronic Engineering, 680 E. Taylor Ave., Sunny-  
 vale, Calif.  
 Insulating Fabricators, Inc., 150 Union Ave., East Ruther-  
 ford, N. J.

Koppers Co., Inc., Koppers Bldg., Pittsburgh 19, Pa.,  
 Laminated Sheet Products Corp., 449 Neponset St.,  
 P. O. Box 390, Norwood, Mass.  
 Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
 Polyken Sales Div. of The Kendall Co., 309 W. Jackson  
 Blvd., Chicago 6, Ill.  
 Reynolds Metals Co., 2500 S. Third St., Louisville 1,  
 Ky.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore,  
 N. Y.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni  
 Mills, Pa. ADV. PG. 557.

## Polystyrene

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New  
 York 38, N. Y. ADV. PG. 247.  
 American Molding Powder & Chemical Corp., 703 Bed-  
 ford Ave., Brooklyn 6, N. Y.  
 American Products Mfg. Co., Inc., 8127-33 Oleander St.,  
 New Orleans 18, La.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp.,  
 30 E. 42nd St., New York 17, N. Y.  
 Catalin Corp. of America, 1 Park Ave., New York 16,  
 N. Y.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa.  
 ADV. PG. 557.  
 Dow Chemical Co., Midland, Mich.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New  
 York 16, N. Y.  
 Emerson & Cuming, Inc., 869 Washington St., Canton,  
 Mass.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61,  
 N. Y.  
 Enjay Inc., 15 W. 51st St., New York 20, N. Y.  
 Gering Products, Inc., N. Seventh St. at Monroe Ave.,  
 Kenilworth, N. J.  
 Illumitronic Engineering, 680 E. Taylor Ave., Sunny-  
 vale, Calif.  
 Insulating Fabricators, Inc., 150 Union Ave., East  
 Rutherford, N. J.  
 Koppers Co., Inc., Koppers Bldg., Pittsburgh 19, Pa.  
 Laminated Sheet Products Corp., 449 Neponset St.,  
 P. O. Box 390, Norwood, Mass.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
 Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
 Parisian Novelty Co., 3510 S. Western Ave., Chicago 9,  
 Ill.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG.  
 502.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass.  
 ADV. PG. 551.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni  
 Mills, Pa. ADV. PG. 557.

## Polytrifluoroethylene

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New  
 York 38, N. Y. ADV. PG. 247.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp.,  
 30 E. 42nd St., New York 17, N. Y.  
**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL  
 DIV. OF ALLIED CHEMICAL & DYE CORP.**, 40 Rector  
 St., New York, N. Y. ADV. PG. 363.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa.  
 ADV. PG. 557.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61,  
 N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken,  
 N. J.  
 Garlock Packing Co., The, Palmyra, N. Y.  
 Insulating Fabricators, Inc., 150 Union Ave., East  
 Rutherford, N. J.  
 Kellogg Co., M. W., P. O. Box 469, Jersey City 3,  
 N. J.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O.  
 Box 390, Norwood, Mass.  
**RESISTOFLEX CORP.**, Roseland, N. J. ADV. PG. 694.  
 Shamban & Co., W. S., 11617 W. Jefferson Blvd.,  
 Culver City, Calif.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61,  
 N. Y.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni  
 Mills, Pa. ADV. PG. 557.

## Tetrafluoroethylene (Teflon)

**Rods—Sheets—Tubing**  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New  
 York 38, N. Y. ADV. PG. 247.  
 American Felt Co., Glenville, Conn.  
 American Mica Insulation Co., Manasquan, N. J.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middle-  
 town, Conn.  
 Bonney Mfg. Corp., 339 Auburn St., Auburndale, Mass.  
 Chemplast Inc., 3 Central Ave., East Newark, N. J.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100,  
 Delaware. ADV. PG. 345-348.  
 Crane Packing Co., 6402 Oakton St., Morton Grove, Ill.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa.  
 ADV. PG. 557.  
**DILECTRIX CORP.**, Allen Blvd. & Grant Ave., Farming-  
 dale, N. Y. ADV. PG. 616.  
 Dixon Corporation, Bristol, R. I.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New  
 York 16, N. Y.

ELECTRICAL INSULATION CO., INC., 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pennsauken, N. J.  
 Ethylene Chemical Corp., 245 Broad St., Summit, N. J.  
 Garlock Packing Co., The, Palmyra, N. Y.  
 Halogen Insulator & Seal Corp., 10121 Franklin Ave., Franklin Park, Ill.  
 Haveg Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.  
 Illumitronic Engineering, 680 E. Taylor, Sunnyvale, Calif.  
 Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.  
 Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
 Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
**RESISTOFLEX CORP.**, Roseland, N. J. ADV. PG. 694.  
 Rogers Corp., Goodyear, Conn.  
**SEALLECTRO CORP.**, 610 Fayette Ave., Mamaroneck, N. Y. ADV. PG. 484.  
 Shamban & Co., W. S., 11617 W. Jefferson Blvd., Culver City, Calif.  
 Sparta Mfg. Co., Div. of U. S. Ceramic Tile Co., Dover, Ohio.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Tri-Point Plastics, Inc., 177 I.U. Willets Rd., Albertson, N. Y.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.

**Tetrafluoroethylene Resin (Aqueous Dispersions, Molding Powders)**

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
 Dixon Corp., Bristol, R. I.  
 du Pont de Nemours & Co., Inc. E. I., Wilmington 98, Del.  
**MAIGNE CO.**, O. J., 321 Pearl St., New York 38, N. Y. ADV. PG. 679.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

**Urea Formaldehyde**

American Cyanamid Co., 38 Rockefeller Plaza, New York 20, N. Y.  
 Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Borden Co., The, Chemical Div., 350 Madison Ave., New York 17, N. Y.  
 Monsanto Chemical Co., Plastics Div., Springfield, Mass.

**Vinyl**

American Molding Powder & Chemical Corp., 703 Bedford Ave., Brooklyn 6, N. Y.  
 Applied Resins Corp., 304 Oration St., Newark 4, N. J.  
 Auburn Button Works, Inc., Auburn, N. Y.  
 Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Borden Co., The, Chemical Div., 350 Madison Ave., New York 17, N. Y.  
**BORDEN CO., RESINITE DEPT.**, Box 1589, Santa Barbara, Calif. ADV. PG. 604.  
 Cudner & O'Connor Co., 4035 W. Kinzie Ave., Chicago 24, Ill.  
 Dow Chemical Co., Midland, Mich.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 General Tire & Rubber Co., The, Akron, Ohio.  
 Gering Products, Inc., N. Seventh St. at Monroe Ave., Kenilworth, N. J.  
 Goodrich Chemical Co., B. F., 3135 Euclid Ave., Cleveland 15, Ohio.  
 Goodrich Industrial Products Co., B. F., A Div. of The B. F. Goodrich Co., Plastic Products, Marietta, Ohio.  
 Goodyear Tire & Rubber Co., Chemical Div., 1144 E. Market St., Akron 16, Ohio.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.  
 Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
 Nopco Chemical Co., Plastics Div., Harrison, N. J.  
 Plastronics, P. O. Box 96, Winter Hill 45, Mass.  
 Resin Industries, P. O. Box 1589, Santa Barbara, Calif.  
 Technicraft Co., 1156 Commonwealth Ave., Boston 34, Mass.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.

**PLASTICS—Vacuum Formed**

Beecher Plastics Co., Portland, Ore.

D & R Plastic Welders Inc., Hazardville, Conn.  
 Kerrco Products, Hastings, Neb.  
 Novelty Bias Binding Co., Plastics Div., Chelsea, Mass.  
 Pelican Plastics, Inc., Homer, La.  
 Plasti-Chem Corp., 5725 S. Dixie Highway, Miami 43, Fla.

**PLATES—Instruction**

Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
 Atlantic Engravers, Inc., 52 Ocean Ave., Amityville, N. Y.  
 Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.  
 Beck's Inc., 298-300 E. Fifth St., Saint Paul 1, Minn.  
 Chart-Pak, Inc., Leeds, Mass.  
 Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Etched Products Corp., 39-01 Queens Blvd., Long Island City 4, N. Y.  
 Hermes Plastics, Inc., 13-19 University Place, New York 3, N. Y.  
 Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
 Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
 Matthews & Co., James H., 3942 Forbes St., Pittsburgh 13, Pa.  
 Mica Insulator Co., Schenectady 1, N. Y.  
**NORTH SHORE NAMEPLATE, INC.**, 214-27 Northern Blvd., Bayside 61, N. Y. ADV. PG. 486.  
 Park Nameplate Co., Inc., 34-10 Linden Place, Flushing 54, N. Y.  
 Plasteck, Inc., Poteau, Okla.  
 Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Sillocks-Miller Co., Maplewood, N. J.  
 Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
 Willson Camera Co., Inc., 1395 Lawrence Road, Haver-town, Pa.

**PLATES—Metal or Plastic**

**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
 Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
 Etched Products Corp., 39-01 Queens Blvd., Long Island City 4, N. Y.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 Hermes Plastics, Inc., 13-19 University Place, New York 3, N. Y.  
 Hopp Press Inc., 460 W. 34th St., New York, N. Y.  
 Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
 Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. 390, Norwood, Mass.  
 Matthews & Co., James H., 3942 Forbes St., Pittsburgh 13, Pa.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Molding Corp., of America, 40 Church St., Pawtucket, R. I.  
**NEW HERMES ENGRAVING MACHINE CO.**, 13-19 University Place, New York 3, N. Y. ADV. PG. 687.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
 Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Ryerson & Son, Inc., J. T. 2558 W. 16th St., Chicago 16, Ill.  
 Sheffco Mfg. Co., Grand & Ruby Aves., Palisades Park, N. J.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Sillocks-Miller Co., Maplewood, N. J.  
 Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif.  
 Taylor Fibre Co., Norristown, Pa.  
 Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
 Willson Camera Co., Inc., 1395 Lawrence Rd., Haver-town, Pa.

**PLATES—NAME—Metal or Plastic**

Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 American Laubscher Corp., 250 W. 57th St., Fish Bldg., New York 19, N. Y.  
 Atlantic Engravers, Inc., 52 Ocean Ave., Amityville, N. Y.  
 Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
 Cast Optics Corp., 123-125 Newman St., Hackensack, N. J.  
 Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
 Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
 Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Etched Products Corp., 39-01 Queens Blvd., Long Island City 4, N. Y.  
 Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 Fort Hill Plastic-Letters Corp., 40 Hanover St., Boston, Mass.  
 Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.  
 Hermes Plastics, Inc., 13-19 University Place, New York 3, N. Y.  
 Hopp Press, Inc., 460 W. 34th St., New York, N. Y.  
 Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
 Jodee Plastics Corp., 213 Shepherd Ave., Brooklyn 8, N. Y.  
 Keil Engineering Products Co., 6833 Manchester, St. Louis, Mo.  
**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
**LEYSE ALUMINUM CO.**, Kenwaunee, Wis. ADV. PG. 452.  
 Matthews & Co., James H., 3942 Forbes St., Pittsburgh 13, Pa.  
 Mica Insulator Co., Schenectady 1, N. Y.  
**MICO INSTRUMENT CO.**, 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Nameplates, Inc., 425 E. 101st St., Brooklyn 36, N. Y.  
 New England Etching & Plating Co., 25 Spring St., Holyoke, Mass.  
**NEW HERMES ENGRAVING MACHINE CO.**, 13-19 University Place, New York 3, N. Y. ADV. PG. 687.  
**NORTH SHORE NAMEPLATE, INC.**, 214-27 Northern Blvd., Bayside 61, N. Y. ADV. PG. 486.  
 Panelgraphic Corp., P. O. Box 254, Caldwell, N. J.  
 Park Nameplate Co., Inc., 34-10 Linden Place, Flushing 54, N. Y.  
 Pfeiffer Products, 3901 W. 54th St., Los Angeles, Calif.  
 Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.  
 Ports Mfg. Co., 3265 E. Belmont Ave., Fresno 2, Calif.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
 Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Sheffco Mfg. Co., Grand & Ruby Aves., Palisades Park, N. J.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Sillocks-Miller Co., Maplewood, N. J.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 Sun Dial Corp., E. Passaic Ave., Caldwell, N. J.  
 Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
 Vandercook & Sons, Inc., 3601 W. Touhy Ave., Chicago 45, Ill.  
 Waldom Electronics Inc., 4625 W. 53rd St., Chicago 32, Ill.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.  
**WESTLINE PRODUCTS DIV. OF WESTERN LITHOGRAPH CO.**, 600 E. Second St., Los Angeles 54, Calif. ADV. PG. 470.  
 Willson Camera Co., Inc., 1395 Lawrence Rd., Haver-town, Pa.

### PLATES—Phosphor

See PARTS for COLOR TV TUBES

### PLATES—Plastic Lighting

ACKERMAN ENGRAVERS, 458 Broadway, New York, N. Y. ADV. PG. 642.  
 ALLIED PLASTICS SUPPLY CORP., 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
 Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 BODNAR INDUSTRIES, INC., 238 Huguenot St., New Rochelle, N. Y. ADV. PG. 691.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Cast Optics Corp., 123-125 Newnan St., Hackensack, N. J.  
 Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 Hopp Press, Inc., 460 W. 34th St., New York, N. Y.  
 Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. 390, Norwood, Mass.  
 Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
 Plasteck, Inc., Poteau, Okla.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 U.S. RADIUM CORP., Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
 WESTLAKE PLASTICS CO., 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.

### PLATING—Metal on Plastic

Buhl Optical Co., 1009 Beech Ave., Pittsburgh 33, Pa.  
 COHAN-EPNER CO., INC., 142 W. 14th St., New York 11, N. Y. ADV. PG. 668.  
 Electrochemical Industries, Inc., 35 Armory St., Worcester, Mass.  
 General American Transportation Corp., Kanigen Div., 135 S. La Salle St., Chicago, Ill.  
 Harper-Leader, Inc., 1046 S. Main St., Waterbury 20, Conn.  
 Henry and Miller Industries Inc., 675 Garfield Ave., Jersey City 5, N. J.  
 Keil Engineering Products Co., 6833 Manchester, St. Louis, Mo.  
 Metalplast Co., Inc., 34-51 56th St., Woodside, N. Y.  
 MINITRON, INC., 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Poinsettia Co., Inc., 112 Cedar Ave., Pitman 6, N. J.  
 Premier Research Laboratories, Inc., 83 Seventh Ave., New York 11, N. Y.  
 Printed Electronics Corp., 7 North Ave., Natick, Mass.  
 Sibley Co., The, Haddam, Conn.

### PLATING—Precious Metal

Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
 Anderson Associates, H. V., 239 Park Ave., Berkeley Heights, N. J.  
 Atlantic Engravers, Inc., 52 Ocean Ave., Amityville, N. Y.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 BAKER & CO., INC., 113 Astor St., Newark 5, N. J. ADV. PG. 313.  
 Bart Mfg. Corp., 227 Main St., Belleville, N. J.  
 Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
 BUREAU OF ENGRAVING, INC., INDUSTRIAL DIV., 500 S. Fourth St., Minneapolis 15, Minn. ADV. PG. 633.  
 COHAN-EPNER CO., INC., 142 W. 14th St., New York 11, N. Y. ADV. PG. 668.  
 Davis-K Products Co., 135 W. 29th St., New York 1, N. Y.  
 Electrochemical Industries, Inc., 35 Armory St., Worcester, Mass.  
 Electro-Coatings, Inc., 1662 W. Fullerton Ave., Chicago 14, Ill.  
 Garrepy Platers, Inc., 17-19 Bartlett St., Worcester 8, Mass.  
 Graphik-Circuits Div., of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.  
 Harper-Leader, Inc., 1046 S. Main St., Waterbury 20, Conn.  
 Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City, N. J.  
 Indium Corp., of America, 1676 Lincoln Ave., Utica 4, N. Y.  
 M-W Laboratories, 1824 N. Milwaukee Ave., Chicago 27, Ill.  
 MAKEPEACE CO., D. E. DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392.  
 MERIT PLATING CO., 218 E. 141st St., New York 51, N. Y. ADV. PG. 660.  
 MINITRON, INC., 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 North American Research Labs., Inc., 725 Lexington Ave., Kenilworth, N. J.

Precision Electroplating Co., 519 S. Oakley Blvd., Chicago 12, Ill.  
 Precious Metal Platers, The, P. O. Box 228, Fairfield Conn.  
 Printed Electronics Corp., 7 North Ave., Natick, Mass.  
 Sibley Co., The, Haddam, Conn.  
 Slip Ring Co. of America, 3612-3622 W. Jefferson Blvd., Los Angeles 21, Calif.  
 Standard Pressed Steel Co., Box 775, Jenkintown 10, Pa.  
 Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa.  
 Steel Protection & Chemical Co., Inc., Mooresville, Ind.  
 Zacharias Co., Robert, 519 S. Oakley Blvd., Chicago, Ill.

### PLATING—Tin Zinc

Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.  
 Henry & Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.  
 Metal & Thermit Corp., Rahway, N. J.  
 Poinsettia Co., Inc., 112 Cedar Ave., Pitman 6, N. J.  
 Somers Brass Co., 94 Baldwin Ave., Waterbury Conn.  
 Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa.  
 Steel Protection & Chemical Co., Mooresville, Ind.

### PLUG-IN HOUSINGS

See HOUSINGS—Plug-In

### PLUGS

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 ALDEN PRODUCTS CO., 112 N. Main St., Brockton, Mass. ADV. PG. 567.  
 Allen Mfg. Co., Hartford 2, Conn.  
 AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 AUTOMATIC & PRECISION MFG. CO., 252 Hawthorne Ave., Yonkers 5, N. Y. ADV. PG. 586.  
 BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
 BIRNBACH RADIO CO., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
 CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 CANNON ELECTRIC CO., 3208 Humboldt St., Los Angeles 31, Calif. ADV. PG. 44.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
 CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
 Clover Industries, Inc., 584 Young St., Tonawanda, N. Y.  
 COAXIAL CONNECTOR CO., INC., 37 North 2nd Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Colman Tool & Machine Co., P. O. Box 7026, Amarillo, Texas.  
 Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza, S., Long Island City, N. Y.  
 Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
 Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 HARVEY HUBBELL, INC., State St. & Bostwick Ave., Bridgeport 2, Conn. ADV. PG. 409.  
 Industrial Products Co., Div. of Danbury-Knudsen, Inc., Danbury, Conn.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 INTERSTATE ELECTRONICS, INC., 227 Fulton St., New York 7, N. Y. ADV. PG. 462.  
 Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill.  
 Javex, P. O. Box 646, Redlands, Calif.  
 Johnson Co., E. F., Waseca, Minn.  
 JONES DIV., HOWARD B., CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 KINGS ELECTRONICS CO., 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Molex Products Co., 9515 Southview Ave., Brookfield, Ill.  
 NATIONAL TEL-TRONICS CORP., 35 St. Caspary Ave., Yonkers, N. Y. ADV. PG. 642.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 POMONA ELECTRONICS CO., INC., 1126 W. Fifth Ave., Pomona, Calif. ADV. PG. 314.

Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Richards Electrocraft, Inc., 3743 N. Kedzie Ave., Chicago 18, Ill.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Royal Electric Corp., Pawtucket, R. I.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 SWITCHCRAFT, INC., 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
 SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Trimm, Inc., 400 W. Lake St., Libertyville, Ill.  
 UCINITE CO., DIV. OF UNITED-CARR FASTENER CORP., 459 Watertown St., Newtonville, Mass. ADV. PG. 65.  
 U. S. COMPONENTS, INC., 454 E. 148th St., New York 55, N. Y. ADV. PG. 359.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 VECTOR ELECTRONIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Whitney Blake Co., New Haven 14, Conn.  
 Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

### PLUGS—Telephone

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 ALDEN PRODUCTS CO., 112 N. Main St., Brockton, Mass. ADV. PG. 567.  
 Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Decatur Electronics Industries Corp., 203 Ornic Drive, Brightwater, N. Y.  
 GENERAL RF FITTINGS, INC., 702 Beacon St., Boston 15, Mass. ADV. PG. 596.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 KINGS ELECTRONICS CO., 40 Marbledale Rd., Tuckahoe, N. Y. ADV. PG. 448.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Richards Electrocraft, Inc., 3743 N. Kedzie Ave., Chicago 18, Ill.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 SWITCHCRAFT, INC., 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
 Trimm, Inc., 400 W. Lake St., Libertyville, Ill.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Waltham Horological Corp., 395 Lynnway, Lynn, Mass.

### PLUGS—Terminal

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
 CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
 COAXIAL CONNECTOR CO., INC., 37 N. 2nd Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Colman Tool & Machine Co., P. O. Box 7026, Amarillo, Texas.  
 ELECTRONIC PLASTICS CORP., 675 Barbey St., Brooklyn 7, N. Y. ADV. PG. 663.  
 Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

HARVEY HUBBELL, INC., State St. & Bostwick Ave., Bridgeport 2, Conn. ADV. PG. 409.  
 Javex, P. O. Box 646, Redlands, Calif.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13, Ill.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Molex Products Co., 9515 Southview Ave., Brookfield, Ill.  
 NATIONAL TEL-TRONICS CORP., 35 St. Caspary Ave., Yonkers, N. Y. ADV. PG. 642.  
 PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Royal Electric Corp., Pawtucket, R. I.  
 SEAELECTRO CORP., 610 Fayette Ave., Mamaroneck, N. Y. ADV. PG. 484.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 States Co., 19 New Park Ave., Hartford 6, Conn.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
 SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 U. S. COMPONENTS, INC., 454 E. 148th St., New York 55, N. Y. ADV. PG. 359.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.

**POINTERS—Dial**

DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.  
 INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Sillocks-Miller Co., Maplewood, N. J.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.  
 U. S. RADIUM CORP., Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

**POSITIONING**See **CONTROLS—INDICATORS****POSTS—Binding**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
 BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
 CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 Eastern Specialty Co., Philadelphia 40, Pa.  
 Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
 ELCO CORP., "M" St. below Erie Ave., Philadelphia 24, Pa. ADV. PG. 284.  
 Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.  
 GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 GRAYHILL, INC., 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
 GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
 INSULINE CORP OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
 Johnson Co., E. F., Waseca, Minn.  
 MALCO TOOL & MFG. CO., 4025 W. Lake St., Chicago 24, Ill. ADV. PG. 252.  
 Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Mass.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.

Molex Products Co., 9515 Southview Ave., Brookfield, Ill.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 North Electric Co., 553 S. Market St., Galton, Ohio.  
 PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 SUPERIOR ELECTRIC CO., THE, 5000 Bradley Ave., Bristol, Conn. ADV. PG. 96-99.  
 TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.

**POTENTIOMETERS**

ACE ELECTRONICS ASSOCIATES, 99 Dover St., Somerville 44, Mass. ADV. PG. 487.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 Analogue Controls, Inc., 39 Roselle St., Mineola, N. Y.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Carter Mfg. Corp., 23 Washington St. Hudson, Mass.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
 CENTRALAB DIV., GLOBE-UNION, INC., 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
 Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
 CHICAGO TELEPHONE SUPPLY CORP., 1142 W. Beardsley Ave., Elkhart, Ind. ADV. PG. 223.  
 CINEMA ENGINEERING DIV., AEROVOX CORP., 1100 Chestnut St., Burbank, Calif. ADV. PG. 688.  
 CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.  
 COMPUTER INSTRUMENTS CORP., 92 Madison Ave., Hempstead, N. Y. ADV. PG. 648.  
 Corbett Science Laboratories, F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
 DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.  
 DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
 DEJUR-AMSCO CORP., Northern Blvd., at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.  
 Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore.  
 Electromath Corp., 190 Henry St., Stamford, Conn.  
 Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.  
 FAIRCHILD CONTROLS CORP., COMPONENTS DIV., 225 Park Ave., Hicksville, N. Y. ADV. PG. 364.  
 Ford Engineering Co., Inc., 129 E. "A" St., Upland, Calif.  
 Foxboro Co., The, Foxboro, Mass.  
 GENERAL CONTROLS CO., Glendale 1, Calif. ADV. PG. 546.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.  
 Helipot Corp., Newport Beach, Calif.  
 HOWELL INSTRUMENT CO., 3101 Trinity, Fort Worth 7, Texas. ADV. PG. 524.  
 Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
 Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Litton Industries, Beverly Hills, Calif.  
 Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Markite Corp., 155 Waverly Place, New York 14, N. Y.  
 Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago 17, Ill.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
 Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore.  
 PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Perkin-Elmer Corp., Main Ave., Norwalk, Conn.

Precision Line, Inc., 63 Main St., Maynard, Mass.  
 Rattray & Co., Inc., George, 116-08 Myrtle Ave., Richmond Hill, N. Y.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
 San Fernando Electric Mfg. Co., 1509 First St., San Fernando, Calif.  
 Servonic Instruments, Inc., 1143 S. Fair Oaks Ave., Pasadena 2, Calif.  
 Servotrol Co., 114 W. Illinois St., Chicago 10, Ill.  
 Spectrol Div. of Carrier Corp., 1704 S. Del Mar, San Gabriel, Calif.  
 TECHNOLOGY INSTRUMENT CORP., 533 Main St., Acton, Mass. ADV. PG. 104, 105.  
 Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
 WARD LEONARD ELECTRIC CO., 31 South St., Mt. Vernon, N. Y. ADV. PG. 408.  
 WATERS MANUFACTURING INC., Boston Post Rd., Wayland Mass. ADV. PG. 258, 259.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**POTENTIOMETERS—Absolute Pressure**

BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.  
 FAIRCHILD CONTROLS CORP., COMPONENTS DIV., 225 Park Ave., Hicksville, N. Y. ADV. PG. 364.  
 GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Servonic Instruments, Inc., 1143 S. Fair Oaks Ave., Pasadena 2, Calif.  
 TRANS-SONICS, INC., P. O. Box 328, Lexington 73, Mass. ADV. PG. 525.

**POTENTIOMETERS—Differential Pressure**

BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.  
 FAIRCHILD CONTROLS CORP., COMPONENTS DIV., 225 Park Ave., Hicksville, N. Y. ADV. PG. 364.  
 GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Servonic Instruments, Inc., 1143 S. Fair Oaks Ave., Pasadena 2, Calif.  
 TRANS-SONICS, INC., P. O. Box 328, Lexington 73, Mass. ADV. PG. 525.

**POTENTIOMETERS—Induction**

American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 Diehl Manufacturing Co., Somerville, N. J.  
 Helipot Corp., Newport Beach, Calif.  
 KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.

**POTENTIOMETERS—Initial Condition**

Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
 Meridian, Inc., 880 Main St., Stamford, Conn.

**POTENTIOMETERS—Linear & Non-Linear, Precision Carbon Film**

BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.  
 British Radio Electronics, Ltd., 1833 Jefferson Pl., N.W., Washington 6, D. C.  
 CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.  
 COMPUTER INSTRUMENTS CORP., 92 Madison Ave., Hempstead, N. Y. ADV. PG. 648.  
 Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
 DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.  
 DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Electromath Corp., 190 Henry St., Stamford, Conn.  
 Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.  
 Meridian, Inc., 880 Main St., Stamford, Conn.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
 TECHNOLOGY INSTRUMENT CORP., 533 Main St., Acton, Mass. ADV. PG. 104, 105.

### POTENTIOMETERS—Linear & Non-Linear, Precision Wire Wound

ACE ELECTRONICS ASSOCIATES, 99 Dover St., Somerville 44, Mass. ADV. PG. 487.

Analogue Controls, Inc., 39 Roselle St., Mineola, N. Y.

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.

Borg Equipment Division, The George W. Borg Corp., Janesville, Wis.

BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

British Radio Electronics, Ltd., 1833 Jefferson Pl., N.W., Washington 6, D. C.

Carter Mfg. Corp., 23 Washington St., Hudson, Mass.

Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.

CIRCUIT INSTRUMENTS, INC., 2801 Anvil St. North, P. O. Box 1438, St. Petersburg, Fla. ADV. PG. 193.

CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.

Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.

DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.

DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.

DE JUR-AMSCO CORP., Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.

Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.

Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore.

ELECTRO-MEC LABORATORY, INC., 47-51 33rd St., Long Island City 1, N. Y. ADV. PG. 584.

Electromath Corp., 190 Henry St., Stamford, Conn.

FAIRCHILD CONTROLS CORP., COMPONENTS DIV., 225 Park Ave., Hicksville, N. Y. ADV. PG. 364.

Ford Engineering Co., 129 East "A" St., Upland, Calif.

GAMEWELL CO., THE, 1238 Chestnut St., Newton Upper Falls 64, Mass. ADV. PG. 583.

GENERAL CONTROLS CO., Glendale 1, Calif. ADV. PG. 546.

GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

GIANNINI & CO., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.

Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.

Helipot Corp., Newport Beach, Calif.

HOWELL INSTRUMENT CO., 3101 Trinity, Fort Worth 7, Texas. ADV. PG. 524.

Humphrey, Inc., 2805 Canon St., San Diego 6, Calif.

INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.

Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.

K-F DEVELOPMENT CO., 2606 Spring St., Redwood City, Calif. ADV. PG. 510.

LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.

Litton Industries of Maryland, Inc., 4910 Calvert Rd., College Park, Md.

Litton Industries, Beverly Hills, Calif.

Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.

Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.

Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.

Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago 17, Ill.

Meridian, Inc., 880 Main St., Stamford, Conn.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.

Muter Co., The, 1255 S. Michigan Ave., Chicago 5, Ill.

Nagoy Associates, Inc., Littleton, Mass.

Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.

Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland 14, Ore.

Pacific Scientific Co., P. O. Box No. 22019, Los Angeles 22, Calif.

PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.

Paul & Stein Bros., Inc., F. H., 235 Fifth Ave., New York 16, N. Y.

Perkin-Elmer Corp., Main Ave., Norwalk, Conn.

PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.

Precision Line, Inc., 63 Main St., Maynard, Mass.

Rattray & Co., Inc., George, 116-08 Myrtle Ave., Richmond Hill, N. Y.

RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.

Samarius Electronic Corp., 123 Canal St., Shelton, Conn.

San Fernando Electric Mfg. Co., 1509 First St., San Fernando, Calif.

Servonic Instruments, Inc., 1143 S. Fair Oaks Ave., Pasadena 2, Calif.

Servonics, Inc., 822 N. Henry St., Alexandria, Va.

SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.

Specialties, Inc., Skunks Misery Rd., Syosset, N. Y.

Spectrol Div. of Carrier Corp., 1704 S. Del Mar, San Gabriel, Calif.

Tech. Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.

TECHNOLOGY INSTRUMENT CORP., 533 Main St., Acton, Mass. ADV. PG. 104, 105.

Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.

WATERS MANUFACTURING INC., Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.

Wirt Co., 5221 Greene St., Philadelphia 44, Pa.

### POTENTIOMETERS—Portable Instrument

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.

BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV. PG. 430.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore.

Electrovert, Inc., 489 Fifth Ave., New York 117, N. Y.

Fisher Research Lab., Inc., 1961 University Ave., Palo Alto, Calif.

Foxboro Co., The, Foxboro, Mass.

GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.

GRAY INSTRUMENT CO., 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.

Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.

Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.

Meridian, Inc., 880 Main St., Stamford, Conn.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.

MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.

New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.

Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.

PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.

Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.

SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.

Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.

Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

Williamson Development Co., Inc., 317 Main St., West Concord, Mass.

### POTENTIOMETERS—Precision

ACE ELECTRONICS ASSOCIATES, 99 Dover St., Somerville 44, Mass. ADV. PG. 487.

American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.

Analogue Controls, Inc., 39 Roselle St., Mineola, N. Y.

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.

BORG EQUIPMENT DIVISION, THE GEORGE W. BORG CORP., Jamesville, Wis. ADV. PG. 142.

BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.

Carter Mfg. Corp., 23 Washington St., Hudson, Mass.

Cedar Engineering, Inc., 5806 W. 36th St., Minneapolis 16, Minn.

Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.

CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.

COMPUTER INSTRUMENTS CORP., 92 Madison Ave., Hempstead, N. Y. ADV. PG. 648.

Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.

DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.

Darco Industries, Inc., Gyro Dynamics Div., 2151 E. Rosecrans Ave., El Segundo, Calif.

DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.

DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.

DE JUR-AMSCO CORP., Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.

Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.

Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore.

ELECTRO-MEC LABORATORY, INC., 47-51 33rd St., Long Island City 1, N. Y. ADV. PG. 584.

Electromath Corp., 190 Henry St., Stamford, Conn.

Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.

FAIRCHILD CONTROLS CORP., COMPONENTS DIV., 225 Park Ave., Hicksville, N. Y. ADV. PG. 364.

Ford Engineering Co., 129 East "A" St., Upland, Calif.

GAMEWELL CO., THE, 1238 Chestnut St., Newton Upper Falls 64, Mass. ADV. PG. 583.

GENERAL CONTROLS CO., Glendale 1, Calif. ADV. PG. 546.

GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.

GRAY INSTRUMENT CO., 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.

Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.

Helipot Corp., Newport Beach, Calif.

HOWELL INSTRUMENT CO., 3101 Trinity, Fort Worth 7, Texas. ADV. PG. 524.

Humphrey, Inc., 2805 Canon St., San Diego 6, Calif.

INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.

Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.

K-F DEVELOPMENT CO., 2606 Spring St., Redwood City, Calif. ADV. PG. 510.

Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.

LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.

Litton Industries, Beverly Hills, Calif.

Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.

Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.

Markite Corp., 155 Waverly Place, New York 14, N. Y.

Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago 17, Ill.

Meridian, Inc., 880 Main St., Stamford, Conn.

Minco Products, Inc., 740 Washington Ave., N., Minneapolis 1, Minn.

Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.

Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.

Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland 14, Ore.

Pacific Scientific Co., P. O. Box No. 22019, Los Angeles 22, Calif.

PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.

Paul & Stein Bros., Inc., F. H., 235 Fifth Ave., New York 16, N. Y.

PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.

Precision Line, Inc., 63 Main St., Maynard, Mass.

Rattray & Co., Inc., George, 116-08 Myrtle Ave., Richmond Hill, N. Y.

Raymond Engineering Laboratory, Inc., Smith St., Middletown, Conn.

Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.

San Fernando Electric Mfg. Co., 1509 First St., San Fernando, Calif.

Servonics, Inc., 822 N. Henry St., Alexandria, Va.

Servotrol Co., 114 W. Illinois St., Chicago 10, Ill.

Spectrol Div. of Carrier Corp., 1704 S. Del Mar, San Gabriel, Calif.

Summers Gyroscope Co., 2328 Broadway, Santa Monica, Calif.

Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.

TECHNOLOGY INSTRUMENT CORP., 533 Main St., Acton, Mass. ADV. PG. 104, 105.

Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.

Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.

WATERS MANUFACTURING INC., Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.

### POTENTIOMETERS—Precision Auto-Transformer

Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.

Darco Industries, Inc., Gyro Dynamics Div., 2151 E. Rosecrans Ave., El Segundo, Calif.

GERTSCH PRODUCTS, INC., 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.

Meridian, Inc., 880 Main St., Stamford, Conn.

Muirhead & Co., Ltd., Beckenham Kent, England.

Paul & Stein Bros., Inc., F. H., 235 Fifth Ave., New York 16, N. Y.

Perkin-Elmer Corp., The Main Ave., Norwalk, Conn.

TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.

### POTENTIOMETERS—Rectilinear

ACE ELECTRONICS ASSOCIATES, 99 Dover St., Somerville 44, Mass. ADV. PG. 487.

BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.

Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.

COMPUTER INSTRUMENTS CORP., 92 Madison Ave., Hempstead, N. Y. ADV. PG. 648.

Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.

DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.

Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.

Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.

FAIRCHILD CONTROLS CORP., COMPONENTS DIV., 225 Park Ave., Hicksville, N. Y. ADV. PG. 364.

GENERAL CONTROLS CO., Glendale 1, Calif. ADV. PG. 546.

GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.

Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.

Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.

K-F DEVELOPMENT CO., 2606 Spring St., Redwood City, Calif. ADV. PG. 510.

Markite Corp., 153 Waverly Place, New York 14, N. Y.  
Meridian, Inc., 880 Main St., Stamford, Conn.  
Minco Products, Inc., 740 Washington Ave., N.,  
Minneapolis 1, Wis.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St.,  
Anaheim, Calif. ADV. PG. 486.  
Precision Line, Inc., 63 Main St., Maynard, Mass.  
Samaris Electronic Corp., 123 Canal St., Shelton, Conn.  
Servonic Instruments, Inc., 1143 S. Fair Oaks Ave.,  
Pasadena 2, Calif.  
Topp Industries, Inc., 5255 W. 102nd St., Los Angeles  
45, Calif.

**POTS-Soldering**

Acme Electric Heating Co., 1217 Washington St.,  
Boston, Mass.  
Acoustica Associates, Inc., Shore Rd., Glenwood Landing  
2, N. Y.  
Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry,  
N. J.  
Dee Electric Co., 1101 N. Paulina St., Chicago 22, Ill.  
**EISLER ENGINEERING CO., INC.**, 751 S. 13th St.,  
Newark 3, N. J. ADV. PG. 660.  
Electric Soldering Iron Co., W. Elm St., Deep River,  
Conn.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**,  
1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Vulcan Electric Co., Danvers, Mass.  
Waage Electric, Inc., 720 Colfax Ave., Kenilworth, N. J.

**POTS AND TANKS-Heating**

Acme Electric Heating Co., 1217 Washington St.,  
Boston, Mass.  
Terrell Corp., 19 Lane St., Waltham 54, Mass.

**POWER DIVIDERS**

See **MICROWAVE ACCESSORIES**  
Dividers, Power

**POWER LEVER**

See **INDICATORS**

**POWER SUPPLIES**

1. A-C
2. D-C
3. High Voltage
4. Klystron
- 4a. Magnetic
5. Microwave
6. Regulated
7. Transistor
8. Variable
9. Voltage Regulated

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
2-6.  
**ACME ELECTRIC CORP.**, 31 Water St., Cuba, N. Y.  
1-2-6-7-8-9. ADV. PG. 378.  
Acme Electronix Div., NEA Service, Inc., W. Third &  
Lakeside, Cleveland 13, Ohio. 1-2.  
Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle,  
N. Y. 1-2-3-4a-6-7-8.  
Aerolab Development Co., 330 W. Holly St., Pasadena,  
Calif. 2.  
Aeronautical Electronics, Inc., Raleigh-Durham Airport,  
P. O. Box 6527, Raleigh, N. C. 2.  
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
1-2-3-6.  
Aerovox Corp., Pacific Coast Div., 2724 So. Peck Rd.,  
Monrovia, Calif. 2.  
**AIRCOM INC.**, 354 Main St., Winthrop 52, Mass. 4.  
ADV. PG. 652.  
Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
4-9.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20,  
Md. 1-2-3. ADV. PG. 297-300.  
Alco Electronics Mfg. Co., 3 Wolcott Ave., Lawrence,  
Mass. 2-6-8-9.  
Alcor Electronics Corp., 180 Lafayette St., New York  
13, N. Y. 1-2-3-7-9.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIP-**  
**MENT CO.**, Box 125, Westboro, Mass. 3-6. ADV.  
PG. 566.  
Alfred Electronics, 897 Commercial St., Palo Alto, Calif.  
2-3-5-6-8-9.  
Allegany Instrument Co., Inc., 1091 Wills Mountain,  
Cumberland, Md. 2.  
Alto Scientific Co., 855 Commercial St., Palo Alto,  
Calif. 2-3-4-4a-6-7-8-9.  
**AMERAC, INC.**, 116 Topsfield Rd., Wenham, Mass. 5.  
ADV. PG. 412.  
American Electronic Labs, Inc., 121 N. 7th St.,  
Philadelphia 6, Pa. 2-6-9.  
American Electronics, Inc., 655 W. Washington Blvd.,  
Los Angeles 15, Calif. 1-2-8.  
**AMERICAN MACHINE & FOUNDRY CO., DEFENSE**  
**PRODUCTS GROUP**, 1101 N. Royal St., Alexandria,  
Va. 5. ADV. PG. 491.  
American Rectifier Corp., 95 Lafayette St., New York  
13, N. Y. 8-9.  
American Research & Mfg. Corp., 920 Halpine Ave.,  
Rockville, Md. 1-2-4a-7.  
**AMERICAN TELEVISION & RADIO CO.**, 300 E. Fourth  
St., St. Paul 1, Minn. 1-2. ADV. PG. 222.

**AMP INC.**, 2100 Paxton St., Harrisburg, Pa. 3. ADV.  
PG. 339.  
**AMP INC., CHEMICALS & DIELECTRICS DIV.**, 155  
Park St., Elizabethtown, Pa. 3. ADV. PG. 255.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave.,  
Brooklyn 37, N. Y. 2-3-7-9. ADV. PG. 691.  
Applegate & Co., C. J., 1840 24th St., Boulder, Colo.  
2-3-6-7-8-9.  
Applied Radiation Corp., 1210 Spring Brook Rd., Walnut  
Creek, Calif. 3-4.  
**ARNOLD MAGNETICS CORP.**, 4613 W. Jefferson Blvd.,  
Los Angeles 16, Calif. 2-4a-6-7-9. ADV. PG. 553.  
Arnoux Corp., Box 34628, Los Angeles, Calif. 1-2-  
4a-6-7-9.  
**ASSOCIATED SPECIALTIES CO.**, 1751 Main St., Ore-  
field, Pa. 6. ADV. PG. 624.  
Atlantic Research Corp., 901 N. Columbus, Alexandria,  
Va. 2-6.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Rox-  
bury, Mass. 1-2-3-6-7-8-9. ADV. PG. 600.  
Avion, Inc., 58-15 Northern Blvd., Woodside 77, N. Y.  
1.  
Avion Division, ACF Industries, Inc., 11 Park Place,  
Paramus, N. J. 4a.  
Avionex Electronics Corp., 10855 Vanowen, North Holly-  
wood, Calif. 1-2.  
Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
2-6.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport  
Blvd., Santa Ana, Calif. 3. ADV. PG. 541.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38,  
Mass. 1-2-3. ADV. PG. 537.  
Barwood Electronics Inc., 921 E. Broadway, Glendale 5,  
Calif. 2-6-9.  
**BEHLMAN ENGINEERING CO.**, 114 S. Hollywood Way,  
Burbank, Calif. 1-8. ADV. PG. 637.  
Bendix Aviation Corp., Montrose Div., South Montrose,  
Pa. 2.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**,  
Dept. G-13, 2200 Wright Ave., Richmond 3, Calif.  
1-2-3. ADV. PG. 73-80.  
Berkshire Laboratories, 580 Bank Village, Greenville,  
N. H. 6-7-9.  
**BETA ELECTRIC DIV. OF SORENSEN CO., INC.**, 333  
E. 103rd St., New York 23, N. Y. 1-2-3-4-8-9.  
ADV. PG. 155, 156.  
Beva Laboratory, 1640 Olden Ave., Ext., Trenton 9,  
N. J. 2-3-8-9.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Goid  
St., New York 38, N. Y. 9.  
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3,  
N. J. 1-2-3-6-7-8-9.  
Bone Engineering Corp., 701 W. Broadway, Glendale 4,  
Calif. 1-2.  
Booth Co., Arthur E., 265 S. Alexandria Ave., Los  
Angeles, Calif. 1-2-6-8-9.  
**BRACKE-SEIB X-RAY CO., INC.**, 16 Pelham Bay Park-  
way, Pelham Manor, N. Y. 1-2-3. ADV. PG. 590.  
**BROWNING LABORATORIES, INC.**, Main St., Win-  
chester, Mass. 4. ADV. PG. 614.  
Buck Engineering Co., Inc., 37-41 Marcy St., Freehold,  
N. J. 2.  
Buffalo Electronics Corp., 37 Franklin St., Buffalo 2,  
N. Y. 1-2-9.  
Burroughs Corp., Electronic Instruments Div., 1209 Vine  
St., Philadelphia, Pa. 2-6.  
**CALEDONIA ELECTRONICS & TRANSFORMER CO.**,  
Caledonia, N. Y. 2-3. ADV. PG. 50.  
California Magnetic Control Corp., 11922 Valerio St.,  
North Hollywood, Calif. 1-2-3-6-7-9.  
California Technical Industries, 1421 Old County Rd.,  
Belmont, Calif. 5.  
Carol Electronics Corp., 315 W. Stephen St., Martins-  
burg, W. Va. 2.  
Central Transformer Co., 910 W. Jackson Blvd., Chicago,  
Ill. 2-3.  
Century Electric Co., 1806 Pine St., St. Louis 3, Mo.  
1-2.  
Century Electronics & Instruments, Inc., P. O. Box 6216,  
Pine Station, Tulsa 10, Okla. 1-2.  
**CHASE ELECTRONICS INC.**, 82-31 51st Ave., Elmhurst,  
N. Y. 2-4a-6-7. ADV. PG. 601.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC,**  
**INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J.  
6-9. ADV. PG. 393.  
**CHRISTIE ELECTRIC CORP.**, 3410 W. 67th St., Los  
Angeles 43, Calif. 2-6-9. ADV. PG. 528.  
Cinema-Television, Ltd., Worsley Bridge Rd., London  
S. E. 26, England. 3-9.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Han-  
over & Ridgedale Aves., Morristown, N. J. 2-3-4-5-  
6-8-9. ADV. PG. 632.  
Cline Electric Mfg. Co., 3405 W. 47th St., Chicago, Ill.  
1-2-4a-6-7-8-9.  
Coil Company of America, Inc., 207 Washington St.,  
Northvale, N. J. 1-2-3-6-8.  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Phila-  
delphia 33, Pa. 1-2. ADV. PG. 589.  
Colorado Research Corp., 4697 E. Evans Ave., Denver 22,  
Colo. 6.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicks-  
ville, N. Y. 1-2-3-6-8-9. ADV. PG. 532.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd.,  
Hickman Mills, Mo. 4a-6-9. ADV. PG. 113-118.  
Condenser Products Div., New Haven Clock & Watch  
Co., 140 Hamilton St., New Haven, Conn. 2-3-6-8-9.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury,  
N. Y. 9.  
Consolidated Electrodynamics Corp., 300 N. Sierra Madre  
Villa, Pasadena 15, Calif. 2-6.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plain-  
field, N. J. 1-2-9. ADV. PG. 111.

Creative Electronics Corp., 94 Lincoln Ave., Stamford,  
Conn. 1-2-3-8.  
**CUBIC CORP.**, 575 Kearny Villa Rd., San Diego 11, Calif.  
3-4. ADV. PG. 380, 381.  
Daystrom Nuclear Div. of Daystrom, Inc., P. O. Box 437,  
West Caldwell, N. J. 3.  
**DEL ELECTRONICS CORP.**, 521 Homestead Ave., Mt.  
Vernon, N. Y. 1-2-3-6-8-9. ADV. PG. 678.  
Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33,  
Pa. 2-8-9.  
Devtron Engineering, 1 Winslow St., Redwood City,  
Calif. 2-3-6-8-9.  
**DOTY ACOUSTICAL ELECTRONIC LABS., INC.**, 431  
Broome St., New York 13, N. Y. 2-8-9. ADV. PG.  
676.  
Douglas Radio Labs., 176 Norfolk Ave., Boston 19,  
Mass. 6.  
Dressen-Barnes Corp., 250 N. Vinedo Ave., Pasadena 8,  
Calif. 1-2-3-4a-6-7-8-9.  
Dresser Electric Co., 942 E. Larned St., Detroit 7,  
Mich. 2-6-8.  
Dukane Corp., St. Charles, Ill. 2.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield  
Ave., Clifton, N. J. 3.  
Dunlap Electronics, 764 Ninth St., Des Moines, Iowa. 2.  
Dynamic Controls Co., 1955 Massachusetts Ave., Cam-  
bridge, Mass. 2-6-8-9.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNI-**  
**VERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21,  
Mo. 1-2-4a-6-7. ADV. PG. 649.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barby  
St., Brooklyn, N. Y. 2-4-6-7-8-9. ADV. PG. 451.  
Eberline Instrument Division, P. O. Box 279, Santa Fe,  
N. M. 6-9.  
Eder Engineering Co., The, 219 E. Becher St., Mil-  
waukee 2, Wis. 2-3-6-8-9.  
Eicor, Inc., 4235 W. North Ave., Chicago 39, Ill. 2-9.  
Eicor, Inc., P. O. Box 354, McLean, Va. 2-6-9.  
Electric Regulator Corp., Pearl St., Norwalk, Conn. 6-9.  
Electro Engineering Products Co., 609 W. Lake St.,  
Chicago, Ill. 2.  
**ELECTRO ENGINEERING WORKS**, 401 Preda St., San  
Leandro, Calif. 1-2-3-4-8. ADV. PG. 512.  
**ELECTRO PRODUCTS LAB.**, 5401 N. Ravenswood Ave.,  
Chicago 40, Ill. 2-8. ADV. PG. 629.  
Electro-Science Industries, Box 10066 International Air-  
port, Los Angeles 45, Calif. 3.  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple  
Ave., Eatontown, N. J. 1-2-3-4-4a-5-6-7-8-9. ADV.  
PG. 556.  
Electronic Products Corp., 322 State St., Santa Bar-  
bara, Calif. 2-6.  
Electronic Research Associates, Inc., 67 E. Centre St.,  
Nutley 10, N. J. 1-2-3-6-7-8-9.  
**ELECTRONICS COMPUTER CORP.**, 6191 Ridge Ave.,  
Philadelphia 28, Pa. 6. ADV. PG. 635.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa.  
1-3-6. ADV. PG. 286.  
Embassy Engineering Corp., 673 Elton Ave., New York  
51, N. Y. 3.  
**EMPIRE DEVICES PRODUCTS CORP.**, 38-15 Bell Blvd.,  
Bayside 61, N. Y. 8. ADV. PG. 388.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St.,  
Santa Ana, Calif. 2-9. ADV. PG. 623.  
Engineered Magnetics Div. of Gulton Mfg. Corp., 11818  
Teale St., Culver City, Calif. 1-2-4a-6-7-8-9.  
Engineering Specialty Co., 3100 Eldredge St., Salt Lake  
City, Utah. 2-6-8-9.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place,  
Woodside 77, N. Y. 3-4-5. ADV. PG. 195-198.  
Fansteel Metallurgical Corp., 2200 Sheridan Rd., North  
Chicago, Ill. 2.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart  
Ave., Garden City, N. Y. 2-3. ADV. PG. 594.  
**FEDERAL TELEPHONE & RADIO CO.**, 88 Kingsland Rd.,  
Clifton, N. J. 4. ADV. PG. 355-357.  
Fidelity Instrument Corp., 1000 E. Boudry Ave., York,  
Pa. 4a-6-9.  
Fluke Mfg. Co., Inc., 1111 W. Nickerson St., Seattle 99,  
Wash. 2-6-8.  
Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25  
Amity St., Little Falls, N. J. 2-3-6-9.  
Fox Products Co., 4720 N. 18th St., Philadelphia 41,  
Pa. 1-2.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St.,  
Brooklyn 27, N. Y. 2. ADV. PG. 460.  
GPS Instrument Co., Inc., 811 Boylston St., Boston 16,  
Mass. 2.  
**GATES ELECTRONIC CO.**, 2090 Barnes Ave., Bronx 62,  
N. Y. 2-6-8-9. ADV. PG. 678.  
Gates Radio Co., Quincy, Ill. 1-2-9.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**,  
1 River Rd., Schenectady 5, N. Y. 1-2. ADV. PG.  
1-12.  
General Electric Co., Technical Products Dept., Electronics  
Park, Syracuse, N. Y. 2-6-7-8-9.  
**GENERAL MAGNETICS, INC.**, 135 Bloomfield Ave.,  
Bloomfield, N. J. 4a-6-8-9. ADV. PG. 426.  
General Nuclear Corp., 550 Fifth Ave., New York 28,  
N. Y. 1-2-3-6-8-9.  
General Photo Products Co., Inc., General Photo Bldg.,  
15 Summit Ave., Chatham, N. J. 2-3-8.  
General Precision Laboratory Inc., 63 Bedford Rd.,  
Pleasantville, N. Y. 6.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cam-  
bridge 39, Mass. 1-2-4-5-6-8-9. ADV. PG. 316, 317.  
Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank,  
Calif. 1-2-3-4-4a-6-9.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn,  
N. J. 1-2-3-4-4a-6-7-8-9.

- GULTON INDUSTRIES, INC.**, Metuchen, N. J. 4a-7. ADV. PG. 425.
- Gyro Electronics Co.**, 325 Canal St., New York, N. Y. 1-2.
- Hallamere Electronics Co.**, 8352 Brookhurst Ave., Anaheim, Calif. 2-4a-6-9.
- HAMNER ELECTRONICS CO., INC.**, Box 531, Princeton, N. J. 2-3-6-8-9. ADV. PG. 671.
- Hanover Developments**, 401 E. 71st St., New York 21, N. Y. 2-9.
- HARRISON LABORATORIES, INC.**, 45 Industrial Rd., Berkeley Heights, N. J. 2-6-7-8-9. ADV. PG. 26, 27.
- Harvey-Wells Electronics, Inc.**, North St., Southbridge, Conn. 1-2.
- HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. 2-8-9. ADV. PG. 575.
- Hertner Electric Co.**, 12690 Elmwood Ave., Cleveland 11, Ohio. 1-2-6-9.
- HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. 2-4-6-9. ADV. PG. 29-40.
- HOMELITE DIV. OF TEXTRON INC.**, Port Chester, N. Y. 1-2. ADV. PG. 645.
- Hoover Electronics Co.**, 3640 Woodland Ave., Baltimore 15, Md. 2-7.
- Hunter-Bristol Corp.**, Bristol, Pa. 2-6.
- Hycan Electronics, Inc.**, P. O. Bin D, Pasadena, Calif. 7.
- I-L-S Instrument Corp.**, 4525 W. 160th St., Cleveland 11, Ohio. 2-6.
- Industrial Electronics Co., Inc.**, Hanover, Mass. 2.
- Industrial Television, Inc.**, 369 Lexington Ave., Clifton, N. J. 6.
- INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. 1-2-6. ADV. PG. 676.
- Industronics**, Box 424, Arlington Heights, Ill. 1-8-9.
- INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. 1-2-3-6-7-8-9. ADV. PG. 613.
- International Research Associates**, 2221 Warwick Ave., Santa Monica, Calif. 1-3-7-8.
- INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. 1-2-3-4a-6-7-9. ADV. PG. 355-357.
- J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. 5. ADV. PG. 640.
- JAMES VIBRAPOWR CO.**, 4050 N. Rockwell St., Chicago 18, Ill. 1-2. ADV. PG. 542.
- Johnson Co., E. F., Waseca**, Minn. 2.
- Jowill Electronics, Inc.**, Belfield & Wister, Philadelphia 44, Pa. 1-2-3-5-6-7-8-9.
- Kahn and Co., Inc.**, 541 Windsor St., Hartford 1, Conn. 2-8.
- Katolight Corp.**, First Ave. at Chestnut, Mankato, Minn. 1-2.
- KEPCO LABS, INC.**, 131-38 Sanford Ave., Flushing 55, N. Y. 1-2-3-4-4a-5-6-7-8-9. ADV. PG. 45-48.
- Keystone Products Co.**, 904-6 23rd St., Union City, N. J. 1-6-9.
- KIN TEL (KAY LAB.)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. 1-2-6-7-8-9. ADV. PG. 121-123.
- Kinney Mfg. Div. of The New York Air Brake Co.**, 3529 Washington St., Boston, Mass. 2-3-8.
- KROHN-HITE CORP.**, 580 Massachusetts Ave., Cambridge 39, Mass. 2-6-8-9. ADV. PG. 82, 83.
- LAMBDA ELECTRONICS CORP.**, 11-11 131 St., College Point 56, N. Y. 2-4-4a-6-7-8-9. ADV. PG. 89-92.
- Lawn Electronics Co.**, East Freehold Rd., Freehold, N. J. 2-3-4-6-8-9.
- Leach Corp., Inet-Palmer Div.**, 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif. 1-2-3-4a-6-8-9.
- Lear, Inc.**, 3171 S. Bundy Drive, Santa Monica, Calif. 1-2-9.
- Lee Electric & Mfg. Co.**, 2806 Clearwater St., Los Angeles 39, Calif. 2-3-4a-6-8-9.
- Lee Electronics Labs, Inc.**, 88 Evans St., Watertown, Mass. 1-2.
- Leland Electric Co. Div. of The American Machine & Foundry Co.**, 1501 Webster St., Dayton 1, Ohio. 1-2-3-6-9.
- Lesca, Via Bergamo 21**, Milan, Italy. 1-2.
- Levinthal Electronic Products, Inc.**, 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif. 2-3-4-5-6-8-9.
- Link Aviation, Inc.**, Binghamton, N. Y. 2-6-9.
- McDowell Electronics, Inc.**, P. O. Box 342, Metuchen, N. J. 2-3-6-8-9.
- MACARR, INC.**, 2543 Boston Rd., Bronx 67, N. Y. 2-6-8-9. ADV. PG. 640.
- Mag-Electric Products, Inc.**, 12822 Yukon Ave., Hawthorne, Calif. 1-2-3-4-6-8-9.
- Magnavox Co.**, The, 2131 Beuter Rd., Fort Wayne, Ind. 1-2.
- MAGNETIC AMPLIFIERS, INC.**, 632 Tinton Ave., New York 55, N. Y. 2-4a-8-9. ADV. PG. 389.
- MAGNETIC RESEARCH CORP.**, 3160 W. El Segundo Blvd., Hawthorne, Calif. 2-4a-6-7-8-9. ADV. PG. 292, 293.
- MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. 1-2-3-4-6-8-9. ADV. PG. 513.
- Marine Electric Co.**, 600 Fourth Ave., Brooklyn 15, N. Y. 2-6-9.
- Maryland Electronic Mfg. Corp.**, College Park, Md. 7.
- Maxson Instruments, Div. of The W. L. Maxson Corp.**, 47-37 Austell Place, Long Island City 1, N. Y. 6.
- Memo Research Laboratory**, 538 Phelan Ave., San Jose, Calif. 1-3.
- MERCURY ELECTRONIC CO.**, Box 450, Red Bank, N. J. 1-2-6-8-9. ADV. PG. 61.
- Milburn, Inc.**, Alexander, 1241 Ridgely St., Baltimore 30, Md. 2-3-6.
- Millen Mfg. Co.**, James, 150 Exchange St., Malden, Mass. 3-6-9.
- MINNEAPOLIS-HONEYWELL, BOSTON DIV.**, 1400 Soldiers Field Rd., Boston 15, Mass. 1. ADV. PG. 445.
- Minneapolis-Honeywell Regulator Co., Ordnance Div.**, 600 2nd St., N. Hopkins, Minn. 1-2-7-9.
- MODEL RECTIFIER CORP.**, 1065 Utica Ave., Brooklyn 3, N. Y. 2-7-8. ADV. PG. 665, 667.
- Model-Electronics Corp.**, 1500 Bangs Ave., Asbury Park, N. J. 3.
- Modern Industries Inc.**, 2601 Colorado Ave., Santa Monica, Calif. 1-2-3-4-4a-6-7-9.
- Mohawk Electronic Research Labs., Inc.**, Box 126-A, Rd 4, Amsterdam, N. Y. 6-8-9.
- Motoresearch Co.**, 1600 Junction Ave., Racine, Wis. 1-2-6-9.
- Moulic Specialties Co.**, 1007 W. Washington St., Bloomington, Ill. 2-6-9.
- MULLARD OVERSEAS LTD., EQUIPMENT DIV., CENTURY HOUSE**, Shaftesbury Ave., London, W. C. 2, England. 9. ADV. PG. 560.
- Multi-Products Co.**, 21470 Coolidge Highway, Oak Park, Mich. 1-2.
- NJE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. 1-2-3-4-4a-6-7-8-9. ADV. PG. 369, 370.
- Nader Mfg. Co.**, 2661 Myrtle Ave., Monrovia, Calif. 2-6-7.
- National Aircraft Corp.**, 3411 Tulare St., Burbank, Calif. 1-2-3-4-6-7-8-9.
- National Spectrographic Labs., Inc.**, 6300 Euclid Ave., Cleveland 3, Ohio. 1-2-3-6-8.
- NAVIGATION COMPUTER CORP.**, 1621 Snyder Ave., Philadelphia 45, Pa. 2-6-7-9. ADV. PG. 585.
- Neill Co., Inc.**, R. W., 4320 Montrose Ave., Chicago 41, Ill. 2.
- Nelson Instrument Co.**, 607 Howard St., Evanston, Ill. 2-3-6.
- Network Mfg. Corp.**, 213 W. Fifth St., Bayonne, N. J. 2.
- NEUTRONIC ASSOCIATES**, 93-14 101st Ave., Ozone Park 17, N. Y. 2-3-6-8-9. ADV. PG. 680.
- Non-Linear Systems, Inc.**, Del Mar Airport, Del Mar, Calif. 1-2-9.
- North American Instruments, Inc.**, 2420 N. Lake Ave., Altadena, Calif. 7.
- North Electric Co.**, 553 S. Market St., Galion, Ohio. 1-2-9.
- NORTH HILLS ELECTRIC CO., INC.**, 402 Sagamore Ave., Mineola, N. Y. 6. ADV. PG. 428.
- NORTHEAST SCIENTIFIC CORP.**, 617 Concord Ave., Cambridge 38, Mass. 2-3-4-5-6-9. ADV. PG. 641.
- Nuclear-Electronics Corp.**, 2632-36 W. Cumberland St., Philadelphia 32, Pa. 2-3-6-7-8-9.
- Omega Laboratories Inc.**, P. O. Box 264, Rowley, Mass. 4-6.
- OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. 1-2-3-4-4a-6-7-8-9. ADV. PG. 650.
- Optimized Devices, Inc.**, P. O. Box 38, Gedney Station, White Plains, N. Y. 2-6.
- Oregon Electronic Mfg. Co.**, 2232 E. Burnside St., Portland 15, Ore. 2-3-4a-6-7-8-9.
- ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. 1-4a-6. ADV. PG. 648.
- Otis Elevator Co., Electronic Div.**, 35 Ryerson St., Brooklyn 5, N. Y. 1-2-3-6-8-9.
- OWEN LABORATORIES, INC.**, 55 Beacon Place, Pasadena, Calif. 2-6-9. ADV. PG. 680.
- PACKARD-BELL CO.**, 12333 W. Olympic Blvd., Los Angeles 64, Calif. 6. ADV. PG. 268.
- Pedersen Electronics Co.**, Mount Diablo Blvd., Lafayette, Calif. 2-6-9.
- Peerless Electrical Div. of Altec Lansing Corp.**, 1515 S. Manchester Ave., Anaheim, Calif. 3.
- Pegasus Laboratories, Inc.**, 3692 Eleven Mile Rd., Berkeley, Mich. 6.
- Pennsylvania Testing Lab., Inc.**, Doylestown, Pa. 1-2-3-4-6-8-9.
- Performance Measurements Co.**, 15301 W. McNichols, Detroit 35, Mich. 2.
- PERKINS ENGINEERING CORP.**, 345 Kansas St., El Segundo, Calif. 1-2-3-4a-5-6-7-8-9. ADV. PG. 67.
- PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. 1-2-3-4-5-6-8-9. ADV. PG. 500.
- Philbrick Researches, Inc.**, George A., 230 Congress St., Boston 10, Mass. 6.
- Pioneer Gen-E-Motor Co.**, 5841 W. Dickens, Chicago 39, Ill.
- Plastic Capacitors, Inc.**, 2620 N. Clybourn Ave., Chicago 14, Ill. 1-2-3-8-9.
- POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. 4-5. ADV. PG. 403, 404.
- POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 2020 Tillary St., Brooklyn 1, N. Y. 2-4-5-9. ADV. PG. 164, 165.
- Polytron Engineering Inc.**, P. O. Box 5024, Middle River 20, Md. 7.
- POWER DESIGNS, INC.**, 89-25 130th St., Richmond Hill 18, N. Y. 2-3-4-4a-6-7-8-9. ADV. PG. 609.
- POWER SOURCES, INC.**, Northwest Industrial Park, Burlington, Mass. 7. ADV. PG. 674.
- Power Supplies Inc.**, 1007 Olive St., Highland, Ill. 1-2-3-6-8-9.
- Power Transformer Co., Inc.**, 532 Mulberry St., Newark 5, N. J. 1-2-3-4a-6-8-9.
- Pratt & Whitney Co., Inc.**, Charter Oak Blvd., West Hartford 1, Conn. 2-3-4-4a-6-7-8-9.
- Precise Development Corp.**, 2 Neil Court, Oceanside, N. Y. 1-2-3-6-8-9.
- PRECISE MEASUREMENTS CO., R. D. # 1**, Millbrooks Rd., Flemington, N. J. 1-2-3-6-8-9. ADV. PG. 399.
- Press Wireless Laboratories Inc.**, 25 Prospect Pl., West Newton 65, Mass. 3.
- Pressman Associates**, 7803 Farnsworth St., Philadelphia 15, Pa. 2-6-7-9.
- Production Research Corp.**, Thornwood, N. Y. 6.
- Pye Telecommunications Ltd.**, Newmarket Rd., Cambridge, England. 9.
- Quantum Electronics, Inc.**, 2312 Wisconsin St. NE, Albuquerque, N. M. 7-9.
- RS Electronics Corp.**, 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif. 1-2-3-6-7-8-9.
- Radiation Counter Laboratories, Inc.**, 5122 W. Grove St., Skokie, Ill. 3-9.
- Radiation Instrument Development Labs.**, 2337 W. 67th St., Chicago 36, Ill. 3.
- Ram Meter, Inc.**, 1100 Hilton Rd., Ferndale, Detroit 20, Mich. 2.
- Ramyrf Mfg. Co.**, 1624 E. First St., Los Angeles 23, Calif. 2-8.
- Ransom Research**, Box 382, San Pedro, Calif. 6-7-9.
- RED BANK DIV., BENDIX AVIATION CORP.**, Eatontown, N. J. 1-2-6-7-9. ADV. PG. 332.
- REEVES INSTRUMENT CORP.**, 227 E. 91st St., New York 28, N. Y. 2-6-9. ADV. PG. 437.
- Reflectone Corp.**, Cor. Post Rd. & Myrano Lane, Stamford, Conn. 3-4-6-9.
- Research Electronics Laboratories**, Roslyn, Pa. 2-3.
- RHEEM ELECTRONICS DIVISION**, 7777 Industry Ave., Rivera, Calif. 1-2-3-4-4a-6-7-8-9. ADV. PG. 654.
- Rho Engineering Co.**, 2240-42 Sepulveda Blvd., Los Angeles 64, Calif. 1-2-3-7-9.
- Richardson-Allen Corp.**, 116-15 15th Ave., College Point, N. Y. 1-2-6-8-9.
- Rowe Industries**, 1702 Wayne St., Toledo 9, Ohio. 3.
- Saft Corp. of America**, 2 Gregg St., Ludl, N. J. 2.
- Sangamo Electric Co.**, 1201 N. 11th St., Springfield, Ill. 1-2-3.
- Schauser Mfg. Corp.**, 4521 Alpine Ave., Cincinnati 36, Ohio. 2-6-8-9.
- Scientific Electric Corp.**, 105-119 Monroe St., Garfield, N. J. 1-2-3-6-8-9.
- Sel-Rex Corp., Rectifier Div.**, 155 Manchester Place, Newark 4, N. J. 2-3-4a-6-8.
- Servo Corp. of America**, 20-20 Jerico Turnpike, New Hyde Park, N. Y. 3.
- Servo-Tek Products Co., Inc.**, 1086 Goffle Rd., Hawthorne, N. J. 2-6-9.
- SERVOMECHANISMS, INC., MECHATROL DIV.**, 625 Main St., Westbury, N. Y. 6. ADV. PG. 25.
- SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. 2. ADV. PG. 101.
- Shasta Div., Beckman Instruments, Inc.**, P. O. Box 296, Station A, Richmond, Calif. 2-6-8-9.
- Signal Equipment Co., Inc.**, 2706 Third Ave., Seattle 1, Wash. 6.
- Skysweeper, Inc.**, McHenry, Ill. 1-2-3.
- SLAUGHTER COMPANY**, Piqua 9, Ohio. 1-2-3-8. ADV. PG. 494.
- Societe Anonyme de Machines Electrostatiques**, B.P. 150, Grenoble, France. 3.
- SOLA ELECTRIC CO.**, 4633 W. 16th St., Chicago 50, Ill. 6-9. ADV. PG. 269-272.
- Solartron, Inc., Western Div.**, 10761 Burbank Blvd., North Hollywood, Calif.
- SONEX, INC.**, 73 S. State Rd., Upper Darby, Pa. 2-7-8-9. ADV. PG. 664.
- SORENSEN & CO., INC.**, Richards Ave., Norwalk, Conn. 1-2-3-4a-6-7-8-9. ADV. PG. 151-154.
- SPELLMAN TELEVISION CO., INC.**, 3029 Webster Ave., New York 67, N. Y. 2-3-6-8. ADV. PG. 230, 231.
- Spivey, Inc.**, James S., 4908 Hampden Lane, Washington 14, D. C. 1-2-7.
- STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. 2. ADV. PG. 143.
- Standard Electronics Corp.**, 287 Emmet St., Newark 5, N. J. 2-3-6-9.
- Stanley Transformer Co.**, 31-23 Vernon Blvd., Long Island City, N. Y. 1-2-6-7-9.
- Stator Electric Corp.**, 46-25 58th St., Woodside, N. Y. 2-6-7-8-9.
- SUPERIOR ELECTRIC CO., THE**, 5000 Bradley Ave., Bristol, Conn. 1-2-6-8-9. ADV. PG. 96-99.
- SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. 1-2-3-6-8-9. ADV. PG. 733-739.
- Taller & Cooper Co.**, 75 Front St., Brooklyn 1, N. Y. 1-2-7-9.
- Tarc Electronics, Inc.**, 48 Urban Ave., Westbury, N. Y. 2-3-9.
- TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. 1-2-3-4-4a-5-6-7-8-9. ADV. PG. 549.
- Technical Measurement Corp.**, 140-142 State St., New Haven 11, Conn. 2-3-6-8-9.
- TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. 1-2-3-6-8-9. ADV. PG. 417.
- TELECOM, INC.**, 1019 Admiral Blvd., Kansas City, Mo. 1-2-7. ADV. PG. 661.
- Telectro Industries Corp.**, 35-16 37th St., Long Island City 1, N. Y. 1-2-3-6-9.
- Tel-Instrument Electronics Corp.**, 728 Garden St., Carlstadt, N. J. 9.
- Teletronics Laboratory, Inc.**, Kinkel St., Westbury, N. Y. 1-2-6-8-9.
- Tensor Electric Development Co., Centroid Div.**, 1873 Eastern Parkway, Brooklyn 33, N. Y. 1-2-3-4a-6-8-9.
- Terado Co.**, 1059 Raymond Ave., St. Paul 14, Minn. 2.
- Tesla Electric Co.**, 2871 N. Lincoln Ave., Chicago 13, Ill. 2-3-4a-6-8-9.
- Ther Electric & Machine Works**, 17 S. Jefferson St., Chicago 6, Ill. 2-8-9.
- Thermador Electric Mfg. Co.**, 5215 S. Boyle Ave., Los Angeles 58, Calif. 2-6-8-9.
- Topp Industries, Inc.**, 5255 W. 102nd St., Los Angeles 45, Calif. 7.
- Trans Electronics Inc.**, 7349 Canoga Ave., Canoga Park, Calif. 1-2-6-7-8-9.



Transistor Devices, Inc., 730 Boulevard, Kenilworth, N. J. 7.  
**TRIO LABORATORIES, INC.**, 4025 Merrick Rd., Sea-  
 ford, N. Y. 1. ADV. PG. 687.  
 United Electrodynamics Div. of United Geophysical Co.,  
 Inc., 1200 S. Marengo, Pasadena, Calif. 1-2-6-7.  
 United States Dynamics Corp., 1250 Columbus Ave.,  
 Boston 20, Mass. 2-3-4a-6-7-8-9.  
 United Technical Laboratories, Box 425-V, Morristown,  
 N. J. 1-6.  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRAN-**  
**SISTOR PRODUCTS CORP.**, 143 E. 49th St., New  
 York 17, N. Y. 1-2-3-4-4a-5-6-7-8-9. ADV. PG. 548.  
**UNIVERSAL ELECTRONICS CO.**, 1720 Twenty-Second  
 St., Santa Monica, Calif. 2-4a-6-7-8-9. ADV. PG. 586.  
 Valley Engineering Co., P.O. Box 2, Los Angeles, N. W.  
 3.  
**VARIAN ASSOCIATES**, 611 Hansen Way, Palo Alto,  
 Calif. 4. ADV. PG. 174, 175, 411.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland,  
 Texas. 1-2-4a-6-7-8-9. ADV. PG. 564.  
**VECTROL ENGINEERING, INC.**, P.O. Box 1089, Stam-  
 ford, Conn. 2-6-9. ADV. PG. 632.  
**VECTRON, INC.**, 1609 Trapelo Rd., Waltham 54, Mass.  
 1-4-5-8. ADV. PG. 394.  
**VIBRATION RESEARCH LABS., INC.**, 97 Lake Ave.,  
 Tuckahoe, N. Y. 1-2-3-6-7-9. ADV. PG. 621.  
 Vickers Electric Division, Vickers, Inc., 1825 Locust St.,  
 St. Louis 3, Mo. 2-6-9.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**,  
 5806 Hough Ave., Cleveland 3, Ohio. 3. ADV. PG.  
 366.  
**WALLSON ASSOCIATES, LTD.**, 963 Frelinghuysen Ave.,  
 Newark 5, N. J. 1-2-3-4-4a-6-7-8-9. ADV. PG. 691.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton,  
 Mass. 4a-6-7-9.  
**WAVE/PARTICLE CO.**, P.O. Box 252, Menlo Park,  
 Calif. 5-6. ADV. PG. 591.  
 Westbury Electronics, Inc., 300 Shames Drive, Westbury,  
 N. Y. 1-6-9.  
 Western Gear Corp., Electro Products Div., 132 W.  
 Colorado St., Pasadena 1, Calif. 1-2-6-7-8-9.  
 White Electron Devices Inc., Roger, Fourth Ave.,  
 Haskell, N. J. 5.  
 Wickes Engineering & Construction Co., P. O. Box 590,  
 Camdn 1, N. J. 2-9.  
 Wincharger Corp., E. 7th & Division Sts., Sioux City,  
 Iowa. 1-2-6.

**PRE-AMPLIFIERS for COMMUNICATION RECEIVERS**

**APPLIED RESEARCH, INC.**, 163-07 Depot Rd., Flush-  
 ing, N. Y. ADV. PG. 672.  
**ARENBERG ULTRASONIC LABORATORY, INC.**, 94 Green  
 St., Jamaica Plain 30, Mass. ADV. PG. 672.  
 Avionex Electronics Corp., 10855 Vanowen, North Hol-  
 lywood, Calif.  
 Bogen Co., Inc., David, P.O. Box 500, Paramus, N. J.  
 Bone Engineering Corp., 701 W. Broadway, Glendale  
 4, Calif.  
 Community Engineering Corp., Box 824, State College,  
 Pa.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island  
 City 1, N. Y.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plain-  
 field, N. J.  
 Millen Mfg. Co., James, 150 Exchange St., Malden,  
 Mass.  
 Mohawk Electronic Research Labs., Inc., Box 126-A,  
 RD 4, Amsterdam, N. Y.  
**RS Electronics Corp.**, 435 Portage Ave., P.O. Box 368,  
 Station A, Palo Alto, Calif.  
 Radio Mfg. Engineers, Inc., 501 Walnut St., Wash-  
 ington, Ill.  
 Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasa-  
 dena 1, Calif.  
 Standard Coil Products Co., 2085 N. Hawthorne St.,  
 Melrose Park, Ill.  
 Telectro Industries Corp., 35-16 37th St., Long Island  
 City 1, N. Y.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn  
 21, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave.,  
 Los Angeles 38, Calif.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farm-  
 ingtondale, N. Y. ADV. PG. 428.

**PRE-AMPLIFIERS for OSCILLOSCOPES**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 American Electronic Labs., Inc., 121 N. 7th St., Phila-  
 delphia 6, Pa.  
 Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
 Dubrow Development Co., 235B Penn St., Burlington,  
 N. J.  
 DuMont Laboratories, Inc., Allen B., 760 Bloomfield  
 Ave., Clifton, N. J.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa.  
 ADV. PG. 286.  
 Ellis Associates, Box 77, Pelham, N. Y.  
 Hanover Developments, 401 E. 71st St., New York 21,  
 N. Y.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia  
 44, Pa.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415  
 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.

Millen Mfg. Co., James, 150 Exchange St., Malden,  
 Mass.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33,  
 N. Y.  
 Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cam-  
 bridge 39, Mass.  
**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field  
 Rd., Boston 35, Mass. ADV. PG. 304.  
 Tektronix, Inc., P. O. Box 831, Portland 7, Ore.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los  
 Angeles 38, Calif.

**PRE-AMPLIFIERS—Phonograph**

Alco Electronics Mfg. Co., 3 Wolcott Ave., Lawrence,  
 Mass.  
 Allied Radio Corp., 100 North Western Ave., Chicago  
 80, Ill.  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave.,  
 Anaheim, Calif. ADV. PG. 442.  
 Barker Sales Co., 996-8 Edgewater Ave., Ridgefield,  
 N. J.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los  
 Angeles 16, Calif.  
**DOTY ACOUSTICAL ELECTRONIC LABS., INC.**, 431  
 Broome St., New York 13, N. Y. ADV. PG. 676.  
 Dukane Corp., St. Charles, Ill.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 Electronic Instrument Co., Inc., 84 Withers St., Brook-  
 lyn 11, N. Y.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa.  
 ADV. PG. 286.  
 Fisher Radio Corp., 21-21 Forty-fourth Drive, Long  
 Island City 1, N. Y.  
 General Electric Co., Technical Products Dept., Elec-  
 tronics Park, Syracuse, N. Y.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton  
 Harbor 14, Mich. ADV. PG. 575.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse,  
 New York 58, N. Y. ADV. PG. 613.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13,  
 Ill.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island  
 City 1, N. Y.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 McIntosh Laboratory Inc., 2 Chambers St., Binghamton,  
 N. Y.  
 Molded Insulation Co., 335 E. Price St., Philadelphia  
 44, Pa.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Newcomb Audio Products Co., 6824 Lexington Ave.,  
 Hollywood 38, Calif.  
 Pedersen Electronics Co., Mount Diablo Blvd., Lafayette,  
 Calif.  
**PHOTOCIRCUITS CORP.**, Glen Cove, N. Y. ADV. PG.  
 396.  
**PICKERING & CO.**, 309 Woods Ave., Oceanside, N. Y.  
 ADV. PG. 617.  
 Pilot Radio Corp., 37-06 36th St., Long Island City,  
 N. Y.  
 Precise Development Corp., 2 Neil Court, Oceanside,  
 N. Y.  
 Pulse Techniques Inc., 1411 Palisades Ave., West Engle-  
 wood, N. J.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS**  
**DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth  
 Covers.  
 Radio Craftsman Inc., The, 4223 W. Jefferson Blvd.,  
 Los Angeles 16, Calif.  
 Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cam-  
 bridge 39, Mass.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long  
 Island City, 3, N. Y.  
**SONEX, INC.**, 73 S. State Rd., Upper Darby, Pa. ADV.  
 PG. 664.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp.,  
 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit,  
 N. J.  
 Telectro Industries Corp., 35-16 37th St., Long Island  
 City 1, N. Y.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave.,  
 Los Angeles 38, Calif.  
 Webster Electric Co., 1900 Clark St., Racine, Wis.  
 Weingarten Electronic Labs., Inc., 7556 Melrose Ave.,  
 Los Angeles 46, Calif.

**PRE-SELECTORS**

Electro Voice Mfg Co., Inc., Buchanan, Mich.  
**RADAR DESIGN CORP.**, 210 Fifth Ave., New York 16,  
 N. Y. ADV. PG. 615.  
 Standard Coil Products Co., 2085 N. Hawthorne St.,  
 Melrose Park, Ill.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave.,  
 Los Angeles 38, Calif.

**PRESSES—Metal Forming**

Art-Lloyd Metal Products Corp., 2973 Cropsey Ave.,  
 Brooklyn 14, N. Y.  
 Denison Engineering Div., American Brake Shoe Co.,  
 1160 Dublin Rd., Columbus 16, Ohio.  
 Hydraulic Press Mfg. Co., A Div. of Koehring Co., Mt.  
 Gilead, Ohio.  
 Stokes Co., F. J., 5500 Tabor Rd., Philadelphia 20, Pa.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway,  
 New York 19, N. Y. ADV. PG. 733-739.  
 Walsh Press & Die Co., Div. of American Gage &  
 Machine Co., 47-09 W. Kinzie St., Chicago, Ill.

**PRESSURE**

See **CONTROLS**

**PRESSURIZATION UNITS**

**CHURCHILL LIGHTING CORP.**, 344 Franklin St., Mel-  
 rose 76, Mass. ADV. PG. 605.  
 Dalmo Victor Co., Div. of Tectron, Inc., 1515 Industrial  
 Way, Belmont, Calif.  
**EASTERN INDUSTRIES, INC.**, 100 Skiff St., Hamden,  
 Conn. ADV. PG. 612.  
 Henry and Miller Industries Inc., 675 Garfield Ave.,  
 Jersey City 5, N. J.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 United Electric Controls Co., 85 School St., Watertown  
 72, Mass.

**PRINTED, STAMPED or ETCHED CIRCUITS**

See **CIRCUITS**

**PRINTERS—High Speed**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 ANelx Corp., 150 Causeway St., Boston 14, Mass.  
 Apex Machine Co., 14-13 118 St., College Point 56,  
 N. Y.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38,  
 Mass. ADV. PG. 537.  
**BERKELEY DIVISION, BECKMAN INSTRUMENT, INC.**,  
 Dept. G-13, 2200 Wright Ave., Richmond 3, Calif.  
 ADV. PG. 73-80.  
 Electro Data Div. of Burroughs Corp., 460 Sierra Madre  
 Villa, Pasadena 6, Calif.  
 General Research & Supply Co., 572 S. Division Ave.,  
 Grand Rapids 3, Mich.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP.**,  
**INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd.,  
 Clifton, N. J. ADV. PG. 355-357.  
 Matthews & Co., Jas. H., 3926 Forbes St., Pittsburgh  
 13, Pa.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great  
 Neck, N. Y.  
 Remington Rand Univac Div. of Sperry Rand Corp.,  
 Univac Park, St. Paul 16, Minn.  
 Scientific Instruments Service Co., 44 Bromfield St.,  
 Boston 8, Mass.  
**VICTOR ADDING MACHINE CO., ELECTRONICS SALES**  
**DIV.**, 3900 N. Rockwell St., Chicago 18, Ill. ADV.  
 565.

**PRINTERS—Keyboard**

Clary Corp., San Gabriel, Calif.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP.**,  
**INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd.,  
 Clifton, N. J. ADV. PG. 355-357.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd.,  
 Great Neck, N. Y.

**PRINTERS—Line**

ANelx Corp., 150 Causeway St., Boston 14, Mass.  
 Clary Corp., San Gabriel, Calif.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave.,  
 North Hollywood, Calif. ADV. PG. 168.  
 Matthews & Co., Jas. H., 3926 Forbes St., Pittsburgh  
 13, Pa.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great  
 Neck, N. Y.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
**VICTOR ADDING MACHINE CO., ELECTRONICS SALES**  
**DIV.**, 3900 N. Rockwell St., Chicago 18, Ill. ADV.  
 PG. 565.

**PROBES**

See also **LINES—Slotted**

Admittance-Namco Corp., Farmingdale, N. Y.  
 American Electronic Labs., Inc., 121 N. 7th St., Phila-  
 delphia 6, Pa.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave.,  
 Mt. Vernon, N. Y. ADV. PG. 600.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield  
 Ave., Clifton, N. J.  
 Dunlap Electronics, 764 Ninth St., Des Moines, Iowa.  
 Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8,  
 Calif.  
**ELECTRONICS, INC.**, 39 York Rd.; Willow Grove, Pa.  
 ADV. PG. 286.  
 Electronic Instrument Co., Inc., 84 Withers St., Brook-  
 lyn 11, N. Y.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place,  
 Woodside 77, N. Y. ADV. PG. 195-198.  
 Futuramic Co., 915 S. Broadway, Park Ridge, Ill.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasa-  
 dena 1, Calif. ADV. PG. 344.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton  
 Harbor 14, Mich. ADV. PG. 575.  
 Jackson Electrical Instrument Co., 16 S. Patterson Blvd.,  
 Dayton 2, Ohio.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia  
 44, Pa.  
 Kelvin & Hughes Ltd., New North Rd., Barksides,  
 Essex, England.  
**KEYSTONE ELECTRONICS CORP.**, 423 Broome St., New  
 York 13, N. Y. ADV. PG. 675.  
**LAVOTE LABORATORIES, INC.**, Morganville, N. J. ADV.  
 PG. 485.

Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
**PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.**  
 Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Scala Radio Co., 2814 19th St., San Francisco 10, Calif.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
**TRANSITRON, INC., 186 Granite St., Manchester, N. H. ADV. PG. 326.**  
**U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.**  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J.

### PROBES—High Frequency

Admittance-Namco Corp., Farmingdale, N. Y.  
**COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.**  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.**  
**F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.**  
**GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.**  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
**HEATH CO. A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.**  
 Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.**  
 Lee Electronics Labs., Inc., 88 Evans St., Watertown, Mass.  
 Metronix, Inc., Mill Lane, Waterford, Conn.  
 Millivac Instrument Corp., 2315 Second Ave., Garman, P. O. Box 997, Schenectady, N. Y.  
 Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.**  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Scala Radio Co., 2814 19th St., San Francisco 10, Calif.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Specialty Engineering Div., Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
**U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.**

### PROBES—High Voltage

**BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.**  
**COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.**  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
**ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.**  
**HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.**  
**HEWLETT-PACKARD CO., 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.**  
 Javex, P. O. Box 646, Redlands, Calif.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
**KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.**  
**LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.**  
 Lee Electronics Labs., Inc., 88 Evans St., Watertown, Mass.  
 Peerless Products Industries, 812 N. Pulaski St., Chicago 51, Ill.  
 Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.

**PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.**  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.**  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.**  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Scala Radio Co., 2814 19th St., San Francisco 10, Calif.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
**U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.**  
 Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa.

### PROBES—Microwave

See **MICROWAVE ACCESSORIES**

### PROJECTION TUBES

See **TUBES—Television Projection**

### PROTECTIVE SEALERS

See **INSULATING COMPOUNDS**

### PSYCHO GALVANOMETERS

Electro-Medical Lab., Inc., South Woodstock 8, Vt.  
 Grason-Stadler Co., West Concord, Mass.  
 Yellow Springs Instrument Co., Inc., P. O. Box 106, Yellow Springs, Ohio.

### PUBLIC ADDRESS SYSTEMS

See also **SOUND SYSTEMS—Complete**

Allied Radio Corp., 100 North Western Ave., Chicago 80, Ill.  
**ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.**  
 Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.  
 Bliss Electronic Corp., Box 366, Sussex, N. J.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
 Dukane Corp., St. Charles, Ill.  
**ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.**  
 Excucitone, Inc., 415 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Loge Sound Engineers, J. M., 2171 W. Washington Blvd., Los Angeles 18, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
 National Inter-Communication Systems, Inc., 1130 N. Milwaukee Ave., Chicago 22, Ill.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41, Ill.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.**  
 Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
 Standard Telephones & Cables Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Teletron Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 Webcor, Inc., Chicago, Ill.  
 Webster Electric Co., 1900 Clark St., Racine, Wis.

### PUMPS—Metering

Hardman Co., Inc., H. V., 571 Cortland St., Belleville 9, N. J.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV., 31 Gilbert St., LeRoy, N. Y. ADV. PG. 276, 277.**  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield 99, Ohio.  
 Robinson, Inc., Edward E., Machinery Div., 286 Preakness Ave., Paterson 2, N. J.

### PUMPS—Vacuum

See **VACUUM PUMPS**

### PUSHBUTTONS

ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
 Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza, S., Long Island City, N. Y.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.**  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.**  
 Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
**SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.**  
**U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.**  
**WARD LEONARD ELECTRIC CO., 31 South St., Mt. Vernon, N. Y. ADV. PG. 408.**  
**WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.**

### QUARTZ

See also **CRYSTALS**

### QUARTZ—Fused

Amersil Co., Inc., 685 Ramsey Ave., Hillside 5, N. J.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
**CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.**  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 Servo-Recording Instruments, Inc., 1815 W. Van Buren, Phoenix, Ariz.  
**SYNCRON PRODUCTS CO., 30 Eastern Ave., Malden, Mass. ADV. PG. 589.**  
 Thermal American Fused Quartz Co., Inc., 18-20 Salem St., Dover, N. J.  
**WESTERN GOLD & PLATINUM CO., 525 Harbor Blvd., Belmont, Calif. ADV. PG. 593.**

### RACKS—AGING—Vacuum Tube & Transistor

**BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.**  
**CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.**  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**FALSTROM CO., 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.**  
 Kahn & Co., 541 Windsor St., Hartford 1, Conn.  
 Research Electronics Laboratories, Roslyn, Pa.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**WALLSON ASSOCIATES, LTD., 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.**  
 Wright Equipment Co., 128 N. Main St., Milltown, N. J.

### RACKS—Mounting & Relay

A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.  
**ALDEN PRODUCTS CO., 112 N. Main St., Brockton, Mass. ADV. PG. 567.**  
**ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.**  
 Amco Engineering Co., 7335 Ainslie St., Chicago 31, Ill.  
 Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.  
 Art-Lloyd Metal Products Corp., 2973 Cropsey Ave., Brooklyn 14, N. Y.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
**BALTIC METAL PRODUCTS CO., 120 Sutton St., Brooklyn 22, N. Y. ADV. PG. 501.**  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
**CRAIG SYSTEMS, INC., Danvers, Mass. ADV. PG. 387.**  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Elgin Metalformers Corp., 630 Congdon Ave., Elgin, Ill.  
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.  
**FALSTROM CO., 44 Falstrom Court, Passaic, N. J. ADV. PG. 221.**  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**INSULINE CORP. OF AMERICA, 186 Granite St., Manchester, N. H. ADV. PG. 582.**  
 Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kan.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67E, Anderson, Ind.  
 Par-Metal Products Corp., 32-62 49th St., Long Island City 3, N. Y.  
 Peterson & Neville Inc., 365 Dorchester Ave., Boston, Mass.  
 Pneumafilm Corp., Charlotte, N. C.

**PREMIER METAL PRODUCTS CO.**, 337 Manida St., Bronx 59, N. Y. ADV. PG. 646.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**REF Manufacturing Corp.**, Jericho Turnpike, Mineola, N. Y.  
**Spivey, Inc.**, James S., 4908 Hampden Lane, Washington 14, D. C.  
**Stromberg-Carlson Co.**, Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
**Taffet Radio & Television Co.**, 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
**Topatron, Inc.**, 942 E. Ojai Ave., Ojai, Calif.  
**Walter Co., Inc.**, S., 1400 Atlantic Ave., Brooklyn 16, N. Y.  
**Wilcox Electric Co.**, 1400 Chestnut St., Kansas City, Mo.  
**Wyco Metal Products**, 6918 Beck Ave., North Hollywood, Calif.

**RADAR SYSTEMS**

**Admiral Corp.**, 3800 Cortland St., Chicago 47, Ill.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**Bendix Aviation Corp.**, Pacific Division, 11600 Sherman Way, North Hollywood, Calif.  
**Bendix Radio Division**, Bendix Aviation Corp., Baltimore 4, Md.  
**Bludworth Marine Div.**, Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
**Canadian Marconi Co.**, 2442 Trenton Ave., Montreal 16, Quebec.  
**Canoga Corp.**, 5955 Sepulveda Blvd., Van Nuys, Calif.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**Daimo Victor Co.**, Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.  
**Edo Corp.**, College Point, N. Y.  
**Electronics & Avionics Div.** of the Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo.  
**Farnsworth Electronics Co.**, Div. of IT&T, 3700 E. Pontiac St., Fort Wayne 1, Ind.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
**Federal Telecommunication Labs.**, A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
**FEDERAL TELEPHONE & RADIO CO.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**Gilfillan Bros., Inc.**, 1815 Venice Blvd., Los Angeles 6, Calif.  
**Hoffman Laboratories, Inc.**, 3761 S. Hill St., Los Angeles 7, Calif.  
**Intercontinental Electronics Corp.**, 1551 Franklin Ave., Mineola, N. Y.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**Kelvin & Hughes Ltd.**, New North Rd., Barkingside, Essex, England.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
**Mack Electronics A Div. of Mack Trucks, Inc.**, Plainfield, N. J.  
**Magnavox Co.**, The, 2131 Beuter Rd., Fort Wayne, Ind.  
**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.  
**Microwave Development Labs., Inc.**, 92 Broad St., Babson Park 57, Mass.  
**Moran Instrument Corp.**, 170 E. Orange Grove St., Pasadena 3, Calif.  
**Norden-Ketay Corp.**, 58 Commerce Rd., Stamford, Conn.  
**Otis Elevator Co.**, Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
**Pitometer Log Corp.**, 237 Lafayette St., New York 12, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO RECEPTOR CO.**, 240 Wythe Ave., Brooklyn 11, N. Y. ADV. PG. 68, 69.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
**Resdel Engineering Corp.**, 330 S. Fair Oaks Ave., Pasadena 1, Calif.  
**Sperry Gyroscope Co.**, Div. of Sperry Rand Corp., Great Neck, N. Y.  
**Telephonics Corp.**, Park Ave., Huntington, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**RADIOSONDES**

**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**Friez Instrument Division**, Bendix Aviation Corp., Baltimore 4, Md.  
**Magnavox Co.**, The, 2131 Beuter Rd., Fort Wayne, Ind.  
**Molded Insulation Co.**, 335 E. Price St., Philadelphia 44, Pa.  
**Sickles, F. W.**, Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

**RADOMES**

**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**Daimo Victor Co.**, Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.  
**DIAMOND ANTENNA & MICROWAVE CORP.**, 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
**Dura Plastics of New York, Inc.**, 303 Fifth Ave., New York 16, N. Y.  
**Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**Keller Products Co.**, 41 Union St., Manchester, N. H.  
**KENNEDY & CO.**, D. S., Cohasset, Mass. ADV. PG. 43.  
**Koch & Son, H.**, Corte Madera, Calif.  
**McMILLAN INDUSTRIAL CORP.**, Brownville Avenue Plant, Ipswich, Mass. ADV. PG. 573.  
**MYCALEX CORP. OF AMERICA**, 125 Clifton Blvd., Clifton, N. J. ADV. PG. 140, 141.  
**Mycalex Electronics Corp.**, 125 Clifton Blvd., Clifton, N. J.  
**Silicone Insulation, Inc.**, 1385 Seabury Ave., Bronx 61, N. Y.  
**Specialty Engineering Div.**, Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
**Topper Mfg. Co., Inc.**, 43 Roselle St., Mineola, N. Y.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
**U. S. Plywood Corp.**, Electrical Structures Dept., 55 W. 44th St., New York 17, N. Y.  
**Zenith Aircraft Div. of Zenith Plastics Co.**, P. O. Box 91, Gardena, Calif.

**RARE EARTHS**

**BAKER & ADAMSON PRODUCTS, GENERAL CHEMICAL DIV., ALLIED & CHEMICAL DYE CORP.**, 40 Rector St., New York 6, N. Y. ADV. PG. 363.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**Delta Chemical Works**, 21 W. 60th St., New York, N. Y.  
**Heavy Minerals Co.**, 261 Madison Ave., New York 16, N. Y.  
**Michigan Chemical Corp.**, St. Louis, Mich.  
**New Process Metals, Inc.**, 45-65 Manufacturers Place, Newark 5, N. J.  
**Nuclear Corp. of America, Inc.**, 350 Fifth Ave., New York 1, N. Y.  
**Rare Earths, Inc.**, Box 488, Pompton Plains, N. J.  
**Vitro Corp. of America**, 261 Madison Ave., New York 16, N. Y.

**RATIOMETERS**

See INSTRUMENTS—Electrical Measuring

**REACTORS—Saturable**

**ACME ELECTRIC CORP.**, 31 Walter St., Cuba, N. Y. ADV. PG. 378.  
**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**Aircraft Transformer Corp.**, 234 Creek Rd., Keansburg, N. J.  
**Airdesign, Inc.**, 241 Fairfield Ave., Upper Darby, Pa.  
**AIRPAK PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
**ARNOLD MAGNETICS CORP.**, 4613 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 553.  
**Atlas Coil, Inc.**, 63 Main St., Ansonia, Conn.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
**Basler Electric Co.**, 605 Fifth St., Highland, Ill.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**C. G. S. Laboratories, Inc.**, 391 Ludlow St., Stamford, Conn.  
**CALEDONIA ELECTRONICS & TRANSFORMER CO.**, Caledonia, N. Y. ADV. PG. 50.  
**California Magnetic Control Corp.**, 11922 Valerio St., North Hollywood, Calif.  
**Campbell Co., Inc.**, Colin, Westville Ave., Danbury, Conn.  
**Carol Electronics Corp.**, 315 W. Stephen St., Martinsburg, W. Va.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
**Central Transformer Co.**, 910 W. Jackson Blvd., Chicago, Ill.  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
**Clifton Mfg. Co., Inc.**, 20 N. Springfield Rd., Clifton Heights, Pa.  
**Coil Company of America, Inc.**, 207 Washington St., Northvale, N. J.  
**Coilcraft, Inc.**, Cary, Ill.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
**Cycle Transformer Corp.**, 354 Glenwood Ave., East Orange, N. J.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
**DEL ELECTRONICS CORP.**, 521 Homestead Ave., Mt. Vernon, N. Y. ADV. PG. 678.

**DIETZ DESIGN MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
**Dinion Coil Co., Inc.**, Caledonia, N. Y.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
**ELECTRO ENGINEERING WORKS**, 403 Preda St., San Leandro, Calif. ADV. PG. 512.  
**Electro-Winders Co., Inc.**, 854 W. Front St., Covina, Calif.  
**ERA ELECTRIC CORP.**, 314 Valley Brook Ave., Lyndhurst, N. J. ADV. PG. 665.  
**Fairfield Engineering Corp.**, 934 Hope St., Springfield, Conn.  
**Fidelity Instrument Corp.**, 1000 E. Boundary Ave., York, Pa.  
**Foster Transformer Co.**, 3829 Colerain Ave., Cincinnati 23, Ohio.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL MAGNETICS, INC.**, 135 Bloomfield Ave., Bloomfield, N. J. ADV. PG. 426.  
**Goslin Electric & Mfg. Co.**, 2921 W. Olive St., Burbank, Calif.  
**Gramer-Halldorson Transformer Corp.**, 2734 N. Pulaski Rd., Chicago 39, Ill.  
**Green Rectifier Co.**, 1-10 Thirtieth St., Fair Lawn, N. J.  
**Hadley Co., Inc.**, Robert M., 5112 S. Hoover St., Los Angeles 37, Calif.  
**HERMETIC SEAL TRANSFORMER CO.**, 555 N. 5th St., Garland, Texas. ADV. PG. 410.  
**Hevi Duty Electric Co.**, Milwaukee 1, Wis.  
**Hindle Transformer Co., Inc.**, Woods Church Rd., Flemington, N. J.  
**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. ADV. PG. 454, 455.  
**Kenyon Transformer Co., Inc.**, 840 Barry St., New York 59, N. Y.  
**Keystone Products Co.**, 904-6 23rd St., Union City, N. J.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
**Langevin Mfg. Corp.**, 47-37 Austell Place, Long Island City 1, N. Y.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
**Lee Electric & Mfg. Co.**, 2806 Clearwater St., Los Angeles 39, Calif.  
**Lindberg Engineering Co.**, 2450 W. Hubbard St., Chicago, Ill.  
**Mag-Electric Products, Inc.**, 12822 Yukon Ave., Hawthorne, Calif.  
**Magnadyne Co.**, 84 S. Water St., Port Chester, N. Y.  
**MAGNETIC AMPLIFIERS, INC.**, 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
**Magnetic Windings Div.**, Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa.  
**MAGNETICS, INC.**, P. O. Box 393, Butler, Pa. ADV. PG. 161-163.  
**Metronics**, 1372-74 E. Walnut St., Pasadena, Calif.  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
**Mid-West Coil & Transformer Co.**, 1642 N. Halstead St., Chicago 14, Ill.  
**Milwaukee Transformer Co.**, 5231 N. Hopkins St., Milwaukee 9, Wis.  
**Modern Industries, Inc.**, 2601 Colorado Ave., Santa Monica, Calif.  
**NJE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
**NYT Electronics, Inc.**, 2979 N. Ontario St., Burbank, Calif.  
**National Aircraft Corp.**, 3411 Tulare St., Burbank, Calif.  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676.  
**New York Transformer Co., Inc.**, Third Ave., Alpha, N. J.  
**Nothelfer Winding Labs., Inc.**, P. O. Box 455, Trenton, N. J.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
**Osborne Electric Co.**, 712 S.E. Hawthorne, Portland 14, Ore.  
**Peerless Electrical Div. of Altec Lansing Corp.**, 1515 S. Manchester Ave., Anaheim, Calif.  
**POLYPHASE INSTRUMENT CORP.**, East Fourth St., Bridgeport, Pa. ADV. PG. 697.  
**Potter Instrument Co., Inc.**, 115 Cutter Mill Rd., Great Neck, N. Y.  
**PULSE ENGINEERING, INC.**, 2657 Spring St., Redwood City, Calif. ADV. PG. 607.  
**Quotronic Transformer Corp.**, 525 Broadway, New York 12, N. Y.  
**Radionic Transformer Co.**, 411 S. Sangamon St., Chicago 7, Ill.  
**Ransom Research**, Box 382, San Pedro, Calif.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
**Richmond Engineering Co., Inc.**, 19 Concord St., South Norwalk, Conn.  
**Sage-Craft, Inc.**, Norwich, N. Y.  
**Sangamo Electric Co.**, 1201 N. 11th St., Springfield, Ill.  
**Sciaky Bros., Inc.**, 4915 W. 67th St., Chicago 38, Ill.  
**SIGNAL TRANSFORMER CO.**, 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667.  
**Sorgel Electric Co.**, 838 W. National Ave., Milwaukee 4, Wis.

Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
**STERLING TRANSFORMER CORP.**, 297 N. Seventh St., Brooklyn 11, N. Y. ADV. PG. 644.  
**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
 Thordanson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y.  
 Torocoil Co., 2615 Bristol Rd., Columbus 21, Ohio.  
**TOROTEL, INC.**, 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539.  
**TORWICO ELECTRONICS, INC.**, 1090 Morris Ave., Union, N. J. ADV. PG. 405.  
 Transformer-Specialty Co., Inc., Bala-Cynwyd, Pa.  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
 Trenton Transformer Corp., Box 568B, Trenton, N. J.  
 Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
**VARI-L CO., INC.**, P. O. Box 1433, Stamford, Conn. ADV. PG. 608.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
**VIBRATION RESEARCH LABS., INC.**, 97 Lake Ave., Tuckahoe, N. Y. ADV. PG. 621.  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

### RECEIVERS—Aircraft

Aeronautical Communications Equipment, Inc., S. W. 37th Ave., Miami 33, Fla.  
 Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Bendix Radio Div., Bendix Aviation Corp., Baltimore 4, Md.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
**FEDERAL TELEPHONE & RADIO CO.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Mitchell Industries, Inc., P. O. Box 17, Mineral Wells, Texas.  
 National Aeronautical Corp., Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.  
 Navigation Electronics Corp., 11616 Hart St., North Hollywood, Calif.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Radio Apparatus Corp., 55 N. New Jersey St., Indianapolis 3, Ind.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 Summers Gyroscope Co., 2328 Broadway, Santa Monica, Calif.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

### RECEIVERS—a-m Fixed Frequency

Aerolab Development Co., 330 W. Holly St., Pasadena, Calif.  
 Aeronautical Communications Equipment, Inc., S. W. 37th Ave., Miami 33, Fla.  
 Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.  
 Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Ill.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Gonset Co., 801 S. Main St., Burbank, Calif.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
 Gyro Electronics Co., 325 Canal St., New York, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
**LEL, INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Marconi's Wireless Telegraph Co., Ltd., 23/35 Beaver St., New York 4, N. Y.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.  
 Multi-Products Co., 21470 Coolidge Highway, Oak Park, Mich.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Radio Apparatus Corp., 55 N. New Jersey St., Indianapolis 3, Ind.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

### RECEIVERS—a-m/f-m Communication

Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.  
 Avionex Electronics Corp., 19855 Vanowen, North Hollywood, Calif.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.  
 Denson Electronics Corp., Ellington, Conn.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
 Fisher Radio Corp., 21-21 Forty Fourth Drive, Long Island City 1, N. Y.  
 Gonset Co., 801 S. Main St., Burbank, Calif.  
 Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
**HAMMARLUND MFG. CO., INC.**, 460 W. 34th St., New York 1, N. Y. ADV. PG. 265.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
 I.D.E.A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind.  
 Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.

Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
**MARCONI INSTRUMENTS**, 44 New York St., New York 4, N. Y. ADV. PG. 550.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.  
 Nems-Clarke, Inc., Silver Spring, Md.  
 Neutronics Research Co., 165 Lake St., Waltham, Mass.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Radio Apparatus Corp., 55 N. New Jersey St., Indianapolis 3, Ind.  
 Radio Mfg. Engineers, Inc., 501 Walnut St., Washington, Ill.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

### RECEIVERS—Automatic Radio Alarm

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Mobil Electronics Mfg. Co., 1111 State Rd., 67E, Anderson, Ind.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

### RECEIVERS—Automobile

Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Delco Radio Division, GM Corp., 700 E. Firmin St., Kokomo, Ind.  
 Eckstein Radio & Television Co., 2601 E. Franklin Ave., Minneapolis 6, Minn.  
 Gonset Co., 801 S. Main St., Burbank, Calif.  
 Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago 51, Ill.  
 Philco Corp., C & Tioga Sts., Philadelphia 34, Pa.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.

### RECEIVERS—Coin Operated

Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
 Coradio, Inc., 196 Albion Ave., Paterson, N. J.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.

### RECEIVERS—Communication and Amateur

Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.

- Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Ill.
- Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
- Crosby Labs., Inc., Box 233, Robbins Lane, Hicksville, N. Y.
- Electro Voice Mfg. Co., Inc., Buchanan, Mich.
- General Electric Co., Communications Products Dept., Electronics Park, Syracuse, N. Y.
- Gonset Co., 801 S. Main St., Burbank, Calif.
- Hallcrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.
- HAMMARLUND MFG. CO., INC., 460 W. 34th St., New York 1, N. Y. ADV. PG. 265.
- Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.
- HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.
- Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7, Calif.
- Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.
- I. D. E. A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind.
- Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
- International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.
- Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
- Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.
- Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.
- MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.
- Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.
- Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.
- Multi-Products Co., 21470 Coolidge Highway, Oak Park 37, Mich.
- National Co., Inc., 61 Sherman St., Malden 48, Mass.
- NORTHERN RADIO CO., INC.**, 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.
- Radio Apparatus Corp., 55 N. New Jersey St., Indianapolis 3, Ind.
- Radio Mfg. Engineers, Inc., 501 Walnut St., Washington, Ill.
- Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.
- SPECIFIC PRODUCTS**, 14515 Dickens St., Sherman Oaks 13, Calif. ADV. PG. 500.
- Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.
- Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.
- Technical Material Corp., P. O. Box 142, Mamaroneck, N. Y.
- Westrex Corp., 111 Eighth Ave., New York 11, N. Y.
- Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.
- Wunderlich Radio Co., 2 Fifth Ave., York 11, N. Y.
- Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md.
- Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.
- BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.
- Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.
- Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.
- Collins Radio Co., Cedar Rapids, Iowa.
- Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.
- Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Ill.
- Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
- Dollar Co., Robert, Communications Equipment Div., 50 Drumm St., San Francisco 11, Calif.
- DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.
- Erco Labs., Inc., 637 Stewart Ave., Garden City, N. Y.
- Gonset Co., 801 S. Main St., Burbank, Calif.
- Gyro Electronics Co., 325 Canal St., New York, N. Y.
- Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.
- I.D.E.A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind.
- Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.
- Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
- Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
- Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.
- LEL, INC., 380 Oak St., Copiaque, N. Y. ADV. PG. 666.
- Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.
- Mack Electronics, A Div. of Mack Trucks, Inc., Plainfield, N. J.
- Motorola Communications and Electronics Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.
- National Co., Inc., 61 Sherman St., Malden 48, Mass.
- Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.
- RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.
- Radio Apparatus Corp., 55 N. New Jersey St., Indianapolis 3, Ind.
- Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena 1, Calif.
- Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.
- Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.
- Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.
- Shasta Div., Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.
- Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.
- Technical Material Corp., The, P. O. Box 142, Mamaroneck, N. Y.
- Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.
- Teleton Co., The, Bldg. #9, Broward County International Airport, Fort Lauderdale, Fla.
- Telephonics Corp., Park Ave., Huntington, N. Y.
- Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.
- Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.
- VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.
- West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.
- Westrex Corp., 111 Eighth Ave., New York 11, N. Y.
- Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.
- Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.
- Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
- LEL, INC., 380 Oak St., Copiaque, N. Y. ADV. PG. 666.
- Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.
- Mack Electronics, A Div. of Mack Trucks, Inc., Plainfield, N. J.
- Motorola Communications and Electronics Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.
- National Co., Inc., 61 Sherman St., Malden 48, Mass.
- Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.
- RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.
- Radio Apparatus Corp., 55 N. New Jersey St., Indianapolis 3, Ind.
- Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena 1, Calif.
- Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.
- Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.
- Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.
- Shasta Div., Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.
- Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.
- Technical Material Corp., The, P. O. Box 142, Mamaroneck, N. Y.
- Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.
- Teleton Co., The, Bldg. #9, Broward County International Airport, Fort Lauderdale, Fla.
- Telephonics Corp., Park Ave., Huntington, N. Y.
- Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.
- Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.
- RECEIVERS—f-m Multiplex**
- BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.
- Denson Electronics Corp., Ellington, Conn.
- Miller Electronics, 2840 Naomi St., Burbank, Calif.
- National Electronics Laboratories, Inc., 1713 Kalorama Rd., N.W., Washington 9, D. C.
- Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.
- RADIO ENGINEERING LABS., INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.
- Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.
- Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.
- TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.
- Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.
- RECEIVERS—Loran**
- FEDERAL TELEPHONE & RADIO CO.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.
- Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.
- Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.
- INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.
- POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.
- Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.
- RECEIVERS—Marine**
- Airborne Electronics Co., 6813 Troost Ave., North Hollywood, Calif.
- Applied Electronics Co., Inc., 213 E. Grand Ave., South San Francisco, Calif.
- Aviortex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.
- Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.
- Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.
- Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.
- Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
- Fisher Radio Corp., 21-21 Forty Fourth Drive, Long Island City 1, N. Y.
- Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
- Hudson American Corp., 25 W. 43rd St., New York 36, N. Y.
- Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.
- RECEIVERS—Fixed Frequency**
- Aeronautical Communications Equipment, Inc., S. W. 37th Ave., Miami 33, Fla.
- Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.
- Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.
- Avlonex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.
- Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.
- Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.
- Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.
- Avlonex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.
- Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.
- Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.
- Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.
- Avlonex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.
- Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.

International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Navigation Electronics Corp., 11616 Hart St., North Hollywood, Calif.  
 Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Pearce-Simpson, Inc., 3023 Coral Way, Miami 34, Fla.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Sonar Radio Corp., 3050 W. 21st St., Brooklyn 24, N. Y.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.

### RECEIVERS—Microwave

See MICROWAVE ACCESSORIES

### RECEIVERS—Panoramic

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 C. G. S. Laboratories, Inc., 391 Ludlow St., Stamford, Conn.  
 Nems-Clarke, Inc., Silver Spring, Md.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 South Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
**VECTRON, INC.**, 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.

### RECEIVERS—Portable & Mobile

Andrea Radio Corp., 27-01 Bridge Plaza N., Long Island City 1, N. Y.  
 Applied Electronics Co., Inc., 213 E. Grand Ave., South San Francisco, Calif.  
 Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.  
 Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Ill.  
**CRAIG SYSTEMS, INC.**, Danvers, Mass. ADV. PG. 387.  
 Dollar Co., Robert, Communications Equipment Div., 50 Drumm St., San Francisco 11, Calif.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
 Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
 Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7, Calif.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.  
 Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago 51, Ill.  
 Multi-Products Co., 21470 Coolidge Hwy., Oak Park, Mich.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.

Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

### RECEIVERS—Radio Direction Finder

Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
 Applied Electronics Co., Inc., 213 E. Grand Ave., South San Francisco, Calif.  
 Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Fisher Radio Corp., 21-21 Forty Fourth Drive, Long Island City 1, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.  
 Navigation Electronics Corp., 11616 Hart St., North Hollywood, Calif.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733, 739.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

### RECEIVERS—Railroad

Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Motorola Communications & Electronics Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

### RECEIVERS—Single Side Band

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
**CLEGG LABORATORIES, DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.  
 Crosby Labs., Inc., Box 233, Robbins Lane, Hicksville, N. Y.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Gonset Co., 801 S. Main St., Burbank, Calif.  
 Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
**HAMMARLUND MFG. CO., INC.**, 460 W. 34th St., New York 1, N. Y. ADV. PG. 265.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Kahn Research Labs, Elizabeth Bldg., 22 Pine St., Freeport, N. Y.  
 Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.

Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 McLaughlin Corp., J. L. A., P. O. Box 529, La Jolla, Calif.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Nems-Clarke, Inc., Silver Springs, Md.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Sorensen Industrial Electronic Co., Route 10, Dover, N. J.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

### RECEIVERS—Transistor Operated

Audivox, Inc., 123 Worcester St., Boston 18, Mass.  
 Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Dollar Co., Robert, Communications Equipment Div., 50 Drumm St., San Francisco 11, Calif.  
 Gardiner Electronics, 2545 E. Indian School Rd., Phoenix, Ariz.  
 Gyro Electronics Co., 325 Canal St., New York, N. Y.  
 I. D. E. A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind.  
 Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
**LEL, INC.**, 380 Oak St., Copiague, N. Y. ADV. PG. 666.  
 Philmore Mfg. Co., Inc., 113 University Place, New York 3, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

### RECEIVERS—uhf

Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**AIRBORNE INSTRUMENTS LABS., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.  
 Babcock Radio Engineering Co., P. O. Box 3097, Van Nuys, Calif.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Engineering Associates, 434 Patterson Rd., Dayton 9, Ohio.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Gonset Co., 801 S. Main St., Burbank, Calif.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
**K-F DEVELOPMENT CO.**, 2606 Spring St., Redwood City, Calif. ADV. PG. 510.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.

Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 Motorola Communications & Electronics Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
 Nems-Clarke, Inc., Silver Spring, Md.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
**RADIO ENGINEERING LABORATORIES, INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Setchell Carlson, Inc., 330 Fifth Ave., New Brighton, Minn.  
 Standard Telephones & Cables Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**RECEIVERS—vhf**

Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**AIRBORNE INSTRUMENTS LABS., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
 Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.  
 Babcock Radio Engineering Co., P. O. Box 3097, Van Nuys, Calif.  
 Bendix Radio Div., Bendix Aviation Corp., Baltimore 4, Md.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. ADV. PG. 614.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
**COOK & CO., FRANK R.**, 36 S. Santa Fe Drive, Denver 23, Colo. ADV. PG. 480.  
 DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Eberline Instrument Div., P. O. Box 279, Santa Fe, N. M.  
 Engineering Associates, 434 Patterson Rd., Dayton 9, Ohio.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 General Electric Co., Communications Products Dept., Electronics Park, Syracuse, N. Y.  
 Gosnet Co., 801 S. Main St., Burbank, Calif.  
**HAMMARLUND MFG. CO., INC.**, 460 W. 34th St., New York 1, N. Y. ADV. PG. 265.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Mohawk Electronic Research Labs., Inc., Box 126-A, RD 4, Amsterdam, N. Y.  
 Motorola Communications & Electronics Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
 National Aeronautical Corp., Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.  
 National Electronics Laboratories, Inc., 1713 Kalorama Rd., N. W., Washington 9, D. C.  
 Nems-Clarke, Inc., Silver Spring, Md.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Radio Apparatus Corp., 55 N. New Jersey St., Indianapolis 3, Ind.  
**RADIO ENGINEERING LABORATORIES, INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.

Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Seely Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Setchell Carlson, Inc., 330 Fifth Ave., New Brighton, Minn.  
 Spivey Inc., James S., 4908 Hampden Lane, Washington 4, D. C.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Teletron Co., The Bldg. #9, Broward County International Airport, Fort Lauderdale, Fla.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**RECEIVERS—Home**

1. a-m Clock Radio
2. a-m phono Console
3. a-m phono Table
4. a-m Console
5. a-m Portable
6. a-m Table
7. a-m Vest Pocket
8. a-m/f-m phono, Console
9. a-m/f-m phono, Table
10. a-m/f-m Console
11. a-m/f-m Portable
12. a-m/f-m Table
13. f-m Console
14. f-m Portable
15. f-m Table
16. t-v Console
17. t-v Portable
18. t-v Table
19. f-m/t-v Console
20. a-m/f-m/t-v Console
21. a-m/f-m/t-v Table
22. a-m/f-m/t-v phono, Console
23. Recorder and Phonograph Combination
24. Built-in Wall Type

Admiral Corp., 3800 Cortland St., Chicago 47, Ill. 1-3-5-6-7-8-12-16-17-18.  
 American-Elite, Inc., (Telefunken), 7 Park Ave., New York 16, N. Y. 8-9-10-11-12.  
**AMERICAN TELEVISION & RADIO CO.**, 300 E. 4th St., St. Paul 1, Minn. 16. ADV. P. 222.  
 Andrea Radio Corp., 27-01 Bridge Plaza N., Long Island City 1, N. Y. 8-16-18-22.  
 Ansley Mfg. Co., Arthur, Doylestown, Pa. 8-12.  
 Arvin Industries, Inc., Radio & Television Div., Columbus, Ind. 1-5-6-7-12.  
 Audio Industries, Inc., Michigan City, Ind. 2-3-8.  
 Audivox, Inc., 123 Worcester St., Boston 18, Mass. 7.  
 Automatic Radio Mfg. Co., Inc., 122 Brooklyn Ave., Boston, Mass. 1-3-5-6-7.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J. 10-24.  
**BROWNING LABORATORIES, INC.**, Main St., Winchester, Mass. 15-24. ADV. PG. 614.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif. 2-3-4-6-8-12-15-16-18.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec. 1-2-3-4-5-6-16-17-18.  
 Conrac, Inc., Glendora, Calif. 24.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J. 1.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J. 1-2-3-4-5-6-8-9-10-12-16-17-18-19-20-21-22.  
 Eckstein Radio & Television Co., 2601 E. Franklin Ave., Minneapolis 6, Minn. 1-6.  
 Emerson Radio & Phonograph Corp., 14th & Coles Sts., Jersey City, N. J. 1-5-6-16-17-18.  
 Fada Radio & Electric Co., Inc., 525 Main St., Belleville, N. J. 1-2-3-4-5-6-8-12-16-18-20-22.  
 Fisher Radio Corp., 21-21 Forty Fourth Drive, Long Island City 1, N. Y. 8-23.  
 Flush Wall Radio Co., 1012 Cleveland St., Clearwater, Fla. 24.  
 Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill. 1-5-6-7-16-18.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. 6. ADV. PG. 575.  
 Hoffman Radio Div. of Hoffman Electronics Corp., 6200 S. Avalon Blvd., Los Angeles, Calif. 5-8-16-17-18.  
 I. D. E. A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind. 5-6-7.  
 Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J. 16-18.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y. 5.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif. 5-7.  
**INTERSEARCH, INC.**, 7 Arcadia Place, Cincinnati 8, Ohio. 5. ADV. P. 480.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa. 2-6.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. 18-23. ADV. PG. 358.

**LEL, INC.**, 380 Oak St., Copiague, N. Y. 7. ADV. PG. 666.  
 M. P. Engineering Co., Fairfield 3, Conn. 8-16-18-22-23-24.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind. 1-2-3-4-5-6-7-8-9-10-11-12-13-15-16-17-18-19-20-21-22-23-24.  
 Miller Electronics, 2840 Naomi St., Burbank, Calif., 24.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa. 5-6.  
 Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif. 6-12.  
 Olympic Radio & Television Co., 34-01 38th Ave., Long Island City, N. Y. 1-2-3-4-5-6-7-8-9-10-12-16-17-18-22-23.  
 Philco Corp., C & Tioga Sts., Philadelphia 34, Pa. 1-2-3-5-6-8-12-16-18-22.  
 Philco Corp., Government & Industrial Div., 4700 Wisahickon Ave., Philadelphia 44, Pa. 1-2-3-5-6-7-9-11-12-15-16-17-18-19-20.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y. 9.  
 Precision Radiation Instruments, Inc., 4223 W. Jefferson Blvd., Los Angeles 16, Calif. 8-12.  
 Prescott Television Co., 7352 Beverly Blvd., Los Angeles 36, Calif. 16-18-22.  
 Radio Corp. of America, Consumer Products Div., Camden 8, N. J. 1-2-3-4-5-6-8-9-10-12-16-17-18-23.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. 1-2-3-5-6-7-8-12-16-17-18-23. ADV. PG. 453 Third & Fourth Covers.  
 Raytheon Mfg. Co., Television & Radio Div., 5921 W. Dickens Ave., Chicago 39, Ill. 1-16-18.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn. 24.  
 Setchell Carlson, Inc., 330 Fifth Ave., New Brighton, Minn. 16-17-18.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y. 12-24.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y. 2-8-10-24.  
 Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y. 7.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. 1-2-3-5-6-16-17-18. ADV. PG. 733-739.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y. 5-6-24.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y. 12-15.  
 Tequip Radio Co., 2559 W. 21st St., Chicago 8, Ill. 6-16-17-18.  
 Teletron Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif. 6-9-15.  
 Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y. 7.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif. 1-2-3-4-6-8-9-10-12-13-15.  
 Webcor, Inc., Chicago, Ill. 2-3-8-9.  
 Weingarten Electronic Labs., Inc., 7556 Milrose Ave., Los Angeles 46, Calif. 8-24.  
 Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago 39, Ill. 1-2-6-8-12-16-17-18.  
 Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Ill. 1-2-3-5-6-7-8-12-16-17-18.

**RECEIVING EQUIPMENT—vhf Omni-Range**

Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
 Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**HAMMARLUND MFG. CO.**, 460 W. 34th St., New York 1, N. Y. ADV. PG. 265.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

**RECORDERS—Blood Pressure, Electronic**

**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
 Hathaway Instrument Div., Hamilton Watch Co., 5800 E. Jewell Ave., Denver 22, Colo.  
 Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Photron Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
 Videon Electronic Corp., 902 E. Michigan St., Indianapolis 2, Ind.

## RECORDERS—Density

See RECORDERS—Specific Gravity

## RECORDERS—Depth

ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO., Box 125, Westboro, Mass. ADV. PG. 566.  
Bendix Aviation Corp., Pacific Division, 11600 Sherman Way, North Hollywood, Calif.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Hathaway Instrument Div., Hamilton Watch Co., 5800 E. Jewell Ave., Denver 22, Colo.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
TIMES FACSIMILE CORP., 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## RECORDERS—Disc

Allied Recording Products Co., 32-32 Greenpoint Ave., Long Island City 1, N. Y.  
EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV., 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
General Industries Co., Taylor & Olive Sts., Elyria, Ohio.  
Gotham Audio Development Corp., 2 W. 46th St., New York 36, N. Y.  
Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
Rek-o-Kut Co., Inc., 38-01 Queens Blvd., Long Island City 1, N. Y.  
Scully Machine Co., 62 Walter St., Bridgeport, Conn.  
SoundScriber Corp., Middletown Ave., North Haven, Conn.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

## RECORDERS—Drum, Magnetic

Aljac Corp., 13041 S. Cerise Ave., Hawthorne, Calif.  
BJ ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
Cinema-Television, Ltd., Worsley Bridge Rd., London S. E. 26, England.  
COMPUTER CONTROL CO., INC., 92 Broad St., Babson Park 57, Mass. ADV. PG. 584.  
EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV., 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
FERRANTI ELECTRIC, INC., 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
General Transistor Western Corp., 6110 Venice Blvd., Los Angeles 34, Calif.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
Modac Div. of Airborne Instruments Laboratory, 864 Franklin Ave., Thornwood, N. Y.  
SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.

## RECORDERS—Electronic Rotary Stylus

AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Scientific Associates, Inc., 2162 Piedmont Rd., N. E., Atlanta 9, Ga.  
TEXAS INSTRUMENTS INCORPORATED, 6000 Lemon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

## RECORDERS—Electronic Self-Balancing Recorders and Indicators

ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO., Box 125, Westboro, Mass. ADV. PG. 566.  
Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Electro Instruments, Inc., 3794 Rosecrans, San Diego 10, Calif.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Foxboro Co., The, Foxboro, Mass.  
Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
LIBRASCOPE, INC., 808 Western Ave., Glendale, Calif. ADV. PG. 183.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.

Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
Scientific Associates, Inc., 2162 Piedmont Rd., N. E., Atlanta 9, Ga.  
Streeter-Amet Co., Grayslake, Ill.  
West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
WESTRONICS, INC., 3605 McCart St., Fort Worth, Texas. ADV. PG. 554.

## RECORDERS—Facsimile

Acme Telectronix Div. of NEA Service, Inc., West Third & Lakeside, Cleveland 13, Ohio.  
ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO., Box 125, Westboro, Mass. ADV. PG. 566.  
Alden Systems, Inc., Alden Research Center, Westboro, Mass.  
Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
Haller, Raymond & Brown, Inc., State College, Pa.  
Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
TIMES FACSIMILE CORP., 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.

## RECORDERS—Film

Acme Telectronix Div. of NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
Beckman & Whitley, Inc., 913 San Carlos Ave., San Carlos, Calif.  
Benson-Lenner Corp., 11930 W. Olympic Blvd., Los Angeles 64, Calif.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., DEPT. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Berndt-Bach, Inc., Auricon Div., 6924 Romaine St., Hollywood 38, Calif.  
Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
ELECTROMATION CO., 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
General Precision Laboratory, Inc., 63 Bedford Rd., Pleasantville, N. Y.  
Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
Laboratoire Industriel de Physique Appliquee, 67 Rue M. A.-Columbier, Bagnolet (Seine) France.  
Magnasync Manufacturing Co., Ltd., 5546 Satsuma Ave., P. O. Box 707, North Hollywood, Calif.  
Maurer, Inc., J. A., 37-01 31st St., Long Island City 1, N. Y.  
Miles Reproducer Co., Inc., 812 Broadway, New York 13, N. Y.  
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

## RECORDERS—Film Thickness

Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., DEPT. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Foxboro Co., The, Foxboro, Mass.  
Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.

## RECORDERS—Fluid Conductivity, Electronic

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., DEPT. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Foxboro Co., The, Foxboro, Mass.  
Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Nuclear Research Corp., Southampton, Pa.

## RECORDERS—Fluid Flow, Electronic

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.

BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., DEPT. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
COMPUTER-MEASUREMENT CORP., 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
Foxboro Co., The, Foxboro, Mass.  
Leupold & Stevens Instruments, Inc., P. O. Box 5082, Portland 13, Ore.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
POTTER AERONAUTICAL CORP., Route #22, Union, N. J. ADV. PG. 372, 373.  
WAUGH ENGINEERING CO., 7842 Burnett Ave., Van Nuys, Calif. ADV. PG. 663.

## RECORDERS—Frequency

See INSTRUMENTS—Electrical Measuring

## RECORDERS—Humidity, Electronic

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV. PG. 430.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., DEPT. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Foxboro Co., The, Foxboro, Mass.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
Serdex, Inc., 91 Cambridge St., Boston, Mass.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## RECORDERS—Intermittent

BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., DEPT. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.  
Magne-Pulse Corp., 247 Crooks Ave., Clifton, N. J.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

## RECORDERS—Liquid Level, Electronic

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., DEPT. G-12, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
Foxboro Co., The, Foxboro, Mass.  
Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
Leupold & Stevens Instruments, Inc., P. O. Box 5082, Portland 13, Ore.  
Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
Nuclear Research Corp., Southampton, Pa.  
Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
Radioactive Products, Inc., 2421 Wolcott, Ferndale, Mich.  
Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.

## RECORDERS—Magnetic

See RECORDERS—Tape

## RECORDERS—Materials Thickness, Electronic

Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., DEPT. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Foxboro Co., The, Foxboro, Mass.  
Nuclear Research Corp., Southampton, Pa.



Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.

**RECORDERS—Mechanical**

Amthor Testing Instrument Co., 45-53 Van Sinderen Ave., Brooklyn 7, N. Y.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
California Computer Products, 3927 W. Jefferson Blvd., Los Angeles 16, Calif.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Highland Engineering, 1732 Berkeley, Santa Monica, Calif.  
Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
Leupold & Stevens Instruments, Inc., P.O. Box 5082, Portland 13, Ore.  
North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**RECORDERS—Micro-Micro-Amp.**

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Millvac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.

**RECORDERS—Millivolt**

**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG., Waterbury 20, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 15 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
Millvac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
**WESTRONICS, INC.**, 3605 McCart St., Fort Worth, Texas. ADV. PG. 554.

**RECORDERS—Moisture, Electronic**

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Foxboro Co., The, Foxboro, Mass.  
Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
Weston Electrical Instrument Corp., sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**RECORDERS—Oscillographic**  
See **OSCILLOGRAPHS**

**RECORDERS—Oxygen**

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
Beckman Inc., Arnold O., 1020 Mission St., South Pasadena, Calif.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Scientific Instruments Service Co., 44 Bromfield St., Boston 8, Mass.

**RECORDERS—pH**

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.

**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Foxboro Co., The, Foxboro, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 15 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.

**RECORDERS—Potentiometer**

**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bruehl & Kjaer, Naerum, Denmark.  
Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Foxboro Co., The, Foxboro, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 15 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Ave., Philadelphia 44, Pa. ADV. PG. 447.  
New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
**VARIAN ASSOCIATES**, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
**WESTRONICS, INC.**, 3605 McCart St., Fort Worth, Texas. ADV. PG. 554.

**RECORDERS—Power Level**

See **INSTRUMENTS—Electrical Measuring**

**RECORDERS—Pressure, Electronic**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, Ohio.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Chesapeake Instrument Corp., Shadyside, Md.  
Consolidated Electrodynamic Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
Fischer & Porter Co., 476 Warminster Road, Hatboro, Pa.  
Foxboro Co., The, Foxboro, Mass.  
Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Ave., Philadelphia 44, Pa. ADV. PG. 447.  
North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
Photon Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**RECORDERS—Smoke and Combustion, Electronic**

Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, Ohio.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Combustion Control Div., Electronics Corp. of America, 77 Broadway, Cambridge 42, Mass.  
Ess Specialty Corp., 96 S. Washington Ave., Bergenfield 10, N. J.

Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
Standard Instrument Corp., 657 Broadway, New York 12, N. Y.

**RECORDERS—Sound Level**

Audio-Master Corp., 17 E. 45th St., New York 17, N. Y.  
Bruehl & Kjaer, Naerum, Denmark.  
Chesapeake Instrument Corp., Shadyside, Md.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
Miles Reproducer Co., Inc., 812 Broadway, New York 13, N. Y.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
**SOUND APPARATUS CO.**, Stirling, N. J. ADV. PG. 20.  
Technical Products Co., Instrument Div., 6670 Lexington Ave., Los Angeles 38, Calif.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**RECORDERS—Sound and Phonograph**

Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.  
Telectro Industries Corp., 35-16 37 St., Long Island City 1, N. Y.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

**RECORDERS—Specific Gravity, Electronic**

Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.  
Foxboro Co., The, Foxboro, Mass.  
**GENERAL COMMUNICATION CO.**, 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
Niagara Electron Laboratories, Andover, N. Y.  
Nuclear Research Corp., Southampton, Pa.  
Philadelphia Scientific Glass Co., Quakertown, Pa.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.

**RECORDERS—Strain**

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
Austin Co., The, 76 Ninth Ave., New York 11, N. Y.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Consolidated Electrodynamic Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
Holland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
Photon Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas, Texas. ADV. PG. 280, 281.  
Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.

**RECORDERS—Tape**

**1. Cellophane Tape**  
**2. Magnetic Tape**

Allied Radio Corp., 100 N. Western Ave., Chicago 80, Ill. 2.  
Alwac Corp., 13041 S. Cerise Ave., Hawthorne, Calif. 2.  
American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
**AMPEX CORP.**, 934 Charter St., Redwood City, Calif. 2. ADV. PG. 285.

Amplifier Corp. of America, 396 Broadway, New York 13, N. Y. 2.  
Ampro Corp., 1345 Diversey Parkway, Chicago 14, Ill. 2.  
Associated Engineering & Mfg. Co., Glen Ridge, N. J. 1-2.  
Audio-Master Corp., 17 E. 45th St., New York 17, N. Y. 2.  
Audiomation Laboratories, 7230 Clinton Rd., Upper Darby 15, Pa. 2.  
Berlant Concertone-Audio Div. of American Electronics Inc., 655 W. Washington Blvd., Los Angeles 15, Calif. 2.  
Berndt-Bach, Inc., Auricon Div., 6924 Romaine St., Hollywood 38, Calif. 2.  
Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J. 2.  
Broadcast Equipment Specialties Corp., P. O. Box 149, Beacon, N. Y. 2.  
Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio. 2.  
Consolidated Electro Dynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif. 2.  
DAVIS LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., 10721 Hanna St., Beltsville, Md. 2. ADV. PG. 446.  
Daystrom Electric Corp., 807 Main St., Poughkeepsie, N. Y. 2.  
Dictaphone Corp., 420 Lexington Ave., New York 17, N. Y. 2.  
Dubrow Development Co., 235B Penn St., Burlington, N. J. 2.  
Dukane Corp., St. Charles, Ill. 1-2.  
Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn. 2.  
Electro Data Div. of Burroughs Corp., 460 Sierra Madre Villa, Pasadena 6, Calif. 2.  
ELECTROMATION CO., 1646 Eighteenth St., Santa Monica, Calif. 1-2. ADV. PG. 692.  
FEDERAL MFG. & ENGINEERING CORP., 1055 Stewart Ave., Garden City, N. Y. 2. ADV. PG. 594.  
Ferrodynamics Corp., Gregg & Route 17, Lodi, N. J. 2.  
General Kinetics Inc., 555 23rd St., S., Arlington 2, Va. 2.  
Gotham Audio Development Corp., 2 W. 46th St., New York 36, N. Y. 2.  
GULTON INDUSTRIES, INC., Metuchen, N. J. 2. ADV. PG. 425.  
International Radio & Electronics Corp., Elkhart, Ind. Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind. Magnecord, Inc., 1101 S. Kilbourn Ave., Chicago 24, Ill. Maico Co., Inc., 21 N. 3rd St., Minneapolis 13, Minn. 2. Midwestern Instruments, 41 & Sheridan Rd., Tulsa, Okla. 2.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn. 2.  
Modac Div. of Airborne Instruments Laboratory, 864 Franklin Ave., Thornwood, N. Y. 2.  
Mohawk Business Machines Corp., 944 Halsey St., Brooklyn 33, N. Y. 2.  
North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif. 2.  
Olympic Radio & Television Co., 34-01 38th Ave., Long Island City, N. Y. 2.  
Orradio Industries, Inc., Shamrock Circle, Opelika, Ala. 2.  
Peirce Wire Recorder Corp., 5900 Northwest Highway, Chicago 31, Ill. 2.  
Permo, Inc., 6415 Ravenswood Ave., Chicago 26, Ill. 2.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y. 2.  
Premier Electronic Laboratories, 382 Lafayette St., New York, N. Y. 2.  
Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass. 2.  
Presto Recording Corp., P. O. Box 500, Paramus, N. J. 2.  
Radio Corp. of America, Consumer Products Div., Camden 8, N. J. 1.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. 2. ADV. PG. 453, Third & Fourth Covers.  
Rangertone, Inc., 73 Winthrop St., Newark 4, N. J. 2.  
Revere Camera Co., 320 E. 21st St., Chicago 16, Ill. 2.  
Seeburg J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill. 2.  
Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y. 2.  
Sorensen Industrial Electronic Co., Route 10, Dover, N. J. SoundScriber Corp., Middletown Ave., North Haven, Conn. 2.  
SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. 2. ADV. PG. 294, 295.  
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif. 2.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y. 1-2.  
V-M Corp., Benton Harbor, Mich. 2.  
VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. 2. ADV. PG. 394.  
Webcor, Inc., Chicago, Ill. 2.  
Webster Electric Co., 1900 Clark St., Racine, Wis. 2.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y. 2.

## RECORDERS—Telemetering

See INSTRUMENTS—Electrical Measuring

## RECORDERS—Telephone Recording Equipment

Audio-Master Corp., 17 E. 45th St., New York 17, N. Y.

Dictaphone Corp., 420 Lexington Ave., New York 17, N. Y.  
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.  
Magnasync Mfg. Co., Ltd., 5546 Satsuma Ave., P. O. Box 707, North Hollywood, Calif.  
Magnecord, Inc., 1101 S. Kilbourn Ave., Chicago 24, Ill.  
Miles Reproducer Co., Inc., 812 Broadway, New York 3, N. Y.  
Mohawk Business Machines Corp., 944 Halsey St., Brooklyn 33, N. Y.  
North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
Peirce Wire Recorder Corp., 5900 Northwest Highway, Chicago 31, Ill.  
SoundScriber Corp., Middletown Ave., North Haven, Conn.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

## RECORDERS—Temperature, Electronic

Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, Ohio.  
BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV. PG. 430.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Foxboro Co., The, Foxboro, Mass.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 25, Ill.  
Philadelphia Scientific Glass Co., Quakertown, Pa.  
Serdex, Inc., 91 Cambridge St., Boston, Mass.  
West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
WESTRONICS, INC., 3605 McCart St., Fort Worth, Texas. ADV. PG. 554.

## RECORDERS—Timing

Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
AMELCO, Inc., 2040 Colorado Ave., Santa Monica, Calif.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Clary Corp., San Gabriel, Calif.  
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
Gaertner Scientific Corp., 1239 Wrightwood Ave., Chicago 14, Ill.  
HAYDON MFG. CO., INC., 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
Ingraham Co., E., Bristol, Conn.  
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.  
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Midwestern Instruments, 41 & Sheridan Rd., Tulsa, Okla.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Standard Instrument Corp., 657 Broadway, New York 12, N. Y.  
TIMES FACSIMILE CORP., 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

## RECORDERS—Torque, Electronic

Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
Highland Engineering, 1732 Berkeley, Santa Monica, Calif.

Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
Midwestern Instruments, 41 & Sheridan Rd., Tulsa, Okla.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.

## RECORDERS—Transient

BRUSH ELECTRONICS CO., 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
Magne-Pulse Corp., 247 Crooks Ave., Clifton, N. J.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Minneapolis-Honeywell Regulator Co., Industrial Div., Wayne & Windrim Aves., Philadelphia 44, Pa.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.

## RECORDERS—Vacuum

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
Foxboro Co., The, Foxboro, Mass.  
Hastings-Raydist, Inc., Hampton 9, Va.  
Kinney Mfg. Div. of The New York Air Brake Co., 3529 Washington St., Boston, Mass.  
Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
NRC EQUIPMENT CORP., 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
U. S. Gauge Div., American Machine & Metals, Inc., Sellersville, Pa.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

## RECORDERS—Weight, Electronic

Clary Corp., San Gabriel, Calif.  
Foxboro Co., The, Foxboro, Mass.  
Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
Industrial Electronic Engineers, 3973 Lankersheim Blvd., North Hollywood, Calif.  
Niagara Electron Laboratories, Andover, N. Y.  
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago 26, Ill.  
Photon Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.  
Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.

## RECORDERS—Wire

Aurex Corp., 1117 N. Franklin St., Chicago 10, Ill.  
Peirce Wire Recorder Corp., 5900 Northwest Highway, Chicago 31, Ill.  
Sonic Recording Products, Inc., 58 Mill Rd., Freeport, N. Y.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

## RECORDING HEADS

See HEADS—Recording

## RECORDING TAPE

See TAPE—Recording

## RECORDING WIRE

See WIRE—Recording

## RECORDS—Phonograph

Audio-Master Corp., 17 E. 45th St., New York 17, N. Y.  
Cook Laboratories, 101 Second St., Stamford, Conn.  
Decca Records, Inc., 50 West 57th St., New York 19, N. Y.  
Radio Corp. of America, Consumer Products Div., Camden 8, N. J.

## RECTIFIERS—Dry Disc

See RECTIFIERS—Copper Oxide  
RECTIFIERS—Copper Sulphide

## RECTIFIERS

1. Germanium Diode
2. Germanium Area Type
3. Copper Oxide
4. Copper Sulphide
5. Selenium
- 5a. Silicon
6. Tube

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. 6. ADV. PG. 673.

- Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y. 1.  
Automatic Mfg. Div. of General Instrument Corp., 65 Gouverneur St., Newark, N. J. 5a.  
Berkshire Laboratories, 580 Bank Village, Greenville, N. H. 5.  
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J. 5-5a.  
BRADLEY LABS., INC., 170 G. Columbus Ave., New Haven 11, Conn. 3-5. ADV. PG. 260.  
CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC., 630 W. Mt. Pleasant Ave., Livingston, N. J. 5-6. ADV. PG. 393.  
Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio. 6.  
Clark Electronic Labs., Box 165, Palm Springs, Calif. 1-5-6.  
Conant Laboratories, 6500 O St., Lincoln 5, Neb. 3-5.  
CONTINENTAL ELECTRIC CO., 6 N. Michigan Ave., Chicago 2, Ill. 6. ADV. PG. 496.  
EITEL-McCULLOUGH, INC., San Bruno, Calif. 6. ADV. PG. 128, 129.  
Electronic Devices, Inc., Precision Rectifier Div., 429 12th St., Brooklyn, N. Y. 5.  
ELECTRONS, INC., 127 Sussex Ave., Newark 3, N. J. 6. ADV. PG. 318.  
Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill. 5-5a.  
Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J. 1-5.  
GATES ELECTRONIC CO., 2090 Barnes Ave., Bronx 62, N. Y. 5. ADV. PG. 678.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. 2-3-5. ADV. PG. 1-12.  
General Electric Co., Ltd. of England, 80 Shore Rd., Port Washington, N. Y. 1-5.  
GENERAL ELECTRIC CO., SEMI-CONDUCTOR PRODUCTS DEPT., Electronics Park, 1224 W. Genesee St., Syracuse, N. Y. 5-a. ADV. PG. 19.  
GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. 6. ADV. PG. 13-15.  
General Nuclear Corp., 550 Fifth Ave., New York 28, N. Y. 1-2-3-4-5.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J. 2-3-4-5-5a-6.  
HOFFMAN SEMICONDUCTOR DIV. OF HOFFMAN ELECTRONICS CORP., 930 Pitner Ave., Evanston, Ill. 5a. ADV. PG. 443.  
HUGHES PRODUCTS DIVISION, HUGHES AIRCRAFT CO., Los Angeles 45, Calif. 1-6. ADV. PG. 340-343.  
INTERNATIONAL RECTIFIER CORP., 1521 E. Grand Ave., El Segundo, Calif. 1-2-5-5a. ADV. PG. 218.  
INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. 5. ADV. PG. 188-192.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., COMPONENTS DIV., 88 Kingsland Rd., Clifton, N. J. 5. ADV. PG. 355-357.  
King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio. 6.  
Knopp Inc., 4224 Holden St., Oakland 8, Calif. 5.  
Lewis & Kaufman, Ltd., P. O. Box 337, Los Gatos, Calif. 6.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind. 4.  
MOLONEY ELECTRIC CO., 5590 Bircher Blvd., St. Louis 20, Mo. 1-5-6. ADV. PG. 527.  
MOTOROLA, INC., SEMICONDUCTOR PRODUCTS DIV., 5005 E. McDowell Rd., Phoenix, Ariz. 5a. ADV. PG. 639.  
National Electronics, Inc., Geneva, Ill. 6.  
OPAD ELECTRIC CO., 69-5 Murray St., New York 7, N. Y. 1-2-5-6. ADV. PG. 650.  
Pacific Semiconductors, Inc., 10451 W. Jefferson, Culver City, Calif. 1-5a.  
PYRAMID ELECTRIC CO., 1445 Hudson Blvd., North Bergen, N. J. 5. ADV. PG. 463.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. 5-6. ADV. PG. 453, Third & Fourth Covers.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. 1-5-6. ADV. PG. 453, Third & Fourth Covers.  
Radio Development & Research Corp., 100 Pennsylvania Ave., Paterson 3, N. J. 5.  
RADIO RECEPTOR CO., 240 Wythe Ave., Brooklyn 11, N. Y. 1-5-5a. ADV. PG. 68, 69.  
Ramyr Mfg. Co., 1624 E. First St., Los Angeles 23, Calif. 5.  
Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass. 1-5a-6.  
RECTICO INC., 963 Frelinghuysen Ave., Newark 5, N. J. 5. ADV. PG. 695.  
Sanford Miller Co., 691 Bedford Ave., Brooklyn 6, N. Y. 5.  
SARKES TARZIAN, INC., RECTIFIER DIV., 415 N. College Ave., Bloomington, Ind. 5-5a. ADV. PG. 434.  
Schauer Mfg. Corp., 4521 Alpine Ave., Cincinnati 36, Ohio. 3.  
Sel-Rex Corp., Rectifier Div., 155 Manchester Place, Newark 4, N. J. 2-3-5-5a.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England. 1-2-5-6.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. 1-5a-6. ADV. PG. 733-739.  
Syntron Corp., 243 Lexington, Homer City, Pa. 5.  
TAYLOR TUBES, INC., 2312 Wabansia Ave., Chicago 47, Ill. 6. ADV. PG. 496.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. 1-2-3-4-5-5a-6. ADV. PG. 549.
- TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. 5a. ADV. PG. 280, 281.  
TRANSITRON, INC., 186 Granite St., Manchester, N. H. 6. ADV. PG. 326.  
TRANSITRON ELECTRONIC CORP., 168 Albion St., Wakefield, Mass. 1-5a. ADV. PG. 176, 177.  
UNION SWITCH & SIGNAL DIV. OF WESTINGHOUSE AIR BRAKE CO., Pittsburgh 18, Pa. 3-5. ADV. PG. 384, 385.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass. 1-2-6.  
Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif. 6.  
VECTOR ELECTRONIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. 6. ADV. PG. 476.  
Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo. 5.  
WALLSON ASSOCIATES, LTD., 963 Frelinghuysen Ave., Newark 5, N. J. 5a. ADV. PG. 691.  
Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira, N. Y. 5a.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. 1-2-3-5. ADV. PG. 205-216.
- RECTIFIERS—Metallic, Power Supplies  
American Rectifier Corp., 95 Lafayette St., New York 13, N. Y.  
AMERICAN TELEVISION & RADIO CO., 300 E. Fourth St., St. Paul 1, Minn. ADV. PG. 222.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
BRADLEY LABS., INC., 170 G. Columbia Ave., New Haven 11, Conn. ADV. PG. 260.  
CHRISTIE ELECTRIC CORP., 3410 W. 67th St., Los Angeles 43, Calif. ADV. PG. 528.  
Clark Electronic Labs., Box 165, Palm Springs, Calif.  
Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
GATES ELECTRONIC CO., 2090 Barnes Ave., Bronx 62, N. Y. ADV. PG. 678.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Nuclear Corp., 550 Fifth Ave., New York 28, N. Y.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn. KEPCO LABS., INC., 131-38 Sanford Ave., Flushing 55, N. Y. ADV. PG. 45-48.  
Leach Corp., Inet-Palmer Div., 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif.  
Lee Electric & Mfg. Co., 2806 Clearwater St., Los Angeles 39, Calif.  
MACARR, INC., 2543 Boston Rd., Bronx 67, N. Y. ADV. PG. 640.  
MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
MERCURY ELECTRONIC CO., Box 450, Red Bank, N. J. ADV. PG. 61.  
MODEL RECTIFIER CORP., 1065 Utica Ave., Brooklyn 3, N. Y. ADV. PG. 665, 667.  
Motoresearch Co., 1600 Junction Ave., Racine, Wis.  
NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
North American Research Labs., Inc., 725 Lexington Ave., Kenilworth, N. J.  
OPAD ELECTRIC CO., 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
PERKIN ENGINEERING CORP., 345 Kansas St., El Segundo, Calif. ADV. PG. 67.  
Power Equipment Co., 5740 Nevada, East, Detroit 34, Mich.  
Power Supplies, Inc., 1007 Olive St., Highland, Ill.  
PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
Rapid Electric Co., 2881 Middletown Rd., Bronx 61, N. Y.  
Sanford Miller Co., 691 Bedford Ave., Brooklyn 6, N. Y.  
Schauer Mfg. Corp., 4521 Alpine Ave., Cincinnati 36, Ohio.  
Sel-Rex Corp., Rectifier Div., 155 Manchester Place, Newark 4, N. J.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
Syntron Co., 243 Lexington, Homer City, Pa.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
TELECOM, INC., 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
Ther Electric & Machine Works, 17 S. Jefferson St., Chicago 6, Ill.  
UNION SWITCH & SIGNAL DIV. OF WESTINGHOUSE AIR BRAKE CO., Pittsburgh 18, Pa. ADV. PG. 384, 385.
- United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
WALLSON ASSOCIATES LTD., 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.
- RECTIFIERS—Metallic Stack  
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
BRADLEY LABS., INC., 170 G. Columbus Ave., New Haven 11, Conn. ADV. PG. 260.  
CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC., 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
Clark Electronic Labs., Box 165, Palm Springs, Calif. Electronic Devices, Inc., Precision Rectifier Div., 429 12th St., Brooklyn, N. Y.  
Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
GATES ELECTRONIC CO., 2090 Barnes Ave., Bronx 62, N. Y. ADV. PG. 678.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
GENERAL ELECTRIC CO., SEMICONDUCTOR PRODUCTS DEPT., Electronics Park, 1223 W. Genesee St., Syracuse, N. Y. ADV. PG. 19.  
General Nuclear Corp., 550 Fifth Ave., New York 28, N. Y.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
INTERNATIONAL RECTIFIER CORP., 1521 E. Grand Ave., El Segundo, Calif. ADV. PG. 218.  
INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
MODEL RECTIFIER CORP., 1065 Utica Ave., Brooklyn 3, N. Y. ADV. PG. 665, 667.  
OPAD ELECTRIC CO., 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
PERKIN ENGINEERING CORP., 345 Kansas St., El Segundo, Calif. ADV. PG. 67.  
RADIO RECEPTOR CO., 240 Wythe Ave., Brooklyn 11, N. Y. ADV. PG. 68, 69.  
Rapid Electric Co., 2881 Middletown Rd., Bronx 61, N. Y.  
RECTICO, INC., 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 695.  
SARKES TARZIAN, INC., RECTIFIER DIV., 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
Schauer Mfg. Corp., 4521 Alpine Ave., Cincinnati 36, Ohio.  
Sel-Rex Corp., Rectifier Div., 155 Manchester Place, Newark 4, N. J.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
Syntron Co., 243 Lexington, Homer City, Pa.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
Ther Electric & Machine Works, 17 S. Jefferson St., Chicago 6, Ill.  
TRANSITRON ELECTRONIC CORP., 168 Albion St., Wakefield, Mass. ADV. PG. 176, 177.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
UNION SWITCH & SIGNAL DIV. OF WESTINGHOUSE AIR BRAKE CO., Pittsburgh 18, Pa. ADV. PG. 384, 385.  
Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.
- RECTIFIERS—Tube  
See TUBES—Rectifying
- RECTIFIERS—Tube Rectifying Units  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
MAGNATRAN, INC., P. O. Box 211, Kearny, N. J. ADV. PG. 383.  
MERCURY ELECTRONIC CO., Box 450, Red Bank, N. J. ADV. PG. 61.  
MOLONEY ELECTRIC CO., 5590 Bircher Blvd., St. Louis 20, Mo. ADV. PG. 527.  
NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
OPAD ELECTRIC CO., 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
Power Equipment Co., 5740 Nevada, East Detroit 34, Mich.  
PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
Rectifier Engineering Co., Inc., 1803 E. Seventh St., Los Angeles 21, Calif.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Ther Electric & Machine Works, 17 S. Jefferson St., Chicago 6, Ill.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
WALLSON ASSOCIATES, LTD., 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.

### REELS—Tape Recording & Telemetering

AMERICAN MOLDED PRODUCTS CO., 2727 W. Chicago Ave., Chicago 22, Ill. ADV. PG. 580.  
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
Electro Data Div. of Burroughs Corp., 460 Sierra Madre Villa, Pasadena 6, Calif.  
Fidelitone, Inc., 6415 Ravenswood, Chicago 26, Ill.  
Magnasyn Mfg. Co., Ltd., 5546 Satsuma Ave., P. O. Box 707, North Hollywood, Calif.  
Midland Paint & Varnish Co., 9115 Reno Ave., Cleveland 5, Ohio.  
Orradio Industries, Inc., Shamrock Circle, Opelika, Ala.  
Permo, Inc., 6415 Ravenswood Ave., Chicago 26, Ill.  
STANDARD RECORD MFG. CO., 70 N. San Gabriel Blvd., Pasadena, Calif. ADV. PG. 655.  
UNI-WAVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.

### REFLECTORS—Passive

COOK CO., FRANK R., 36 S. Santa Fe Drive, Denver 23, Colo.—ADV. PG. 480.  
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
GABRIEL ELECTRONICS DIV., THE GABRIEL CO., 135 Crescent Rd., Needham Heights 94, Mass. ADV. PG. 382.  
I-T-E CIRCUIT BREAKER CO., SPECIAL PRODUCTS DIV., 601 E. Erie Ave., Philadelphia 34, Pa. ADV. PG. 474, 475.  
Microfect Co., 2300 S. 25th St., Salem, Ore.  
Tower Construction Co., 2700 Hawkeye Drive, Sioux City, Iowa.

### REGISTERS—Shift

BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
KEPCO LABS., INC., 131-38 Sanford Ave., Flushing 55, N. Y. ADV. PG. 45-48.  
Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
Magnetics Research Co., Cor. Grove St. & E. Post Rd., White Plains, N. Y.  
NAVIGATION COMPUTER CORP., 1621 Snyder Ave., Philadelphia 45, Pa. ADV. PG. 585.  
Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
Sprague Electric Co., 125 Marshall St., North Adams, Mass.

### REGULATORS—Current

ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
Electric Regulator Corp., Pearl St., Norwalk, Conn.  
ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
Engineered Magnetics Div. of Gulton Mfg. Corp., 11818 Teale St., Culver City, Calif.  
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
Hevi-Duty Electric Co., Milwaukee 1, Wis.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Modern Industries Inc., 2601 Colorado Ave., Santa Monica, Calif.  
NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
SORENSEN & CO., INC., Richards Ave., Norwalk, Conn. ADV. PG. 151-154.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Transistor Devices, Inc., 730 Boulevard, Kenilworth, N. J.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
VECTROL ENGINEERING, INC., P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
WALLSON ASSOCIATES LTD., 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.  
Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.

### REGULATORS—Frequency

AIRPAX PRODUCTS CO., Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Electric Regulator Corp., Pearl St., Norwalk, Conn.

ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
Engineered Magnetic Div. of Gulton Mfg. Corp., 11818 Teale St., Culver City, Calif.  
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austel Place, Long Island City 1, N. Y.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Modern Industries Inc., 2601 Colorado Ave., Santa Monica, Calif.  
Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.  
Regulator Equipment Corp., 100 Pennsylvania Ave., Paterson 3, N. J.  
SORENSEN & CO., INC., Richards Ave., Norwalk, Conn. ADV. PG. 151-154.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
VECTROL ENGINEERING, INC., P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

### REGULATORS—Voltage Regulators and Stabilizers

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
Airmec Ltd., High Wycombe, Buckinghamshire, England.  
ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
BRIGGS ASSOCIATES, INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
C B C Electronics Co., Inc., 2601 Howard St., Philadelphia 33, Pa.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S.E. 26, England.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.  
Electric Regulator Corp., Pearl St., Norwalk, Conn.  
ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
Electronic Products Co., 111 E. 3rd St., Mt. Vernon, N. Y.  
Engineered Magnetic Div. of Gulton Mfg. Corp., 11818 Teale St., Culver City, Calif.  
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
Helipot Corp., Newport Beach, Calif.  
HOFFMAN SEMICONDUCTOR DIV. OF HOFFMAN ELECTRONICS CORP., 930 Pitner Ave., Evanston, Ill. ADV. PG. 443.  
INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Jack & Heintz, Inc., Cleveland 1, Ohio.  
KEPCO LABS., INC., 131-38 Sanford Ave., Flushing 55, N. Y. ADV. PG. 45-48.  
Lee Electric & Mfg. Co., 2806 Clearwater St., Los Angeles 39, Calif.  
McKAY ELECTRIC CO., 19790 Stahelin Ave., Detroit 19, Mich. ADV. PG. 638.  
Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
MAGNETIC RESEARCH CORP., 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292, 293.  
Maxson Instruments, A Div. of The W. L. Maxson Corp., 47-37 Austel Place, Long Island City 1, N. Y.  
MERCURY ELECTRONIC CO., Box 450, Red Bank, N. J. ADV. PG. 61.  
MICROTRAN CO., INC., 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Modern Industries Inc., 2601 Colorado Ave., Santa Monica, Calif.  
NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
PERKIN ENGINEERING CORP., 345 Kansas St., El Segundo, Calif. ADV. PG. 67.  
PRECISE MEASUREMENTS CO., R.D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.

Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
RAYTHEON MFG. CO. EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
Regulator Equipment Corp., 100 Pennsylvania Ave., Paterson 3, N. J.  
Servomex Controls Ltd., 80 Shore Rd., Port Washington, N. Y.  
Servo-Tek Products Co., Inc., 1086 Goffe Rd., Hawthorne, N. J.  
Signalite, Inc., 37-41 Neptune Highway, Neptune, N. J.  
SOLA ELECTRIC CO., 4633 W. 16th St., Chicago 50, Ill. ADV. PG. 269-272.  
SORENSEN & CO., INC., Richards Ave., Norwalk, Conn. ADV. PG. 151-154.  
Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
SUPERIOR ELECTRIC CO., THE, 5000 Bradley Ave., Bristol, Conn. ADV. PG. 96-99.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
Transistor Devices, Inc., 730 Boulevard, Kenilworth, N. J.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
VECTROL ENGINEERING, INC., P. O. Box 1089, Stamford, Conn. ADV. PG. 632.  
Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.

### RELAY COILS See COILS—Relay

### RELAYS—Capacitance Operated See CONTROLS—Capacitance Operated

### RELAYS

(h) indicates hermetically sealed

1. Coaxial
2. Cross-Bar
3. d'Arsonval
4. Differential
5. Electronic, Resistance Activated
6. Frequency Selective
7. High Voltage
8. Impulse
9. Keying and Break-in
10. Latching
11. Mercury
12. Overload
13. Overvoltage & Undervoltage
14. Passive Microwave
15. Photoelectric
16. Polarized
17. Power
18. Rotary
19. Sensitive
20. Sequence
21. Stepping
22. Sub-Miniature
23. Telephone
24. Temperature Compensated
25. Time Delay
26. Vacuum Contact
27. Vibrating Reed Type

A'G'A Div. of Elastic Stop Nut Corp. of America, 1027 Newark Ave., Elizabeth, N. J. 25. (h)  
Abrams Instrument Corp., 600-620 E. Shilawasee St., Lansing, Mich. 25.  
ACE ELECTRONICS ASSOCIATES, 99 Dover St., Somerville 44, Mass. 22. ADV. PG. 487.  
ADAMS & WESTLAKE CO., Michigan St., Elkhart, Ind. 11-12-13-17-19-25. ADV. PG. 58, 59.  
Aemco, Inc., 62 State St., Mankato, Minn. 7-10-17-19-22-23. (h)  
Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J. 17.  
Airmec, Ltd., High Wycombe, Buckinghamshire, England. 15.  
Allard Instrument Corp., 146 E. Second St., Mineola, N. Y. 10-13.  
ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. 12-13-25. ADV. PG. 194.  
ALLIED CONTROL CO., INC., 2 East End Ave., New York 21, N. Y. 1-4-7-8-9-10-12-13-16-17-18-19-22-23-24-25-26. ADV. PG. 126, 127. (h)  
American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md. 19-25.

- AMPERITE CO., INC., 561 Broadway, New York 12, N. Y. 25. ADV. PG. 229. (h)
- ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. 5-15-22. ADV. PG. 691. (h)
- Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn. 10-12-13-17-19-20-25. (h)
- Artisan Electronic Corp., 171 Ridgedale Ave., Morristown, N. J. 7-10. (h)
- ASSEMBLY PRODUCTS, INC., Chesterland 6, Ohio. 3-4-19. ADV. PG. 504, 505. (h)
- Automatic Electric Sales Corp., 1033 W. Van Buren St., Chicago 7, Ill. 8-10-11-16-21-23-25. (h)
- AUTOMATIC METAL PRODUCTS CORP., 315 Berry St., Brooklyn 11, N. Y. ADV. PG. 626. (h)
- Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J. 4-5-6-7-10-12-13-17-19-25. (h)
- Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif. 15. (h)
- Babcock Relays, Inc., 1640 Monrovia St., Costa Mesa, Calif. 4-16-19-22. (h)
- BARBER-COLMAN CO., Dept. 766, Rockford, Ill. 16. ADV. PG. 430. (h)
- Belltron Mfg. Co., Inc., 400 Hoover Ave., Bloomfield, N. J. 25. (h)
- Bennett Co., Inc., R. P. Frederick, Md. 1-2-4-5-7-8-9-10-12-13-15-16-17-19-20-21-22-23-25. (h)
- Bergen Laboratories, 247 Crooks Ave., Clifton, N. J. 18-21. (h)
- Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa. 6-27. (h)
- Blonder-Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J. 25. (h)
- Branson Corp., Jefferson Rd., Whippany, N. J. 16-17-22-23-24-25. (h)
- Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn. 4-16-19-22-24-26-27. (h)
- Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn. 25. (h)
- Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif. 22. (h)
- CG Electronics Div. of Gulton Industries, Inc., 305 Dallas St., N.E., Albuquerque, N. M. 27. (h)
- Clare & Co., C. P., 3101 Pratt Blvd., Chicago 45, Ill. 9-10-11-16-17-21-22-23-25. (h)
- Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio. 7-10-12-13-16-20-25. (h)
- COMAR ELECTRIC CO., 3349 W. Addison, Chicago 18, Ill. 10-23. ADV. PG. 432. (h)
- Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill. 1-4-10-12-13-18-20-21-22-23-24-25. (h)
- Couch Ordnance, Inc., Relay Div., 3 Arlington St., North Quincy, Mass. 18-12. (h)
- Cramer Controls Corp., Box 13, Centerbrook, Conn. 25. (h)
- CURTISS-WRIGHT CORP., ELECTRONICS DIV., Plant #2, Central Ave., Carlstadt, N. J. 25. ADV. PG. 110. (h)
- Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis. 10-12-13-17. (h)
- Davis Electric Co., Cape Girardeau, Mo. 10-23. (h)
- Deitz Co., S. J., 9 E. Wesley St., South Hackensack, N. J. (h)
- Deftron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa. 5. (h)
- Deltron Corp., 1507 Riverside Drive, Los Angeles 31, Calif. 22. (h)
- Dormitzer Electric & Mfg. Co., Inc., 5 Hadley St., Cambridge, Mass. 25. (h)
- Durakool, Inc., 1010 N. Main St., Elkhart, Ind. 11-25. (h)
- Eagle Signal Corp., Moline, Ill. 10-25. (h)
- Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village 28, N. Y. 10-11-19-25. (h)
- EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV., 81 Lakeside Ave., West Orange, N. J. 16-19-25. ADV. PG. 144-146. (h)
- Electric Regulator Corp., Pearl St., Norwalk, Conn. 6-13. (h)
- Electrical Products Corp., 1100 N. Main St., Los Angeles 12, Calif. 17-18. (h)
- Electro-Mechanical Specialties Co., Inc., 1016 N. Highland Ave., Los Angeles 38, Calif. 2-4-12-17-19. (h)
- Electro-Switch & Controls, Inc., 5755 Camille Ave., Culver City, Calif. 8-10-17-19-23-24. (h)
- ELECTRO TEC CORP., South Hackensack, N. J. 22. ADV. PG. 149. (h)
- Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich. 15. (h)
- Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif. 6-9-10-13-17-18-19-20-21-22-24-25. (h)
- ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. 11-17. ADV. PG. 286. (h)
- Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y. 1-8-17-21-25. (h)
- Elsta Ltd., Bad Ragaz, Switzerland. 5-15-25. (h)
- ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. 1-2-4-5-6-7-8-9-10-12-13-16-17-18-19-21-22-23-25. ADV. PG. 579. (h)
- ELECTROMATION CO., 1646 Eighteenth St., Santa Monica, Calif. 1-14-22. ADV. PG. 692. (h)
- Ess Specialty Corp., 96 S. Washington Ave., Bergenfield 10, N. J. 15. (h)
- Falcon Electronics Corp., 308 William St., Harrison, N. J. 13-22-24-25. (h)
- FARMER ELECTRIC PRODUCTS CO., INC., 2300 Washington St., Newton Lower Falls 62, Mass. 5. ADV. PG. 546. (h)
- Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J. 12. (h)
- FILTERS, INC., 30 Sagamore Hill Drive, Port Washington, N. Y. 10-12-13-17-18-22. ADV. PG. 471 (h)
- Fisher Engineering, Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind. 21. (h)
- Five Star Co., 10 W. Main St., Plantsville, Conn. 17-19. (h)
- G-V CONTROLS, INC., 28 Hollywood Plaza, East Orange, N. J. 6-12-13-24-25. ADV. PG. 106. (h)
- General Automatic Corp., 12 Carleton Ave., Mountain View, N. J. 4-10-12-18-19-22-23. (h)
- GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. 1 ADV. PG. 563. (h)
- GENERAL CONTROLS CO., Glendale 1, Calif. 11-17. ADV. PG. 546. (h)
- GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. 10-12-13-15-20-22-25. ADV. PG. 1-12. (h)
- General Electric Co., Ltd., of England, (Imtra Corp.), 58 Charles St., Cambridge, Mass. 10-18-23. (h)
- Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif. 5-7-9-12-13-17-18-22-23-25. (h)
- Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y. 23. (h)
- Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J. 11-25. (h)
- Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill. 6-8-9-10-12-13-17-18-19-20-21-22-23-25. (h)
- Hagen Mfg. Co., 202 20th St., Moline, Ill. 25. (h)
- Haledy Electronics Co., 57 William St., New York 5, N. Y. 5-11-15-17. (h)
- HART MFG. CO., 242 Bartholomew Ave., Hartford 1, Conn. 16-19-22-26. ADV. PG. 610 (h)
- HAYDON CO., A. W., THE, 238 N. Elm St., Waterbury, Conn. 20-25. ADV. PG. 531 (h)
- HAYDON MFG. CO., INC., 245 E. Elm St., Torrington, Conn. 25. ADV. PG. 157. (h)
- Heinemann Electric Co., 150 Plum St., Trenton 2, N. J. 25. (h)
- Hetherington, Inc., Sharon Hill, Pa. 10-17-25. (h)
- HI-G, INC., Bradley Field, Windsor Locks, Conn. 17-18-19-22. ADV. PG. 418. (h)
- HILLBURN ELECTRONIC PRODUCTS CO., 55 Nassau Ave., Brooklyn 22, N. Y. 9-10-12-17-19-22. ADV. PG. 653. (h)
- Hufco Industries, 2815 West Olive, Burbank, Calif. 22-23. (h)
- Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill. 15. (h)
- Industrial Electronic Controls Co., 2271 E. 14th St., Brooklyn 29, N. Y. 5. (h)
- Industrial Products Co., Div. of Danbury-Knudsen, Inc., Danbury, Conn. 1. (h)
- INDUSTRIAL TIMER CORP., 1407 McCarter Highway, Newark 4, N. J. 25. ADV. PG. 506. (h)
- Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. 9th Ave., Portland 2, Ore. 19. (h)
- Jack & Heintz, Inc., Cleveland 1, Ohio. 20. (h)
- Jaidinger Mfg. Co., Inc., The, 1921 W. Hubbard St., Chicago 22, Ill. 5-10-13-15-19-25. (h)
- JAMES VIBRAPWR CO., 4050 N. Rockwell St., Chicago 18, Ill. 1-6-19-27. ADV. PG. 542. (h)
- JENNINGS RADIO MFG. CORP., 970 McLaughlin Ave., P. O. Box 1278, San Jose 8, Calif. 1-7-8-10-12-17-26. ADV. PG. 406, 407. (h)
- Johnson Co., E. F., Waseca, Minn. 7. (h)
- Kellogg Switchboard & Supply Co., 79 W. Monroe St., Chicago 3, Ill. 2-6-8-21-23. (h)
- King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio. 19-27. (h)
- KURMAN ELECTRIC CO., INC., 191-193 Newel St., Brooklyn 22, N. Y. 1-2-7-8-9-10-12-13-15-16-17-19-22-23-25. ADV. PG. 669. (h)
- Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y. 3. (h)
- LEACH CORP., LEACH RELAY DIV., 5915 Avalon Blvd., Los Angeles 3, Calif. 4-5-6-7-8-9-10-12-13-15-16-17-18-19-20-22-23-24-25. ADV. PG. 52. (h)
- Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif. 1. Leland, Inc., G. H., 123 Webster St., Dayton 2, Ohio. 18-21. (h)
- Livingston Electronic Corp., Livingston, N. J. 25. (h)
- Machinery Electrification, Inc., Northboro, Mass. 5-15-25. (h)
- Mack Electric Devices, Inc., 43 Glenside Ave., Wyncote, Pa. 11-17-26. (h)
- Magnadyne Co., 84 S. Water St., Port Chester, N. Y. 10-16-19-22-25. (h)
- Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind. 1. (h)
- Magnecraft Electric Co., 3352 W. Grand Ave., Chicago 51, Ill. 4-9-10-12-13-17-19-21-23-25. (h)
- Magnetic Devices, Inc., 712 East St., Frederick, Md. 1-7-10-16-18-19. (h)
- Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y. 5-6. (h)
- Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H. 3. (h)
- May Engineering Co., 6055 Lankershim Blvd., North Hollywood, Calif. 25. (h)
- Mercury Contacts, Inc., P. O. Box 615-E, Far Hills Station, Dayton 9, Ohio. 11. (h)
- Miller Research Laboratories, 5529 S. Fifth St., Milwaukee 7, Wis. 12-17. (h)
- Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y. 19. (h)
- Milwaukee Gas Specialty Co., 730 Jackson, Milwaukee 1, Wis. 19-22-24-25. (h)
- Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S. Minneapolis 8, Minn. 5-11-25. (h)
- Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa. 22. (h)
- Muirhead & Co., Ltd., Beckenham, Kent, England. 4. (h)
- Mullenbach Div. of Electric Machinery Mfg. Co., 2100 E. 27th St., Los Angeles 58, Calif. 19. (h)
- Naybor Laboratories, Inc., E. V., 2 Yennicock Ave., Port Washington, N. Y. 25. (h)
- Nemeth, Inc., 2223 S. Carmelina Ave., Los Angeles 64, Calif. 8-18-21-25. (h)
- North Electric Co., 553 S. Market St., Galion, Ohio. 2-5-8-9-10-12-13-16-18-20-21-22-23-25-27 (h)
- OAK MFG. CO., 1260 Cloyburn Ave., Chicago 10, Ill. 18-21. ADV. PG. 302, 303. (h)
- O K Electronics Corp., 7 Hunt Place, Nutley, N. J. 22-24-25. (h)
- OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. 10-12-13-17-19-23-25. ADV. PG. 282, 283. (h)
- Omega Electronics Co., 355 Atlantic Ave., Brooklyn 17, N. Y. 4-7-9-10-17-20-21-23. (h)
- OPAD ELECTRIC CO., 69-5 Murray St., New York 7, N. Y. 12-13. ADV. PG. 650. (h)
- Pacific Relays, Inc., 12027 Vose St., North Hollywood, Calif. 17-19-22. (h)
- Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash. 21-23-27. (h)
- Pantek Co., Box 212, El Segundo, Calif. 5. (h)
- Penta Laboratories, Inc., 312 N. Nopal St., Santa Barbara, Calif. 7-26. (h)
- PESCHEL ELECTRONICS, INC., 13 Garden St., New Rochelle, N. Y. 5-7. ADV. PG. 500. (h)
- Phaotron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena Calif. 10-17-19-22-23. (h)
- Philadelphia Scientific Glass Co., Quakertown, Pa. 11-17-19-26. (h)
- Phillips Control Corp., 59 W. Washington St., Joliet, Ill. 4-9-10-17-19-22-23-25. (h)
- Photobell Co., Inc., 43 Vesey St., New York 7, N. Y. 15-25. (h)
- PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. 5-15-20-21. ADV. PG. 486. (h)
- POLLAK CORP., JOSEPH, 75-99 Freeport St., Dorchester 22, Mass. 1-7-13-19-23-24-25. ADV. PG. 476. (h)
- Polytron Engineering Inc., P. Q. Box 5024, Middle River, Md. 22. (h)
- POTTER & BRUMFIELD, INC., Princeton, Ind. 5-6-7-8-10-12-13-15-17-19-21-22-23. ADV. PG. 529. (h)
- PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. 19. ADV. PG. 399. (h)
- PRICE ELECTRIC CORP., Frederick, Md. 1-4-7-10-12-13-17-19-20-21-22-23-24-25. ADV. PG. 563. (h)
- Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England. 14. (h)
- Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y. 10. (h)
- R. B. M. Div., Essex Wire Corp., Logansport, Ind. 2-4-5-8-9-12-16-17-19-23. (h)
- Radar Relay, Inc., 2120 Pontius Ave., Los Angeles 25, Calif. 19-22. (h)
- RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers. (h)
- RELAY SALES, INC., P. O. Box 186B, West Chicago, Ill. 1-4-7-8-9-10-11-12-16-17-18-19-20-21-22-23-25. ADV. PG. 473. (h)
- Relays, Inc., 162 W. 83rd St., New York 24, N. Y. 9-19-23. (h)
- Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif. 7-8-11-26. (h)
- REVERSE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO., Wallingford 2, Conn. 27. ADV. PG. 516. (h)
- Rhodess, Inc., M. H., 30 Bartholomew Ave., Hartford, Conn. 25. (h)
- RIPLEY CO., INC., Middletown, Conn. 15. ADV. PG. 458. (h)
- Roller Smith Corp., 1825 W. Market St., Bethlehem, Pa. 3-12-13. (h)
- Servo-Tek Products Co., Inc., 1086 Goffe Rd., Hawthorne, N. J. 5. (h)
- SIGMA INSTRUMENTS, INC., 180 Pearl St., South Braintree 85, Mass. 9-10-16-19. ADV. PG. 136, 137. (h)
- Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill. 3. (h)
- Standard Telephones & Cables, Ltd., Connaught House, 83 Aldwych, London, W. C. 2, England. 7-15-16-23-25-26. (h)
- STEVENS-ARNOLD INC., 22 Elkins St., South Boston 27, Mass. 6-9-16-27. ADV. PG. 274. (h)
- Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y. 2-8-9-16-23-27. (h)
- Struthers-Dunn, Inc., Lamb's Rd., Pitman, N. J. 1-4-7-8-9-10-11-12-13-16-17-18-19-20-21-22-23-24-25-26. (h)
- Synchro Start Products, Inc., 8151 Ridgeway Ave., Skokie, Ill. 13. (h)
- TECHNICRAFT LABORATORIES, INC., Thomaston-Waterbury Rd., Thomaston, Conn. 14. ADV. PG. 545. (h)
- Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y. 7-25. (h)
- Tempo Instrument Co., 5 Centre St., Hempstead, N. Y. 25. (h)
- Terado Co., 1059 Raymond Ave., St. Paul 14, Minn. 19-22. (h)
- Thermal-Devices Div. of Curtiss-Wright Corp., 631 Central Ave., Carlstadt, N. J. 4-12-13-19-24-25. (h)
- Tranco Products, Inc., 12210 Nebraska Ave., Los Angeles 25, Calif. 1. (h)
- TUNG-SOL ELECTRIC INC., 95 Eighth Ave., Newark 4, N. J. 4-5-12-13-25. ADV. PG. 361. (h)
- ULANET CO., GEORGE, 413 Market St., Newark 5, N. J. 25. ADV. PG. 547. (h)
- UNIWAVE, INC., 2 Marine St., P. O. Box 474, Farmingdale, N. Y. 1-14. ADV. PG. 428. (h)
- U. S. Relay Co., 1740 Albion St., Los Angeles 31, Calif. 2-4-6-7-10-12-13-17-19-22-23-25. (h)
- UNION SWITCH & SIGNAL DIV. OF WESTINGHOUSE AIR BRAKE CO., Pittsburgh 18, Pa. 8-16-18-19-22-23. ADV. PG. 384, 385. (h)

VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. 6-13. ADV. PG. 564.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J. 15-25.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J. 19-22-24.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J. 6-26.  
**WARD LEONARD ELECTRIC CO.**, 31 South St., Mt. Vernon, N. Y. 9-10-12-13-17-19-25. ADV. PG. 408.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. 3-4-6-10-12-13-16-17-24-25. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Freilinghuysen Ave., Newark 12, N. J. 3-17-19-23-25.  
**WHEELOCK SIGNALS, INC.**, 273 Branchport Ave., Long Branch, N. J. 1-4-7-9-10-12-13-16-17-19-22-25. ADV. PG. 599.  
 Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va. 5-25.  
 Warner Electronic Devices, Rankin, Ill. 15.

### REMOTE CONTROL SYSTEMS

See SYSTEMS—Remote Control

### RESINS

See PLASTIC MATERIALS

### RESINS—Potting

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 Armstrong Products Co., P. O. Box 1-EB, Warsaw, Ind. Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Biggs Co., Carl H., 2255 Barry Ave., West Los Angeles 64, Calif.  
**BIWAX CORP.**, 3445 Howard St., Skokie, Ill. ADV. PG. 337.  
 Dow Corning Corp., Midland, Mich.  
 Ellanar Chemical Co., 2308 Oaktown St., Evanston, Ill.  
 Emerson & Cuming Inc., 869 Washington St., Canton, Mass.  
 Iscoyate Products, Inc., P. O. Box 1681, Wilmington, Del.  
 Marlette Corp., 37-21 30th St., Long Island City 1, N. Y.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Ohio-Apex Div., Food Machinery & Chemical Corp., Nitro, W. Va.  
 Plastronics, P. O. Box 96, Winter Hill 45, Mass.  
 Reichhold Chemicals, Inc., 525 North Broadway, White Plains, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Terrell Corp., 19 Lane St., Waltham 54, Mass.  
 Thiokol Chemical Corp., 780 N. Clinton Ave., Trenton 7, N. J.

### RESISTORS

- Fixed Composition**
1. Low wattage
  2. Temperature sensitive
  3. High frequency
  4. High megohm
  5. High voltage
  6. High wattage
  7. Voltage sensitive
  8. Resistor-suppressor
- Variable Composition**
9. Controls
  10. Controls, High Resistance
  11. Controls, High Voltage
- Wire Wound**
12. 2 Watts and under
  13. 4 to 35 Watts
  14. 4 to 225 Watts
  15. 4 to 500 Watts
  16. 500 to 1500 Watts
  17. Precision low voltage
  18. Precision high voltage
  19. Rf non-inductive
- Variable Wire Wound**
20. 4 Watts and under
  21. 5 to 25 Watts
  22. 25 Watts and over
  23. 500 Watts and over
  24. Slide wire
  25. Adjustable
  26. Rheostat—potentiometer types

ACE Electronics, 800 N. Pitt St., Alexandria, Va. 1.  
**ACE ELECTRONICS ASSOCIATES**, 99 Dover St., Somerville 44, Mass. 12-20. ADV. PG. 487.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass. 12-17-24-26.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. 1-4-9-10. ADV. PG. 194. (h)  
 Analogue Controls, Inc., 39 Roselle St., Mineola, N. Y. 26.  
**ANTON ELECTRONIC LABS, INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. 26. ADV. PG. 691.  
 Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y. 12-13-19. (h)  
 Atlas Resistor Co., 1128 Madison St., Chester, Pa. 14-15-16-17-20-21-22-23-25.  
 Bond Electronics Corp., 60 Springfield Ave., Springfield, N. J. 12-13-17-18-19.  
 Bradford Components, Inc., Bradford, Pa. 12-13-14-15-17-19-20-24.

Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va. 12.  
 Carter Parts Co., 3401 Madison, Skokie, Ill. 20-21-26.  
**CENTRALAB DIV., GLOBE-UNION, INC.**, 914Y E. Keeffe Ave., Milwaukee 1, Wis. 9-10-11-20. ADV. PG. 419.  
 Chicago Telephone of California, Inc., 105 Pasadena Ave., South Pasadena, Calif. 9-10.  
**CHICAGO TELEPHONE SUPPLY CORP.**, 1142 W. Beardley Ave., Elkhart, Ind. 9-10-11-20-25-26. ADV. PG. 223.  
**CINEMA ENGINEERING DIV., AEROVOX CORP.**, 1100 Chestnut St., Burbank, Calif. 12. ADV. PG. 688.  
**CIRCUIT INSTRUMENTS, INC.**, 2801 Anvil St. North, P. O. Box 1438, St. Petersburg, Fla. 26. ADV. PG. 193.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio. 1-9.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio. 12-13-14-15-16-17-18-20-21-22-23-24-25-26.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. 9-10-11-12-13-14-17-20-21-22-25-26. ADV. PG. 288, 289.  
 Colcraft, Inc., Gary, Ill. 12-17-18-19.  
 Coiman Tool & Machine Co., P. O. Box 7026, Amarillo, Texas. 14.  
 Consolidated Resistance Co. of America Inc., 44 Prospect St., Yonkers, N. Y. 12-17-18.  
**CONTINENTAL CARBON, INC.**, 13900 Lorain Ave., Cleveland 11, Ohio. 8-12-13-14-20-25-26. ADV. PG. 368.  
 Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif. 12-17-20-24-25.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. 12-13-14-17-18-19. ADV. PG. 438, 439.  
**DAVEN CO.**, Route 10, Livingston, N. J. 12-17-19-20-26. ADV. PG. 245.  
**DAYSTROM PACIFIC CORP.**, 9320 Lincoln Blvd., Los Angeles 45, Calif. 20-24-25. ADV. PG. 690.  
 Dmetor Mfg. Co., Inc., 22-24 Larkin Plaza, Yonkers, N. Y. 12-17-18-19.  
 DeWitt Development Co., 308 W. 127th St., Blue Island, Ill. 12-20.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. 12-17-18-19. ADV. PG. 451.  
 Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif. 12-26.  
**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. 3. ADV. PG. 658, 659.  
 Electromath Corp., 190 Henry St., Stamford, Conn. 20-26.  
 Electro-Measurements, Inc., 7524 S. W. Macadam, Portland 1, Ore. 1-12-26.  
**ELECTRO-MEC LABORATORY, INC.**, 47-51 33rd St., Long Island City 1, N. Y. 17-18-26. ADV. PG. 584.  
 First Electronic Corp., 117 Blue Hill Ave., Boston 19, Mass. 12-17-18.  
**G-C ELECTRONICS MFG. CO., DIV. OF G-C TEXTRON, INC.**, 400 S. Wyman St., Rockford, Ill. 6. ADV. PG. 543.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. 13-14-15-16-21-22-23-24-25. ADV. PG. 1-12.  
**GENERAL ELECTRIC CO., MAGNETIC MATERIALS SECTION**, 7780 Neff Rd., Edmore, Mich. 2-7-8. ADV. PG. 16, 17.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. 12-17-19-20-21-22-25-26. ADV. PG. 316, 317.  
**GENERAL RESISTANCE PRODUCTS CORP.**, 577 E. 156th St., New York 55, N. Y. 12-17-18. ADV. PG. 612.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. 20-24-25-26. ADV. PG. 344.  
**GLOBAL DIVISION, CARBORUNDUM CO.**, Niagara Falls, N. Y. 1-2-3-4-5-6-7-8. ADV. PG. 217.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. 12-13-14. ADV. PG. 643.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif. 8.  
 Hansen Electronics, 7117 Santa Monica Blvd., Los Angeles 46, Calif. 3.  
**HARDWICK HINDLE, INC.**, 40 Hermon St., Newark 5, N. J. 13-14-15-21-22-23-25-26. ADV. PG. 70, 71.  
 Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif. 20-25-26.  
**HYCOR DIV. OF INTERNATIONAL RESISTANCE CO.**, 12970 Bradley Ave., Sylmar, Calif. 12. ADV. PG. 188.  
 Instrument Resistors Co., 1036 Commerce Ave., Union, N. J. 12-13-17-18-19. (h)  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. 1-3-4-5-6-9-10-11-12-13-14-17-18-19-20. ADV. PG. 189-192.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif. 7.  
 Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill. 12-13-17-18-19-20-21-24-25-26.  
 Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y. 12-17.  
**K-F DEVELOPMENT CO.**, 2606 Spring St., Redwood City, Calif. 12-17-18. ADV. PG. 510.  
 Keystone Carbon Co., Inc., St. Marys, Pa. 2.  
 Lectrohm, Inc., 5561 Northwest Highway, Chicago 30, Ill. 12-15-20-21-22-25.  
 Lesa, Via Bergamo 21, Milan, Italy. 9-10-20-21-22-26.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind. 12-17-30.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind. 1-3-6-20-21-25-26.  
**MEPCO, INC.**, 35-37 Abbott Ave., Morristown, N. J. 12-13-17-18-19. ADV. PG. 398.  
 Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee 4, Wis. 15-16-19-21-22-23.  
 Model Engineering & Mfg., Inc., Huntington, Ind. 13-15-16-22-25-26.  
 Muirhead & Co., Ltd., Beckenham, Kent, England. 17.

Mullenbach Div. of Electric Machinery Mfg. Co., 2100 E. 27th St., Los Angeles 58, Calif. 16.  
 Muter Co., 1255 S. Michigan Ave., Chicago 5, Ill. 13-20-26.  
 Nagor Associates, Inc., Littleton, Mass. 17.  
 Nucleonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif. 12-13-20-21.  
 Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio. 1-3-5-8-12-13-14-25.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. 1-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26. ADV. PG. 282, 283.  
**ONONDAGA POTTERY WORKS, ELECTRONICS DIV.**, 1858 W. Lafayette St., Syracuse, N. Y. 1. ADV. PG. 252.  
 Pacific Resistor Co., 1881 Sepulveda Blvd., Los Angeles 25, Calif. 15-16-19-21-22-23-24-25.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. 12-13-14-15-16-17-18-19-20-21. ADV. PG. 601 (h)  
 Precision Electronic Components, Ltd., 50 Wingold Ave., Toronto, 10, Ontario, Canada. 9-10-11.  
 Precision Inc., 730 Lyndale Ave., N., Minneapolis, Minn. 14-17-24.  
 Precision Line, Inc., 63 Main St., Maynard, Mass. 20-24-25-26.  
 Precision Resistor Co., 109 U. S. Highway # 22, Hillside 5, N. J. 12-13-17-18.  
 R. C. L. Mfg. Co., New Jersey Ave., Riverside 1, N. J. 13-14-15-16-17-18-21-22-25.  
 Rattray & Co., Inc., George, 116-08 Myrtle Ave., Richmond Hill, N. Y. 12-17-20-26.  
**REON RESISTOR CORP.**, 117 Stanley Ave., Yonkers, N. Y. 9-10-12-17-18. ADV. PG. 492.  
**RESISTANCE PRODUCTS CO.**, 914 S. 13th St., Harrisburg, Pa. 3-4-5-6-12-17-18. ADV. PG. 169.  
 Resistors, Inc., 5226 W. 26th St., Chicago 50, Ill. 13-14-21-22-25.  
**REX RHEOSTAT CO.**, 3 Foxhurst Rd., Baldwin, N. Y. 16. ADV. PG. 590.  
 Rho Engineering Co., 2240-42 Sepulveda Blvd., Los Angeles 64, Calif. 12-17-19.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill. 12-17.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa. 17.  
 Samarius Electronic Corp., 123 Canal St., Shelton, Conn. 12-14-17-18-20-21-22-24-25-26.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. 17-18. ADV. PG. 618.  
 Servonic Instruments, Inc., 1143 S. Fair Oaks Ave., Pasadena 2, Calif. 12.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. 1-4-5-12-13-14-15-17-20-21-22. ADV. PG. 101.  
 Shallite, Inc., 128 W. First Ave., Roselle, N. J. 12-17-18.  
 Spectrol Div. of Carrier Corp., 1704 S. Del Mar, San Gabriel, Calif. 20-21-25.  
 Speer Resistor Division, Speer Carbon Co., St. Marys, Pa. 1.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass. 4-5-6-14-17-18-19.  
 Stackpole Carbon Co., St. Marys, Pa. 1-9.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England. 12-13-20-21.  
**TECHNOLOGY INSTRUMENT CORP.**, 533 Main St., Acton, Mass. 20-24. ADV. PG. 104, 105.  
 Tel-Labs, Inc., 1050 Second St., Manchester, N. H. 12-17-18.  
 Tepro Electric Corp., 421 Burke Bldg., 5 St. Paul St., Rochester 4, N. Y. 12-13-14-17.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif. 20-25-26.  
**TRU-OHM PRODUCTS DIV., MODEL ENGINEERING & MFG., INC.**, 2800 Milwaukee Ave., Chicago 18, Ill. 13-14-15-16-19-22-23-24-25-26. ADV. PG. 481.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y. 19.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. 1-4-5-6. ADV. PG. 366.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J. 2-7.  
**WARD LEONARD ELECTRIC CO.**, 31 South St., Mt. Vernon, N. Y. 13-14-15-16-19-22-23-25-26. ADV. PG. 408.  
**WATERS MANUFACTURING INC.**, Boston Post Rd., Wayland, Mass. 20-26. ADV. PG. 258, 259.  
**WELWYN INTERNATIONAL, INC.**, 3355 Edgelyiff Terrace, Cleveland 11, Ohio. 12-13-14-17-18-19-20-21-25-26. ADV. PG. 628.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. 12-13-17-18. ADV. PG. 205-216.  
 White Dental Mfg. Co., S.S. Industrial Div., 10 E. 40th St., New York 16, N. Y. 4.  
 Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa. 5.  
 Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J. 1-2-4-5-6-7-13.

### RESISTORS—Carbon Film

**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y.  
 Campbell Industries, Inc., Sub. of Clarostat Mfg. Co., Inc., 3806 St. Elmo Station, Chattanooga 9, Tenn.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
**CONTINENTAL CARBON, INC.**, 13900 Lorain Ave., Cleveland 11, Ohio. ADV. PG. 368.

DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.  
 DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
 Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.  
**ELECTRA MFG. CO., RESISTOR DIV.**, 4051 Broadway, Kansas City, Mo. ADV. PG. 338.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
 Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
**MEPCO, INC.**, 35-37 Abbett Ave., Morristown, N. J. ADV. PG. 398.  
 Nucleonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601. (h)  
 Phaotron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Pyrofilm Resistor Co., Inc., 8 Whippany St., Morristown, N. J.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.  
**WELWYN INTERNATIONAL INC.**, 3355 Edgecliff Terrace, Cleveland 11, Ohio. ADV. PG. 628.  
 Wilrite Products, Inc., 3835 W. 150th St., Cleveland 11, Ohio.

**RESISTORS—Deposited Carbon**

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Allies' Products Corp., P. O. Box 188, Kendall Branch, Miami, Fla.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. ADV. PG. 438, 439.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**ELECTRA MFG. CO., RESISTOR DIV.**, 4051 Broadway, Kansas City, Mo. ADV. PG. 338. (h)  
**ERIE RESISTOR CORP.**, Erie 6, Pa. ADV. PG. 170, 171.  
**G-C ELECTRONICS MFG. CO., DIV. OF G-C TEXTRON, INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
 Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
**MEPCO, INC.**, 35-37 Abbett Ave., Morristown, N. J. ADV. PG. 398. (h)  
 Nucleonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Phaotron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
 Pyrofilm Resistor Co., Inc., 8 Whippany St., Morristown, N. J.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.  
**WELWYN INTERNATIONAL INC.**, 3355 Edgecliff Terrace, Cleveland 11, Ohio. ADV. PG. 628.  
 Wilrite Products, Inc., 3835 W. 150th St., Cleveland 11, Ohio.

**RESISTORS—Encapsulated**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y.  
 Bond Electronics Corp., 60 Springfield Ave., Springfield, N. J.  
**CINEMA ENGINEERING DIV., AEROVOX CORP.**, 1100 Chestnut St., Burbank, Calif. ADV. PG. 688.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
 Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N. Y.  
 Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Nebr. ADV. PG. 438, 439.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.

**ELECTRA MFG. CO., RESISTOR DIV.**, 4051 Broadway, Kansas City, Mo. ADV. PG. 338.  
 Electronic Service Corp., 2906 Birch St., Franklin Park, Ill.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
**GENERAL RESISTANCE PRODUCTS CORP.**, 577 E. 156th St., New York 55, N. Y. ADV. PG. 612.  
**HYCOR DIV. OF INTERNATIONAL RESISTANCE CO.**, 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
 Instrument Resistors Co., 1036 Commerce Ave., Union, N. J.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
**K-F DEVELOPMENT CO.**, 2606 Spring St., Redwood City, Calif. ADV. PG. 510.  
**MEPCO, INC.**, 35-37 Abbett Ave., Morristown, N. J. ADV. PG. 398.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Precision, Inc., 730 Lyndale Ave., N. Minneapolis, Minn.  
 Precision Resistor Co., 109 U. S. Highway #22, Hillside 5, N. J.  
 R.C.L. Mfg. Co., New Jersey Ave., Riverside 1, N. J.  
**REON RESISTOR CORP.**, 117 Stanley Ave., Yonkers, N. Y. ADV. PG. 492.  
**RESISTANCE PRODUCTS CO.**, 914 S. 13th St., Harrisburg, Pa. ADV. PG. 169.  
 Rho Engineering Co., 2240-42 Sepulveda Blvd., Los Angeles 64, Calif.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 201, Ill.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
 Shallite, Inc., 128 W. First Ave., Roselle, N. J.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.  
**WELWYN INTERNATIONAL INC.**, 3355 Edgecliff Terrace, Cleveland 11, Ohio. ADV. PG. 628.  
 Wilrite Products, Inc., 3835 W. 150th St., Cleveland 11, Ohio.

**RESISTORS—Fuse**

Bradford Components, Inc., Bradford, Pa.  
 Cima Corp., 119 Braintree St., Allston 34, Mass.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Nebr. ADV. PG. 438, 439.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
**G-C ELECTRONICS MFG. CO., DIV. OF G-C TEXTRON, INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
 Lectrohm, Inc., 5561 Northwest Highway, Chicago 30, Ill.  
 Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee 4, Wis.  
 Model Engineering & Mfg., Inc., Huntington, Ind.  
 Muter Co., The, 1255 S. Michigan Ave., Chicago 5, Ill.  
 Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
**TRU-OHM PRODUCTS DIV., MODEL ENGINEERING & MFG. INC.**, 2800 Milwaukee Ave., Chicago 18, Ill. ADV. PG. 481.  
 Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

**RESISTORS—Miniature Variable**

**BOURNS LABORATORIES, INC.**, 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.  
**CHICAGO TELEPHONE SUPPLY CORP.**, 1142 W. Beardsley Ave., Elkhart, Ind. ADV. PG. 223.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
 Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
 DeWitt Development Co., 308 W. 127th St., Blue Island, Ill.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
 Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.  
**ELECTRO-MEC LABORATORY, INC.**, 47-51 33rd St., Long Island City 1, N. Y. ADV. PG. 584.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.  
 Lesa, Via Bergamo 21, Milan, Italy.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Precision Line, Inc., 63 Main St., Maynard, Mass.

Rattray & Co., Inc., George, 116-08 Myrtle Ave., Richmond Hill, N. Y.  
**REON RESISTOR CORP.**, 117 Stanley Ave., Yonkers, N. Y. ADV. PG. 492.  
 Spectrol Div. of Carrier Corp., 1704 S. Del Mar, San Gabriel, Calif.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
**TRU-OHM PRODUCTS DIV., MODEL ENGINEERING & MFG., INC.**, 2800 Milwaukee Ave., Chicago 18, Ill. ADV. PG. 481.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
**WATERS MANUFACTURING INC.**, Boston Post Rd., Wayland, Mass. ADV. PG. 258, 259.

**RESISTORS—Precision Film Type**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Allies' Products Corp., P. O. Box 188, Kendall Branch, Miami, Fla.  
 Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y.  
 C B C Electronics Co., Inc., 2601 N. Howard St., Philadelphia 33, Pa.  
**CLAROSTAT MFG. CO., INC.**, Dover, N. H. ADV. PG. 288, 289.  
**CONTINENTAL CARBON, INC.**, 13900 Lorain Ave., Cleveland 11, Ohio. ADV. PG. 368.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. ADV. PG. 438, 439.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**ELECTRA MFG. CO., RESISTOR DIV.**, 4051 Broadway, Kansas City, Mo. ADV. PG. 338.  
**FILMOHM CORP.**, 48 W. 25th St., New York 10, N. Y. ADV. PG. 670.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
 Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif.  
**MEPCO, INC.**, 35-37 Abbett Ave., Morristown, N. J. ADV. PG. 398.  
 Metavac, Inc., 45-68 162nd St., Flushing 58, N. Y.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
**POLYTECHNIC RESEARCH & DEVELOPMENT CO., INC.**, 202 Tillary St., Brooklyn 1, N. Y. ADV. PG. 164, 165.  
 Pyrofilm Resistor Co., 8 Whippany St., Morristown, N. J.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
**WELWYN INTERNATIONAL INC.**, 3355 Edgecliff Terrace, Cleveland 11, Ohio. ADV. PG. 628.  
 Wilrite Products, Inc., 3835 W. 150th St., Cleveland 11, Ohio. (h)

**RESISTORS—Printed Strip**

California Bent Glass Corp., Torrance, Calif.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**ERIE RESISTOR CORP.**, Erie 6, Pa. ADV. PG. 170, 171.  
**FILMOHM CORP.**, 48 W. 25th St., New York 10, N. Y. ADV. PG. 670.  
 Hansen Electronics, 7117 Santa Monica Blvd., Los Angeles 46, Calif.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
**ONONDAGA POTTERY WORKS, ELECTRONICS DIV.**, 1858 W. Lafayette St., Syracuse, N. Y. ADV. PG. 252.

**RESISTORS—Silicone**

**DALE PRODUCTS, INC.**, Box 136, Columbus, Neb. ADV. PG. 438, 439.  
 Lectrohm, Inc., 5561 Northwest Highway, Chicago 30, Ill.  
 Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee 4, Wis.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
 Pacific Resistor Co., 1881 Sepulveda Blvd., Los Angeles 25, Calif.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Precision Resistor Co., 109 U. S. Highway #22, Hillside 5, N. J.  
 R. C. L. Mfg. Co., New Jersey Ave., Riverside 1, N. J.  
**SAGE ELECTRONICS CORP.**, 302 N. Goodman St., Rochester, N. Y. ADV. PG. 222.  
**TRU-OHM PRODUCTS DIV., MODEL ENGINEERING & MFG., INC.**, 2800 Milwaukee Ave., Chicago 18, Ill. ADV. PG. 481.  
 Wilrite Products, Inc., 3835 W. 150th St., Cleveland 11, Ohio.

**RESISTORS—Sub-Miniature**

Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y.  
 Bond Electronics Corp., 60 Springfield Ave., Springfield, N. J.

CHICAGO TELEPHONE SUPPLY CORP., 1142 W. Beardsley Ave., Elkhart, Ind. ADV. PG. 223.  
Clark Electronic Labs., Box 165, Palm Springs, Calif.  
Consolidated Resistance Co. of America Inc., 44 Prospect St., Yonkers, N. Y.  
Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.  
DALE PRODUCTS, INC., Box 136, Columbus, Neb. ADV. PG. 438, 439.  
DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
DeWitt Development Co., 308 W. 127th St., Blue Island, Ill.  
Dmetri Mfg. Co., Inc., 22-24 Larkin Plaza, Yonkers 2, N. Y.  
EASTERN PRECISION RESISTOR CORP., 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
ELECTRA MFG. CO., RESISTOR DIV., 4051 Broadway, Kansas City, Mo. ADV. PG. 338.  
GENERAL RESISTANCE PRODUCTS CORP., 577 E. 156th St., New York 55, N. Y. ADV. PG. 612.  
Hansen Electronics, 7117 Santa Monica Blvd., Los Angeles 46, Calif.  
Instrument Resistors Co., 1036 Commerce Ave., Union, N. J.  
INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif.  
Liberty Industries, 107-37 71st Ave., Forest Hills, N. Y.  
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago 17, Ill.  
OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
Precision Resistor Co., 109 U. S. Highway #22, Hillside, N. J.  
R. C. L. Mfg. Co., New Jersey Ave., Riverside 1, N. Y.  
REON RESISTOR CORP., 117 Stanley Ave., Yonkers, N. Y. ADV. PG. 492.  
RESISTANCE PRODUCTS CO., 914 S. 13th St., Harrisburg, Pa. ADV. PG. 169.  
Rho Engineering Co., 2240-42 Sepulveda Blvd., Los Angeles 64, Calif.  
Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill.  
SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
Shallite, Inc., 128 W. First Ave., Roselle, N. J.  
Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
Telewave Laboratories, Inc., 43-20 34th St., Long Island City, N. Y.  
Tel-Labs, Inc., 1050 Second St., Manchester, N. H.  
Tepro Electric Corp., 421 Burke Bldg., 5 St. Paul St., Rochester 4, N. Y.  
Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
WELWYN INTERNATIONAL, INC., 3355 Edgecliff Terrace, Cleveland 11, Ohio. ADV. PG. 628.  
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

**RESISTORS—Tape**  
ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
Hansen Electronics, 7117 Santa Monica Blvd., Los Angeles 46, Calif.  
SANDERS ASSOCIATES, INC., Nashua, N. H. ADV. PG. 534.

**RESISTORS—Wire Woven**  
ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
Bradford Components, Inc., Bradford, Pa.  
A. Resistor Co., Inc., 14742 Armita St., Van Nuys, Calif.  
OHMWEVE CO., 43 Darcy St., West Hartford 6, Conn. ADV. PG. 204.  
PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill.  
ates Co., 19 New Park Ave., Hartford 6, Conn.

**RESOLVERS**  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
DETROIT CONTROLS CORP., CONTROL ENGINEERING UNIT, 560 Providence Highway, Norwood, Mass. ADV. PG. 515.  
Diehl Mfg. Co., Somerville, N. J.  
ECLIPSE-PIONEER DIV., BENDIX AVIATION CORP., Teterboro, N. J. ADV. PG. 333-336.  
DISON INDUSTRIES, THOMAS A., INSTRUMENT DIV., 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
ord Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y.  
elipott Corp., Newport Beach, Calif.  
DUCTION MOTORS CORP., 570 Main St., Westbury, N. Y. ADV. PG. 266.

KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
Kollman Instrument Corp., Sub. of Standard Coil Products Co., Inc., 80-08 45th Ave., Elmhurst, N. Y.  
Mid-Century Instrumatic Corp., 611 Broadway, New York 12, N. Y.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
PSP ENGINEERING CO., 8608 Otis St., South Gate, Calif. ADV. PG. 621.  
REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

### RESOLVERS—Coordinate Transform

Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Diehl Mfg. Co., Somerville, N. J.  
ECLIPSE PIONEER DIV., BENDIX AVIATION CORP., Teterboro, N. J. ADV. PG. 333-336.  
KEARFOTT CO., INC., ENGINEERING SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
Mid-Century Instrumatic Corp., 611 Broadway, New York 12, N. Y.  
Missouri Research Labs., Inc., 2109 Locust St., St. Louis 3, Mo.  
Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

### RESOLVERS—Product

Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
ECLIPSE PIONEER DIV., BENDIX AVIATION CORP., Teterboro, N. J. ADV. PG. 333-336.  
KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
Mid-Century Instrumatic Corp., 611 Broadway, New York 12, N. Y.  
Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### RESOLVERS—Sine-Cosine

Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Diehl Mfg. Co., Somerville, N. J.  
ECLIPSE PIONEER DIV., BENDIX AVIATION CORP., Teterboro, N. J. ADV. PG. 333-336.  
Electronic Associates, Inc., Long Branch, N. J.  
KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
Mid-Century Instrumatic Corp., 611 Broadway, New York 12, N. Y.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
Servonics, Inc., 822 N. Henry St., Alexandria, Va.  
VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.

### RHEOSTATS

ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
BOURNS LABORATORIES, INC., 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.  
Carter Parts Co., 3401 Madison, Skokie, Ill.  
CENTRALAB DIV., GLOBE-UNION INC., 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
CHICAGO TELEPHONE SUPPLY CORP., 1142 W. Beardsley Ave., Elkhart, Ind. ADV. PG. 223.  
Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.  
Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
HARDWICK HINDLE INC., 40 Hermon St., Newark 5, N. J. ADV. PG. 70, 71.  
Helipot Corp., Newport Beach, Calif.  
Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
Les, Via Bergamo 21, Milan, Italy.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.

National Electric Controller Co., 7070 Glenwood Ave., Chicago 26, Ill.  
OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
Tech Laboratories, Inc., Bergen & Edsall Bldvs., Palisades Park, N. J.  
Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
United Mineral & Chemical Corp., 13 Hudson St., New York 13, N. Y.  
WARD LEONARD ELECTRIC CO., 31 South St., Mt. Vernon, N. Y. ADV. PG. 408.

### RHEOSTATS—Electronic

Carter Parts Co., 3401 Madison, Skokie, Ill.  
Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
HARDWICK HINDLE INC., 40 Hermon St., Newark 5, N. J. ADV. PG. 70, 71.  
Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago 17, Ill.  
OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
Samaris Electronic Corp., 123 Canal St., Shelton, Conn.

### RHEOSTATS—Slide Wire

Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.  
Corbett Science Labs., F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
GIANNINI & CO., INC., G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
HARDWICK HINDLE INC., 40 Hermon St., Newark 5, N. J. ADV. PG. 70, 71.  
Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
National Electric Controller Co., 7070 Glenwood Ave., Chicago 26, Ill.  
OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
REX RHEOSTAT CO., 3 Foxhurst Rd., Baldwin, N. Y. ADV. PG. 590.  
Samaris Electronic Corp., 123 Canal St., Shelton, Conn.  
STICHT CO., HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

### RINGS—Carbon Packing

GRAPHITE METALLIZING CORP., 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio.  
St. Marys Carbon Co., State Rd., St. Marys, Pa.

### RINGS—Collector

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
AIRFLYTE ELECTRONICS CO., 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.  
ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
BAKER & CO., INC., 113 Astor St., Newark, N. J. ADV. PG. 313.  
Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
COLLECTRON CORP., 304 E. 45th St., New York 17, N. Y. ADV. PG. 557.  
ELECTRO-MINIATURES CORP., 1060 Elm Ave., Ridgefield, N. J. ADV. PG. 539.  
ELECTRO TEC CORP., South Hackensack, N. J. ADV. PG. 149.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV., Attleboro, Mass. ADV. PG. 327.  
GRAPHITE METALLIZING CORP., 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392.  
METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
NEY CO., J. M., 179 Elm St., Hartford, Conn. ADV. PG. 558.  
Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.

### RINGS—Oil Sealing

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
Garlock Packing Co., The, Palmyra, N. Y.  
GENERAL HERMETIC SEALING CORP., 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.



GRAPHITE METALLIZING CORP., 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Minnesota Rubber & Gasket Co., 3630 Wooddale Ave., Minneapolis 16, Minn.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
 St. Marys Carbon Co., State Rd., St. Marys, Pa.  
 UNITED AIRCRAFT PRODUCTS, INC., 1116 Bolander Ave., Dayton 1, Ohio. ADV. PG. 148.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

**RINGS—Retaining**

BARNES CO., WALLACE, DIV. OF ASSOCIATED SPRING CORP., Bristol, Conn. ADV. PG. 311.  
 BARNES-GIBSON-RAYMOND DIVISION, 40300 Plymouth Rd., Plymouth, Mich. ADV. PG. 311.  
 Carroll Pressed Metal Co., 133 Dewey St., Worcester, Mass.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
 Garlock Packing Co., The, Palmyra, N. Y.  
 GIBSON CO., WILLIAM D., THE, 1800 Clybourn Ave., Chicago 14, Ill. ADV. PG. 311.  
 GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
 Industrial Retaining Ring Co., 57 Cordier St., Irvington 11, N. J.  
 MILWAUKEE DIV. OF ASSOCIATED SPRING CORP., 341 E. Erie St., Milwaukee 2, Wis. ADV. PG. 311.  
 National Lock Washer Co., 40 Hermon St., Newark 5, N. J.  
 Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
 OHIO DIV. OF ASSOCIATED SPRING CORP., 1825 E. First St., Dayton 3, Ohio. ADV. PG. 311.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
 RAYMOND MANUFACTURING CO., Corry, Pa. ADV. PG. 311.  
 SEABOARD COIL SPRING DIVISION, 15001 S. Broadway, Gardera, Calif. ADV. PG. 311.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Taylor Fibre Co., Norristown, Pa.  
 Waldes Kohinoor, Inc., 47-16 Austel Place, Long Island City 1, N. Y.

**RIVETS**

Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
 Anti-Corrosive Products Co., Castleton-on-Hudson, N. Y.  
 Blake & Johnson Co., 1495 Thomaston Ave., Waterville 48, Conn.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
 Chicago Rivet & Machine Co., Bellwood, Ill.  
 CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
 Derringer Metallurgical Corp., 8127 Monticello Ave., Skokie, Ill.  
 Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
 Goodrich Aviation Products, B. F., Div. of B. F. Goodrich Co., Akron, Ohio.  
 GRIES REPRODUCER CORP., 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
 Harper Co., H. M., 8200 Lehigh Ave., Morton Grove, Ill.  
 Hassall, Inc., John, P. O. Box 2242, Westbury, N. Y.  
 Huck Mfg. Co., 2480 Belleville Ave., Detroit 7, Mich.  
 KEYSTONE BOLT & NUT CORP., 127 Church St., New York 7, N. Y. ADV. PG. 683.  
 Progressive Mfg. Co., 50 Norwood St., Torrington, Conn.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
 SOUTHCO DIVISION, SOUTH CHESTER CORP., 233 Industrial Highway, Lester, Pa. ADV. PG. 254.  
 Stimpson Co., Inc., Edwin B., 74 Franklin Ave., Brooklyn 5, N. Y.  
 Tubular Rivet & Stud Co., Weston Ave., Wollaston, Quincy 70, Mass.  
 WILSON CO., H. A., THE, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

**ROCHELLE SALTS**

See CRYSTALS

**RODS—Tungsten**

Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Murex, Ltd., Rainham, Essex, England.  
 SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 WILSON CO., H. A., THE, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

**ROOMS—Screen**

Ace Engineering & Machine Co., Inc., 3644 N. Lawrence St., Philadelphia 40, Pa.

Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Lindgren & Associates, Erik A., 4515 N. Ravenswood Ave., Chicago 40, Ill.

**ROTOR CASTINGS**

Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.

**RUBBER—Conductive**

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 CONNECTICUT HARD RUBBER CO., 407 East St., New Haven 9, Conn. ADV. PG. 646.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
 PACIFIC MOULDED PRODUCTS, 905 E. 59th St., Los Angeles, Calif. ADV. PG. 462.  
 Silicones Div., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 U. S. RUBBER CO., 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.

**RUBBER—Hard**

Luzerne Rubber Co., Muirhead Ave., Trenton, N. J.

**RUBBER—Natural**

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Faber Pencil Co., Eberhard Rubber Div., 47 Colden St., Newark, N. J.  
 Garlock Packing Co., The, Palmyra, N. Y.  
 Hardman Co., Inc., H. V., 571 Cortlandt St., Belleville, N. J.  
 Minnesota Rubber & Gasket Co., 3630 Wooddale Ave., Minneapolis 16, Minn.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
 PACIFIC MOULDED PRODUCTS, 905 E. 59 St., Los Angeles, Calif. ADV. PG. 462.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.

**RUBBER—Synthetic**

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 CONNECTICUT HARD RUBBER CO., 407 East St., New Haven 9, Conn. ADV. PG. 646.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Faber Pencil Co., Eberhard Rubber Div., 47 Colden St., Newark, N. J.  
 Garlock Packing Co., The, Palmyra, N. Y.  
 General Electric Co., Silicone Products Dept., Waterford, N. Y.  
 Goodrich Chemical Co., B. F., 3135 Euclid Ave., Cleveland 15, Ohio.  
 Goodyear Tire & Rubber Co., The, Chemical Div., 1144 E. Market St., Akron 16, Ohio.  
 Kellogg Co., M. W., P. O. Box 469, Jersey City 3, N. J.  
 MAIGNE CO., O. J., 321 Pearl St., New York 38, N. Y. ADV. PG. 679.  
 Minnesota Rubber & Gasket Co., 3630 Wooddale Ave., Minneapolis 16, Minn.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
 PACIFIC MOULDED PRODUCTS, 905 E. 59 St., Los Angeles, Calif. ADV. PG. 462.  
 Rogers Corp., Goodyear, Conn.  
 Silicones Div., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

**SCALERS**

See COUNTERS

**SCALES—Oscilloscope**

DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Parisian Novelty Co., 3510 S. Western Ave., Chicago 9, Ill.  
 Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.

**SCANNERS—Reflected & Transmitted Light**

Acme Telectronix Div., NEA Service, Inc., W. Third & Lakeside, Cleveland 13, Ohio.  
 Combustion Control Div., Electronics Corp. of America, 77 Broadway, Cambridge 42, Mass.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 General Electric Co., Technical Products, Dept., Electronics Park, Syracuse, N. Y.

Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 L. & O. Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 RIPLEY CO., INC., Middletown, Conn. ADV. PG. 458.  
 Spinco Div. of Beckman Instruments, Inc., Stanford Industrial Park, Palo Alto, Calif.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**SCRAMBLERS—Speech**

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

**SCREENS—Television Projection**

Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.

**SCREWS—Self-Tapping**

Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. J.  
 Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
 American Screw Co., Willimantic, Conn.  
 Anti-Corrosive Metal Products Co., Castleton-on-Hudson, N. Y.  
 Atlas Screw & Specialty Co., 450 Broome St., New York 13, N. Y.  
 Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
 Blake & Johnson Co., 1495 Thomaston Ave., Waterville 48, Conn.  
 Camcar Screw & Mfg. Co., Div. of Textron Inc., 600 18th Ave., Rockford, Ill.  
 Central Screw Co., 3501 Shields Ave., Chicago 9, Ill.  
 Eaton Mfg. Co., Reliance Div., 25 Charles Ave., S.E., Massillon, Ohio.  
 FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
 Harper Co., H. M., 8200 Lehigh Ave., Morton Grove, Ill.  
 Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill.  
 KEYSTONE BOLT & NUT CORP., 127 Church St., New York 7, N. Y. ADV. PG. 683.  
 Lamson & Sessions Co., 1971 W. 85th St., Cleveland 2, Ohio.  
 National Screw & Mfg. Co., The, Cleveland 4, Ohio.  
 Parker-Kalon Div. of General American Transportation Corp., Clifton, N. J.  
 Pheoil Mfg. Co., 5700 Roosevelt Rd., Chicago 50, Ill.  
 Pilgrim Screw Corp., 259 Dexter St., Providence, R. I.  
 Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
 Set Screw Mfg. Co., 470 Main St., Bartlett, Ill.  
 Shakeproof Div. of Illinois Tool Works, St. Charles Rd., Elgin, Ill.  
 Southern Screw Co., P. O. Box 1360-EG, Statesville, N. C.  
 Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.  
 Thompson-Bremer & Co., 520 N. Dearborn, Chicago 10, Ill.  
 Torrington Co., 59 Field St., Torrington, Conn.  
 United Screw & Bolt Corp., 2513 W. Cullerton St., Chicago 8, Ill.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
 Walasco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**SCREWS—Set**

Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles 44, Calif.  
 Allen Mfg. Co., Hartford 2, Conn.  
 Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
 Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
 Anti-Corrosive Metal Products Co., Castleton-on-Hudson, N. Y.  
 Atlas Screw & Specialty Co., 450 Broome St., New York 13, N. Y.  
 Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
 Blake & Johnson Co., 1495 Thomaston Ave., Waterville 48, Conn.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Chicago Screw Co., The, Bellwood, Ill.  
 FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
 Greer Stop Nut Co., 2620 W. Flournoy St., Chicago 12, Ill.  
 Harper Co., H. M., 8200 Lehigh Ave., Morton Grove, Ill.  
 KEYSTONE BOLT & NUT CORP., 127 Church St., New York 7, N. Y. ADV. PG. 683.  
 Lamson & Sessions Co., 1971 W. 85th St., Cleveland 2, Ohio.  
 National Screw & Mfg. Co., The, Cleveland 4, Ohio.  
 Parker-Kalon Div. of General American Transportation Corp., Clifton, N. J.  
 Pheoil Mfg. Co., 5700 Roosevelt Rd., Chicago 50, Ill.

Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
 Set Screw Mfg. Co., 470 Main St., Bartlett, Ill.  
 Standard Pressed Steel Co., Box 775, Jenkintown 10, Pa.  
 Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.  
 United Screw & Bolt Corp., 2513 W. Cullerton St., Chicago 8, Ill.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
 Walco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Waltham Screw Co., Waltham, Mass.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham, 54, Mass.  
 Weckesser Co., 5701 Northwest Highway, Chicago 50, Ill.

### SEALING SERVICE—Hermetic

Autel Electronics Co., P. O. Box 225, Linden, N. J.  
**ELECTRO-SEAL CORP.**, 946 North Ave., Des Plaines, Ill. ADV. PG. 540.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
 Glassteel Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J.  
 Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles 3, Calif.  
**SCIENTIFIC ELECTRONIC LABS., NC.**, 866 Bergen St., Newark 8, N. J. ADV. PG. 670.  
 Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago, 47, Ill.  
 Telectro Industries Corp., 35-16 37th St., Long Island City, N. Y.  
 Warren Plastics Corp., Warren, Pa.

### SEALS—Carbon

Garlock Packing Co., The Palmyra, N. Y.  
**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 Helwig Co., 2544 N. 30th St., Milwaukee 10, Wis.  
 Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio.  
 St. Marys Carbon Co., State Rd., St. Marys, Pa.  
 Superior Carbon Products Co., 9115 George Ave., Cleveland 5, Ohio.

### SEALS—Ceramic to Metal

Ceramaseal, Inc., Box 25, New Lebanon Center, N. Y.  
 Glassteel Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J.  
 McCormick Selph Associates, Hollister, Calif.  
 Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park, Calif.

### SEALS—Hermetic

Advanced Vacuum Products, Inc., Div. of General Ceramics Corp., 122 Liberty St., Stamford, Conn.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Autel Electronics Co., P. O. Box 225, Linden, N. J.  
**AUTOMATIC & PRECISION MFG. CO.**, 252 Hawthorne Ave., Yonkers 5, N. Y. ADV. PG. 586.  
 Ceramaseal Co., The Box 25, New Lebanon Center, N. Y.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
**CONSTANTIN & CO., L. L.**, Route #46, Lodi, N. J. ADV. PG. 377.  
 Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N. W., Canton, Ohio.  
**ELECTRICAL INDUSTRIES DIV., PHILIPS ELECTRONICS, INC.**, 691 Central Ave., Murray Hill, N. J. ADV. PG. 315.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Farnsworth Electronic Co., Pacific Div., 815 S. San Antonio Rd., Palo Alto, Calif.  
 Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
 Glassteel Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J.  
 Heddor Mfg. Corp., 238 Lewis St., Paterson, N. J.  
 Ceramaseal Co., Inc., 1101 Lafayette St., Elkhart, Ind.  
**HERMETIC SEAL CORP.**, 29-37 S. Sixth St., Newark 7, N. J. ADV. PG. 325.  
 Hermetite Corp., 702 Beacon St., Boston 15, Mass.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., COMPONENTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
**EARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
 Phillips Control Corp., 59 W. Washington St., Joliet, Ill.  
 Quality Products Co., 387 Charles St., Providence 4, R. I.  
**SCIENTIFIC ELECTRONIC LABS., INC.**, 866 Bergen St., Newark 8, N. J. ADV. PG. 670.

Sealtron Corp., Reading Rd. at Amity, Cincinnati 15, Ohio.  
 Soldering Specialties Co., 18 Chatham Rd., Summit, N. J.  
**SPHERE CO., INC., THE**, 25 Amity St., Little Falls, N. J. ADV. PG. 652.  
 Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago 47, Ill.  
**STUPAKOFF DIV. OF THE CARBORUNDUM CO.**, Latrobe, Pa. ADV. PG. 108, 109.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
 U. S. Stoneware Co., Akron 9, Ohio.  
 Vitroscel Corp., The, 709 E. 106th St., Box 6048, Indianapolis 20, Ind.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.  
 Warren Plastics Corp., Warren, Pa.  
**ZELL PRODUCTS CORP.**, 276-280 Main St., Norwalk, Conn. ADV. PG. 622, 623.

### SEALS—Metal-to-Glass

**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Autel Electronics Co., P. O. Box 225, Linden, N. J.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**DOLINKO & WILKENS, INC.**, 1901-7 Summit Ave., Union City, N. J. ADV. PG. 508.  
**ELECTRICAL INDUSTRIES DIV., PHILIPS ELECTRONICS, INC.**, 691 Central Ave., Murray Hill, N. J. ADV. PG. 315.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
 Electronic Products Co., 111 E. 3rd St., Mt. Vernon, N. Y.  
 Farnsworth Electronic Co., Pacific Div., 815 S. San Antonio Rd., Palo Alto, Calif.  
 Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
 Glassteel Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J.  
 Glass-Solder Engineering, 300 N. Lake Ave., Pasadena 4, Calif.  
 Hermasol Co., Inc., 1101 Lafayette St., Elkhart, Ind.  
 Hermetic, Inc., 232 Creek Rd., Keasbey, N. J.  
**HERMETIC SEAL CORP.**, 29-37 S. Sixth St., Newark 7, N. J. ADV. PG. 325.  
 Hermetite Corp., 702 Beacon St., Boston 15, Mass.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., COMPONENTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Phillips Control Corp., 59 W. Washington St., Joliet, Ill.  
 Quality Hermetics, Ltd., 45 Hollinger Rd., East York, Toronto, Ontario.  
 Quality Products Co., 387 Charles St., Providence 4, R. I.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
**SCIENTIFIC ELECTRONIC LABS., INC.**, 866 Bergen St., Newark 8, N. J. ADV. PG. 670.  
 Sealtron Corp., Reading Rd. at Amity, Cincinnati 15, Ohio.  
 Sonneborn Sons, Inc., L., Building Products Div., 404 Fourth Ave., New York 16, N. Y.  
**STUPAKOFF DIV. OF THE CARBORUNDUM CO.**, Latrobe, Pa. ADV. PG. 108, 109.  
 U. S. Stoneware Co., Akron 9, Ohio.  
**VACAP CORP.**, 1905 Summit Ave., Union City, N. J. ADV. PG. 664.  
 Vacuum Tube Products, 506 S. Cleveland St., Oceanside, Calif.  
 Vitroscel Corp., The, 709 E. 106th St., Box 6048, Indianapolis 20, Ind.  
 Warren Plastics Corp., Warren, Pa.  
**ZELL PRODUCTS CORP.**, 276-280 Main St., Norwalk, Conn. ADV. PG. 622, 623.

### SEALS—Oil

American Felt Co., Glenville, Conn.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers 5, N. Y.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
 Boston Felt Co., 210 South St., Boston 11, Mass.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
 Garlock Packing Co., The Palmyra, N. Y.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.

**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Mechanical Felt & Textiles Co., 50 W. 18th St., Weehawken, N. J.  
 Minnesota Rubber & Gasket Co., 3630 Wooddale Ave., Minneapolis 16, Minn.  
 Rogers Corp., Goodyear, Conn.  
 St. Marys Carbon Co., State Rd., St. Marys, Pa.  
 Sealoi Corp., Warwick Industrial Park, Providence 5, R. I.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.

### SEALS—Switch

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers 5, N. Y.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
**KULKA ELECTRIC MFG. CO., INC.**, 633 S. Fulton Ave., Mt. Vernon, N. Y. ADV. PG. 685.  
 Mechanical Felt & Textiles Co., 50 W. 18th St., Weehawken, N. J.  
 Murray Mfg. Corp., 1250 Atlantic Ave., Brooklyn 16, N. Y.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
**RADIO FREQUENCY LABS., INC.**, Boonton 2, N. J. ADV. PG. 555.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

### SELECTIVE CALLING APPARATUS

Canadian Marconi Co., 2442 Trinton Ave., Montreal 16, Quebec.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Electrical Communications Co., 765 Clementina St., San Francisco, Calif.  
 Electronic Control Systems, Inc., 2136-38 Westwood Blvd., Los Angeles 25, Calif.  
**HAMMARLUND MFG. CO.**, 460 W. 34th St., New York 1, N. Y. ADV. PG. 265.  
 Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
 Mobil Electronics Mfg. Co., 1111 State Rd. 67 E., Anderson, Ind.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
**WHELOCK SIGNALS, INC.**, 273 Branchport Ave., Long Indianapolis 5, Ind. ADV. PG. 533.

### SERVICE BULLETINS & COMPONENT

**REPLACEMENT—AM-FM TV**  
**SAMS & CO., INC., HOWARD W.**, 2201 E. 46th St., Indianapolis 5, Ind. ADV. PG. 399.

### SERVICES

See  
**Encapsulation**  
**Engraving & Profiling**  
**Frequency Calibration**  
**Computing**  
**Heat Treating**  
**Laboratories—Testing**  
**Packaging—Electronic**  
**Equipment**  
**Plating—Metal on Plastic**  
**Plating—Precious Metal**  
**Sealing—Hermetic Service Bulletins & Component Replacement—AM-FM TV**  
**Silk Screen Processing**  
**Subminiaturization**  
**Technical Writing**  
**Tinning—Hot Dipped**  
**Tower Service**  
**Treating—Fungus & Moisture Proof**  
**Wire Marking**

### SHAFTS—Flexible

**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
**KUPFRIAN MFG. CO.**, 398 State St., Binghamton, N. Y. ADV. PG. 684.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Martindale Electric Co., Edgewater Branch, Box 617, Cleveland 7, Ohio.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
**STEWART CORP., F. W.**, 4311 Ravenswood Ave., Chicago 13, Ill. ADV. PG. 653.  
 Stow Mfg. Co., 101 Shear St., Binghamton, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 White Dental Mfg. Co., S. S., Industrial Div., 10 E. 40th St., New York 16, N. Y.

**SHAPERS—Television Signal**

Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**SHEETS—Molybdenum**

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 North American Phillips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.

**SHIELDING—Electrostatic**

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
 Auburn Mfg. Co., The Pease Ave. & Stack St., Middletown, Conn.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorne, N. J.  
 Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
**METAL TEXTILE CORP.**, 647 E. First Ave., Roselle, N. J. ADV. PG. 450.  
 Micro-Circuits Co., New Buffalo, Mich.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.  
**SHIELDING, INC.**, DEPT. LB, Riverton, N. J. ADV. PG. 421.  
 Thomas & Sons, Inc., William, Slocum Ave., Ridgefield, N. J.  
 Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.

**SHIELDING—Radio Ignition**

**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 Auburn Mfg. Co., The Pease Ave. & Stack St., Middletown, Conn.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Breeze Corps., Inc., 700 Liberty Ave., Union, N. J.  
 Co-Operative Industries, Inc., 100 Oakdale Rd., Chester, N. J.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
**METAL TEXTILE CORP.**, 647 E. First Ave., Roselle, N. J. ADV. PG. 450.  
 Micro-Circuits Co., New Buffalo, Mich.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.  
 Vacuum Equipment Div. of the New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.

**SHIELDING—Sheet or Screen**

Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
**SHIELDING, INC.**, Dept. LB, Riverton, N. J. ADV. PG. 421.  
 Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.  
**U. S. RUBBER CO.**, 1230 Avenue of the Americas, New York 20, N. Y. ADV. PG. 119.

**SHIELDING—Wire**

**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
 Alpha Wire Corp., 200 Varick St., New York 14, N. Y.  
 American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Holyoke Wire & Cable Corp., 720 Main St., Holyoke, Mass.  
 Muter Co., The, 1255 S. Michigan Ave., Chicago 5, Ill.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
 Sparta Mfg. Co., Div. of U. S. Ceramic Tile Co., Dover, Ohio.

**SHIELDS—Cathode Ray Tube**

DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
**GENERAL AVIATION & ELECTRONICS MFG. CO., INC.**, 179 Berger St., Wood-Ridge, N. J. ADV. PG. 538.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
**MAGNETICS, INC.**, P.O. Box 391, Butler, Pa. ADV. PG. 161-163.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.

**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.

**SHIELDS—Coil**

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Paul & Beekman, Inc., 1801 Cortland St., Philadelphia 40, Pa.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
 Worcester Pressed Aluminum Corp., 13-15 Hope Ave., Worcester, Mass.

**SHIELDS—Ferrite**

Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
**GENERAL CERAMICS CORP.**, Keasbey, N. J. ADV. PG. 28.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
 Yale & Towne Mfg. Co., Powered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.

**SHIELDS—Lead**

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Chicago Expansion Bolt Co., 1338 W. Concord Place, Chicago 22, Ill.  
 Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Holub Industries, Inc., 414 DeKalb Ave., Sycamore, Ill.  
**KEYSTONE BOLT & NUT CORP.**, 127 Church St., New York 7, N. Y. ADV. PG. 683.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**SHIELDS—Transformer**

**ALGO, INC.**, 251 West St., South Hackensack, N. J. ADV. PG. 554.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 Kling Metal Spinning Co., 247 Centre St., New York, N. Y.  
**MAGNETIC METALS CO.**, Hayes Ave. at 21st St., Camden, N. J. ADV. PG. 544.  
**MAGNETICS, INC.**, P. O. Box 391, Butler, Pa. ADV. PG. 161-163.  
 Paul & Beekman, Inc., 1801 Cortland St., Philadelphia 40, Pa.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 Worcester Pressed Aluminum Corp., 13-15 Hope Ave., Worcester, Mass.

**SHIELDS—Tube**

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
**ATLAS E-E CORP.**, 47 Prospect St., Woburn, Mass. ADV. PG. 562.  
**BIRTCHEE CORP.**, 4371 Valley Blvd., Los Angeles 32, Calif. ADV. PG. 636.  
 Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorne, N. J.  
**CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
**ELCO CORP.**, "M" St. below Erie Ave., Philadelphia 24, Pa. ADV. PG. 284.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Formatic Co., 178 Bridge St., Naugatuck, Conn.  
 Goat Co., Inc., Fred, 308 Dean St., Brooklyn 7, N. Y.

**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
**INTERNATIONAL ELECTRONIC RESEARCH CORP.**, 145 W. Magnolia Blvd., Burbank, Calif. ADV. PG. 576.  
 Kling Metal Spinning Co., 247 Centre St., New York, N. Y.  
 Livingston Electronic Corp., Livingston, N. J.  
**MAGNETIC METALS CO.**, Hayes Ave. at 21st St., Camden, N. J. ADV. PG. 544.  
**MAGNETICS, INC.**, P. O. Box 391, Butler, Pa. ADV. PG. 161-163.  
**METHODE MFG. CORP.**, 2021 W. Churchill St., Chicago 47, Ill. ADV. PG. 204.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
 Nems-Clarke, Inc., Silver Spring, Md.  
 Paul & Beekman, Inc., 1801 Cortland St., Philadelphia 40, Pa.  
**PERFECTION MICA CO.**, 1320 N. Elston Ave., Chicago 22, Ill. ADV. PG. 428.  
 Roilan Electric Co., 8233 S. Princeton Ave., Chicago 201, Ill.  
 Roman Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
 Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
**SUFFOLK PRODUCTS CORP.**, Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Teiner Engineering Corp., 116 Madison St., Malden, Mass.  
 Thomas & Sons, Inc., William, Slocum Ave., Ridgefield, N. J.  
 Waldom Electronics Inc., 4625 W. 53rd St., Chicago 32, Ill.

**SHIFTERS—Color Phase**

See PARTS for COLOR TV TUBES

**SHIFTERS—Phase, Microwave**

See MICROWAVE ACCESSORIES

**SHIPPING CONTAINERS**

See PACKAGING MATERIALS

**SHOCK MOUNTS**

See MOUNTINGS—Vibration and Shock

**SHUNTS—Meter**

Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.  
 Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
**HOYT ELECTRICAL INSTRUMENT WORKS**, 42 Carleton St., Cambridge 42, Mass. ADV. PG. 587.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif.  
 Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N Olive St., Anaheim, Calif. ADV. PG. 486.  
 Precision Resistor Co., 109 U. S. Hwy, #22, Hillside 5, N. J.  
 Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**SILICON**

See METALS

**SILICONE—Compounds**

See INSULATING COMPOUNDS

**SILICONE CRYSTALS**

See CRYSTALS

**SILICONE GREASES**

Dow Corning Corp., Midland, Mich.  
 Ed-Berl Products, Inc., 87 Merrick Rd., Baldwin, N. Y.  
 General Electric Co., Silicone Products Dept., Waterford, N. Y.  
 Silicones Division, A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

**SILICONE OILS**

Dow Corning Corp., Midland, Mich.  
 Ed-Berl Products, Inc., 87 Merrick Rd., Baldwin, N. Y.  
 General Electric Co., Silicone Products Dept., Waterford, N. Y.

Silicones Division, A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

## SILICONE RUBBER INSULATION PARTS

See INSULATION PARTS

### SILICONE RUBBER

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
**CONNECTICUT HARD RUBBER CO.**, 407 East St., New Haven 9, Conn. ADV. PG. 646.  
 Dow Corning Corp., Midland, Mich.  
 Garlock Packing Co., The, Palmyra, N. Y.  
 General Electric Co., Silicone Products Dept., Watertown, N. Y.  
 Minnesota Rubber & Gasket Co., 3630 Wooddale Ave., Minneapolis 16, Minn.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
**PACIFIC MOULDED PRODUCTS**, 905 E. 59th St., Los Angeles, Calif. ADV. PG. 462.  
 Rogers Corp., Goodyear, Conn.  
 Silicones Division, A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

### SILK SCREEN PROCESSING

Bill Jack Scientific Instrument Co., P. O. Box C-3, Solano Beach, Calif.  
 Bolling Industries, Inc., 1117 N. Main Ave., Scranton 2, Pa.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.  
 General Research & Supply Co., 572 S. Division Ave., Grand Rapids 3, Mich.  
 Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.  
 Hansen Electronics, 7117 Santa Monica Blvd., Los Angeles 46, Calif.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**LEYSE ALUMINUM CO.**, Kewaunee, Wis. ADV. PG. 452.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Mechanical Felt & Textiles Co., 50 W. 18th St., Weehawken, N. J.  
 Metaplast Co., Inc., 34-51 56th St., Woodside, N. Y.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Nameplates, Inc., 425 E. 101st St., Brooklyn 36, N. Y.  
 Naz-Dar Co., 465 Milwaukee Ave., Chicago 10, Ill.  
 Panelgraphic Corp., P. O. Box 254, Caldwell, N. J.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
 Supreme Process Corp., 44 Bond St., Westbury, N. Y.  
 Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.

### SLEEVEING—Electrical Insulating

See INSULATION PARTS

### SLEEVEING—Varnished or Lacquered

See TUBING—Varnished or Lacquered

### SLIDES—Chassis

British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
**CHASSIS-TRAK, INC.**, 6248 E. Iona Rd., Indianapolis 3, Ind. ADV. PG. 681.  
**GRANT PULLEY & HARDWARE CORP.**, High St., West Nyack, N. Y. ADV. PG. 577.  
**RADIO FREQUENCY LABS., INC.**, Boonton 2, N. J. ADV. PG. 555.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.

### SLIP RING ASSEMBLIES

**IRFLYTE ELECTRONICS CO.**, 535-9 Avenue "A", Bayonne, N. J. ADV. PG. 615.  
 Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Boonton Molding Co., Boonton, N. J.  
 Freeze Corps., Inc., 700 Liberty Ave., Union, N. J.  
**OLLECTRON CORP.**, 304 E. 45th St., New York 17, N. Y. ADV. PG. 557.  
 Electro Development Co., 14701 Keswick St., Van Nuys, Calif.  
**ELECTRO-MINIATURES CORP.**, 1060 Elm Ave., Ridgefield, N. J. ADV. PG. 539.  
**ELECTRO TEC CORP.**, South Hackensack, N. J. ADV. PG. 149.  
 Gibson Electric Co., The, Box J527, Delmont, Pa.  
**GRAPHITE METALLIZING CORP.**, 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 Industrial Electrical Works, 1509 Chicago St., Omaha 2, Neb.  
 Fireman Mfg. Co., Electronics Div., 2838 E. 9th Ave., Portland 2, Ore.  
**AMTEX INDUSTRIES, INC.**, 51 State St., Westbury, N. Y. ADV. PG. 596.

**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**NEY CO., J. M.**, 179 Elm St., Hartford, Conn. ADV. PG. 558.  
 Poly-Scientific Corp., Blacksburg, Va.  
 Servonic Instruments, Inc., 1143 S. Fair Oaks Ave., Pasadena 2, Calif.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Slip Ring Co. of America, 3612-3622 W. Jefferson Blvd., Los Angeles 21, Calif.  
 Superior Carbon Products Co., 9115 George Ave., Cleveland 5, Ohio.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
**UNIWAVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.

### SMOKE

See DETECTORS

### SOCKETS

- |                    |                  |
|--------------------|------------------|
| 1. Crystal         | 8. Relay         |
| 2. Diode           | 9. Sub-Miniature |
| 3. Lamp            | 10. Transistor   |
| 4. Miniature       | 11. Tube         |
| 5. Pencil Tube     | 12. Turret       |
| 6. Pilot Light     | 13. UHF Tube     |
| 7. Printed Circuit | 14. Wiring Plug  |

Accurate Electronics Corp., 169 Abbe Rd., S. Elyria, Ohio. 11.  
 Aeronautical Electronic Co., 5656 Northwest Highway, Chicago 30, Ill. 4-6.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass. 11.  
 Aerovox Corp., Pacific Coast Div., 2724 So. Peck Rd., Monrovia, Calif. 11.  
 Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill. 4-7-11.  
**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. 3-4-6-11. ADV. PG. 567.  
**ALLIED CONTROL CO., INC.**, 2 East End Ave., New York 21, N. Y. 8. ADV. PG. 126, 127.  
 American Brass Co., 414 Meadow St., Waterbury 20, Conn. 3-4.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. 11. ADV. PG. 279.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. 4-11. ADV. PG. 158.  
**ANTON ELECTRONICS LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. 7. ADV. PG. 691.  
 Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y. 3-6.  
 Armel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y. 8.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn. 4.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H. 12.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. 11-13. ADV. PG. 501.  
 Braun Tool & Instrument Co., Inc., 140 Fifth Ave., Hawthorne, N. J. 4-11.  
 British Electronics Sales Co., Inc., Oakland Garden Station, Flushing 64, N. Y. 1-2-3-4.  
**CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. 1-2-4-5-7-8-9-10-11-12-13. ADV. PG. 131-133.  
**CIRCON COMPONENT CO.**, Santa Barbara Municipal Airport, Goleta, Calif. 3-6-7-9. ADV. PG. 638.  
 Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio. 7.  
**COAXIAL CONNECTOR CO., INC.**, 37 N. Second Ave., Mt. Vernon, N. Y. 4-7-9. ADV. PG. 600.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. 11. ADV. PG. 113-118.  
 Community Engineering Corp., Box 824, State College, Pa. 13.  
 Connector Corp., 6025 N. Keystone Ave., Chicago, Ill.  
**DESIGN TOOL CORP.**, 80 Washington St., New York 6, N. Y. 7. ADV. PG. 678.  
**DIALIGHT CORPORATION**, 60 Stewart Ave., Brooklyn 37, N. Y. 3-6. ADV. PG. 120.  
 Drake Mfg. Co., 1713 W. Hubbard St., Chicago 22, Ill. 3-4-6.  
 Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza S., Long Island City, N. Y. 3.  
 Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa. 1-4-5-7-8-9-10-11-12.  
**EITEL-McCULLOUGH, INC.**, San Bruno, Calif. 11-13. ADV. PG. 128, 129.  
**ELCO CORP.**, "M" St. below Erie Ave., Philadelphia 24, Pa. 1-4-7-8-9-10-11-12-13. ADV. PG. 284.  
 Enfo Corp., Route 38 at Airport Circle, Pensauken, N. J. 1-4-11-13.  
 Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill. 11.  
**GRAYHILL, INC.**, 537 Hillgrove Ave., La Grange, Ill. 5. ADV. PG. 493.  
**INDUSTRIAL HARDWARE MFG. CO., INC.**, 109 Prince St., New York, N. Y. 4-6-7-9-10-11. ADV. PG. 693.  
 Javex, P. O. Box 646, Redlands, Calif. 1-4.  
 Johnson Co., E. F., Waseca, Minn. 4-11-13.  
**KEYSTONE ELECTRONICS CORP.**, 423 Broome St., New York 13, N. Y. 2. ADV. PG. 675.  
**KULKA ELECTRIC MFG. CO., INC.**, 633 S. Fulton Ave., Mt. Vernon, N. Y. 3-6. ADV. PG. 685.  
 Livingston Electronic Corp., Livingston, N. J. 4-7-9-11-13.

Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago, Ill. 4-7-11-13.  
 Marco Industries Co., 207 S. Helena St., Anaheim, Calif. 6-9.  
**METHODE MFG. CORP.**, 2021 W. Churchill St., Chicago 47, Ill. 1-2-4-7-10-11-12-13. ADV. PG. 204.  
 Micarta Fabricators, Inc., 5412 N. Clark, Chicago 40, Ill. 6.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass. 1-3-11.  
 Miller Labs., August E., 9226 Hudson Blvd., North Bergen, N. J. 1.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. 7. ADV. PG. 622.  
 Morse Co., Frank W., 1300 Soldiers Field Rd., Boston 35, Mass. 3-4.  
 Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis 14, Mo. 1.  
**MYCALEX CORP. OF AMERICA**, 125 Clifton Blvd., Clifton, N. J. 11. ADV. PG. 140, 141.  
 Mycalex Tube Socket Corporation, 125 Clifton Blvd., Clifton, N. J. 4-7-9-10-11-13.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass. 1-11.  
 National Fabricated Products Div. of Hoffman Electronics Corp., 2650 W. Belden Ave., Chicago 47, Ill. 11.  
**NATIONAL TEL-TRONICS CORP.**, 35 St. Casimir Ave., Yonkers, N. Y. 4-6-7-11. ADV. PG. 642.  
 Permonite Mfg. Co., 444 N. Lake Shore Dr., Chicago 11, Ill. 1-3-4-5-7-11.  
 Plastic Mold & Engineering Co., Inc., 157 Clifton St., Providence 3, R. I. 4-7-9-10-11.  
**RS ELECTRONICS CORP.**, 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif. 13.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill. 11.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif. 11.  
**RICHARDSON CO., THE**, 2767 Lake St., Melrose Park, Ill. 7. ADV. PG. 530.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. 4-7-9-11. ADV. PG. 643.  
 Royal Electric Corp., Pawtucket, R. I. 3.  
 Rye Sound Corp., 21 Rye Rd., Rye, N. Y. 9.  
**SEALTECH CORP.**, 610 Fayette Ave., Mamaroneck, N. Y. 1. ADV. PG. 464.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif. 11.  
**STAR EXPANSION PRODUCTS CO., INC.**, 142 Liberty St., New York 6, N. Y. 14. ADV. PG. 588.  
 Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn. 11.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. 1-2-3-4-6-7-9-10-11-12-13. ADV. PG. 733-739.  
**TECHRON CORP.**, 81 Washington St., Boston 8, Mass. 2-9-10. ADV. PG. 656.  
 Tingstol Co., 1461 W. Grand Ave., Chicago 22, Ill. 3-4-6.  
**U. S. COMPONENTS, INC.**, 454 E. 148th St., New York 55, N. Y. 4-7-8-9. ADV. PG. 359.  
**U. S. GASKET CO.**, Camden, N. J. 1-2-4-7-9-10-11. ADV. PG. 418, 635.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich. 3-6.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill. 1-2-4-11.  
 Warren Plastics Corp., Warren, Pa. 1-2-10.  
 Winchester Electronics, Inc., Willard Rd., Norwalk, Conn. 11.

### SOLDER

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 All-State Welding Alloys Co., Inc., 249 Ferris Ave., White Plains, N. Y.  
 Allen Co., Inc., L. B., 6751 Bryn Mawr Ave., Chicago 31, Ill.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
**AMERICAN METAL CO., LTD., THE**, 61 Broadway, New York 6, N. Y. ADV. PG. 496.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 Bow Solder Products Co., Inc., 251 Freeman St., Brooklyn 22, N. Y.  
 Cerro De Pasco Sales Corp., 300 Park Ave., New York 22, N. Y.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
 Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
 Dunton Co., M. W., 7 Goff St., Providence, R. I.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Electrovert Inc., 489 Fifth Ave., New York 17, N. Y.  
 Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
 Glaser Lead Co., Inc., 31 Wycoff Ave., Brooklyn 37, N. Y.  
 Howe International, 431 Danforth, Dept. E-7, Jersey City 5, N. J.  
 Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
 Johnson Mfg. Co., Inc., Mt. Vernon, Iowa.  
**KESTER SOLDER CO.**, 4212 Wrightwood Ave., Chicago 39, Ill. ADV. PG. 435.  
 Lenk Mfg. Co., The, 30 Cummington St., Boston 15, Mass.  
 London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.

MICO INSTRUMENT CO., 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
 Multicore Sales Corp., 80 Shore Rd., Port Washington, N. Y.  
 Multicore Solders, Ltd., Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
 New York Solder Co., 684 E. 133rd St., New York 54, N. Y.  
 Ruby Chemical Co., 68 McDowell St., Columbus, Ohio.  
 Soldering Specialties Co., 18 Chatham Rd., Summit, N. J.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**SOLDER—Aluminum**

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 Allen Co., Inc., L. B., 6751 Bryn Mawr Ave., Chicago 31, Ill.  
 All-State Welding Alloys Co., Inc., 249 Ferris Ave., White Plains, N. Y.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
 American Solder & Flux Co., 19th & Willard Sts., Philadelphia 40, Pa.  
 ANCHOR METAL CO., 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 Bow Solder Products Co., Inc., 251 Freeman St., Brooklyn 22, N. Y.  
 Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.  
 Dunton Co., M. W., 7 Goff St., Providence, R. I.  
 Glaser Lead Co., Inc., 31 Wyckoff Ave., Brooklyn 37, N. Y.  
 Howe International, 431 Danforth, Dept. E-7, Jersey City 5, N. J.  
 Johnson Mfg. Co., Inc., Mount Vernon, Iowa.  
 KESTER SOLDER CO., 4212 Wrightwood Ave., Chicago 39, Ill. ADV. PG. 435.  
 Lenk Mfg. Co., The, 30 Cummington St., Boston 15, Mass.  
 Louis Laboratories, 1947 Broadway, New York 23, N. Y.

**SOLDER—Platinum**

ANCHOR METAL CO., 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 BAKER & CO., INC., 113 Astor St., Newark 5, N. J. ADV. PG. 313.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
 Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
 Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
 METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Metz Refining Co., 369 Mulberry St., Newark 2, N. J.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
 WESTERN GOLD & PLATINUM CO., 525 Harbor Blvd., Belmont, Calif. ADV. PG. 593.  
 Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

**SOLDER—Silver**

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 All-State Welding Alloys Co., Inc., 249 Ferris Ave., White Plains, N. Y.  
 Allen Co., Inc., L. B., 6751 Bryn Mawr Ave., Chicago 31, Ill.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 ANCHOR METAL CO., 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 BAKER & CO., INC., 113 Astor St., Newark 5, N. J. ADV. PG. 313.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20 Conn.  
 Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
 Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
 Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
 Glaser Lead Co., Inc., 31 Wyckoff Ave., Brooklyn 37, N. Y.  
 Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.  
 HANDY & HARMAN, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
 Howe International, 431 Danforth, Dept. E-7, Jersey City 5, N. J.  
 LEACH & GARNER CO., Attleboro, Mass. ADV. PG. 327.  
 London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.  
 MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392.  
 METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Metz Refining Co., 369 Mulberry St., Newark 2, N. J.

Multicore Solders, Ltd., Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
 Soldering Specialties Co., 18 Chatham Rd., Summit, N. J.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
 United Wire & Supply Corp., Providence 7, R. I.  
 WESTERN GOLD & PLATINUM CO., 525 Harbor Blvd., Belmont, Calif. ADV. PG. 593.  
 Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

**SOLDER—Rings and Preforms**

Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.  
 All-State Welding Alloys Co., Inc., 249 Ferris Ave., White Plains, N. Y.  
 Allen Co., Inc., L. B., 6751 Bryn Mawr Ave., Chicago 31, Ill.  
 Alpha Metals, Inc., 60 Water St., Jersey City, N. J.  
 ANCHOR METAL CO., 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
 BAKER & CO., INC., 113 Astor St., Newark 5, N. J. ADV. PG. 313.  
 Bow Solder Products Co., Inc., 251 Freeman St., Brooklyn 22, N. Y.  
 Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
 GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV., Attleboro, Mass. ADV. PG. 327.  
 Gibson Electric Co., The, Box J527, Delmont, Pa.  
 HANDY & HARMAN, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
 Howe International, 431 Danforth, Dept. E-7, Jersey City 5, N. J.  
 Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
 KESTER SOLDER CO., 4212 Wrightwood Ave., Chicago 39, Ill. ADV. PG. 435.  
 Multicore Solders Ltd., Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
 Soldering Specialties Co., 18 Chatham Rd., Summit, N. J.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
 WESTERN GOLD & PLATINUM CO., 525 Harbor Blvd., Belmont, Calif. ADV. PG. 593.

**SOLDERING IRONS**

See IRONS—Soldering  
 TOOLS—Thermal Soldering  
 TOOLS—Ultrasonic Soldering

**SOLENOID COILS**

See COILS—Magnet

**SOLENOID VALVES**

See VALVES—Solenoid

**SOLENOIDS**

A. P. W. Co., 72 W. Main St., Rockaway, N. J.  
 ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Artisan Electronic Corp., 171 Ridgedale Ave., Norristown, N. J.  
 Automation Instruments, Inc., Aluminum Foil Transformer Div., 401 E. Green St., Pasadena, Calif.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Best Manufacturing Co., Inc., 1200 Grove St., Irvington 11, N. J.  
 Caltron Products Co., 3518 W. Pico Blvd., Los Angeles 19, Calif.  
 CANNON ELECTRIC CO., 3208 Humboldt St., Los Angeles 31, Calif. ADV. PG. 44.  
 Coilcraft, Inc., Cary, Ill.  
 COMAR ELECTRIC CO., 3349 W. Addison St., Chicago 18, Ill. ADV. PG. 432.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill.  
 GENERAL CONTROLS Co., Glendale 1, Calif. ADV. PG. 546.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 HILLBURN ELECTRONIC PRODUCTS CO., 55 Nassau Ave., Brooklyn 22, N. Y. ADV. PG. 653.  
 INDUCTION MOTORS CORP., 570 Main St., Westbury, N. Y. ADV. PG. 266.  
 KURMAN ELECTRIC CO., INC., 191-193 Newel St., Brooklyn 22, N. Y. ADV. PG. 669.  
 McQuay-Norris Mfg. Co., 2320 Marconi Ave., St. Louis 10, Mo.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marine View Electronics Inc., 28 Main St., White Plains, N. Y.  
 National Acme Co., 170 E. 131st St., Cleveland 8, Ohio.

Naybor Laboratories, Inc., E. V., 2 Yennicock Ave., Port Washington, N. Y.  
 New York Coil Co., Phoenixville 12, Pa.  
 OAK MFG. CO., 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
 Oaktron Electric Co., Tinley Park, Ill.  
 PSP ENGINEERING CO., 8606 Otis St., South Gate, Calif. ADV. PG. 621.  
 Phillips Control Corp., 59 W. Washington St., Joliet, Ill.  
 PICKERING & CO., 309 Woods Ave., Oceanside, N. Y. ADV. PG. 617.  
 R. B. M. Division, Essex Wire Corp., Loganport, Ind.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill.  
 Soreng Products Corp., 9555 Soreng Ave., Schiller Park, Ill.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Synchro Start Products, Inc., 8151 Ridgeway Ave., Skokie, Ill.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 U. S. Relay Co., 1740 Albion St., Los Angeles 31, Calif.  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif.  
 West Coast Electrical Mfg. Co., 233 W. 116th Place, Los Angeles 61, Calif.

**SOLENOIDS—Rotary**

Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill.  
 Leland, Inc., G. H., 123 Webster St., Dayton 2, Ohio.  
 Magnuson Engineers, Inc., 509 Emory St., San Jose 10, Calif.  
 Marine View Electronics Inc., 28 Main St., White Plains, N. Y.  
 OAK MFG. CO., 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
 Oaktron Electric Co., Tinley Park, Ill.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif.

**SOLENOIDS—Sub-Miniature**

A. P. W. Co., 72 N. Main St., Rockaway, N. J.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 HILLBURN ELECTRONIC PRODUCTS CO., 55 Nassau Ave., Brooklyn 22, N. Y. ADV. PG. 653.  
 INDUCTION MOTORS CORP., 570 Main St., Westbury, N. Y. ADV. PG. 266.  
 KURMAN ELECTRIC CO., INC., 191-193 Newel St., Brooklyn 22, N. Y. ADV. PG. 669.  
 Marine View Electronics, Inc., 28 Main St., White Plains, N. Y.  
 Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
 Naybor Laboratories, Inc., E. V., 2 Yennicock Ave., Port Washington, N. Y.  
 Oaktron Electric Co., Tinley Park, Ill.  
 PSP ENGINEERING CO., 8608 Otis St., South Gate, Calif. ADV. PG. 621.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
 Tur-Bo Jet Products, Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif.  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif.  
 West Coast Electrical Mfg. Corp., 233 W. 116th Place, Los Angeles 61, Calif.

**SOLVENTS—Epoxy Resin**

Aries Laboratories, Inc., 45-33 Davis St., Long Island City 1, N. Y.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 George Co., P. D., 5200 N. Second St., St. Louis, Mo.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Mona Industries, Inc., Paterson 4, N. J.

**SOLVENTS—Oil & Grease**

Borden Co., The Chemical Div., 350 Madison Ave., New York 17, N. Y.  
 Cobehn, Inc., 100 Passaic Ave., Caldwell, N. J.  
 Dow Chemical Co., Midland, Mich.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Enthone, Inc., 442 Elm St., New Haven 2, Conn.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
 George Co., P. D., 5200 N. Second St., St. Louis, Mo.  
 HOULIHAN CO., T. J., 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
 London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.

**SOLVENTS—Rosin Flux**

Alpha Metals, Inc., 60 Water St., Jersey City, N. J.

Cobehn Inc., 100 Passaic Ave., Caldwell, N. J.  
 Johnson Mfg. Co., Inc., Mt. Vernon, Iowa.  
 London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.

Stromberg-Carlson Co., Div. of General Dynamics Corp.,  
 100 Carlson Rd., Rochester 3, N. Y.  
**UNIVERSITY LOUDSPEAKERS, INC.**, 80 S. Kensico Ave.,  
 White Plains, N. Y. ADV. PG. 514.

**UNIVERSITY LOUDSPEAKERS, INC.**, 80 S. Kensico Ave.,  
 White Plains, N. Y. ADV. PG. 514.

## SONAR

Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.  
 Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Chesapeake Instrument Corp., Shadyside, Md.  
 Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.  
 Edo Corp., College Point, N. Y.  
 Goodrich Industrial Products Co., B. F., 500 S. Main St., Akron 18, Ohio.  
 Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.

## SOUND SYSTEMS—Complete

AMPEX CORP., 934 Charter St., Redwood City, Calif. ADV. PG. 285.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 Califone Corp., 1041 N. Sycamore Ave., Hollywood 38, Calif.  
 Dukane Corp., St. Charles, Ill.  
 Executone, Inc., 415 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Loge Sound Engineers, J. M., 2171 W. Washington Blvd., Los Angeles 18, Calif.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
 Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
 Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago 41, Ill.  
 Neill Co., Inc., R. W. 4320 Montrose Ave., Chicago 41, Ill.  
 Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.  
 O'Brien Electric Corp., 6514 Santa Monica Blvd., Hollywood 38, Calif.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Gauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
 Heeburg, J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 Vestrex Corp., 111 Eighth Ave., New York 11, N. Y.

## PACERS—Bar See PARTS for COLOR TV TUBES

## PEAKER DRIVER UNITS

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.  
 Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 Hartley Products Co., 521 E. 162nd St., New York 51, N. Y.  
 Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago 38, Ill.  
 Lansing Sound, Inc., James B., 2439 Fletcher Drive, Los Angeles 26, Calif.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Racon Electric Co., 1261 Broadway, New York 1, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.

## SPEAKERS

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 AMPEX CORP., 934 Charter St., Redwood City, Calif. ADV. PG. 285.  
 Arnhold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y.  
 Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
 Becker Electronics Mfg. Corp., Horton & Rockaway Aves., Valley Stream, N. Y.  
 Best Mfg. Co., Inc., 1200 Grove St., Irvington 11, N. J.  
 Bozak Mfg. Co., R. T., Box 966, Darien, Conn.  
 British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
 Carboneau Industries, Inc., 100 Lexington S.W., Grand Rapids, Wis.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 17, Ill.  
 Dukane Corp., St. Charles, Ill.  
 Duotone Co., Inc., Keyport, N. J.  
 Eltran Corp., St. Anne, Ill.  
 Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
 Hartley Products Co., 521 E. 162nd St., New York 51, N. Y.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
 Heppner Mfg. Co., P. O. Box 612, Round Lake, Ill.  
 Holl Audio Inc., 5014 N. Encinita Ave., Temple City, Calif.  
 Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago 38, Ill.  
**KNOWLES ELECTRONICS, INC.**, 9400 Belmont Ave., Franklin Park, Ill. ADV. PG. 178.  
 Lansing Sound Inc., James B., 2439 Fletcher Drive, Los Angeles 26, Calif.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 McGregor Electronic Industries, Inc., McGregor, Iowa.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
 Molded Fibreglas Co., 4401 Benefit Ave., Ashtabula, Ohio.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Oxford Electric Corp., 3911 S. Michigan Ave., Chicago 15, Ill.  
 Perfection Electric Co., 2635 S. Wabash Ave., Chicago 16, Ill.  
**PICKERING & CO.**, 309 Woods Ave., Oceanside, N. Y. ADV. PG. 617.  
 Quam-Nichols Co., Marquette Rd. & Prairie Ave., Chicago 37, Ill.  
 Racon Electric Co., 1261 Broadway, New York 1, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Radio Mfg. Engineers, Inc., 501 Walnut St., Washington, Ill.  
 Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 Setchell Carlson, Inc., 330 Fifth Ave., New Brighton, Minn.  
**SONOTONE CORP.**, Saw Mill River Rd., P. O. Box 200, Elmsford, N. Y. ADV. PG. 674.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telex, Inc., Telex Park, St. Paul 1, Minn.  
**UNIVERSITY LOUDSPEAKERS INC.**, 80 S. Kensico Ave., White Plains, N. Y. ADV. PG. 514.  
 Wright-Zimmerman, Inc., New Brighton, Minn.

## SPEAKERS—Dual Cone

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
 Carboneau Industries, Inc., 100 Lexington Ave., S.W., Grand Rapids, Mich.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
 Duotone Co., Inc., Keyport, N. J.  
 Electro-Voice Mfg. Co., Inc., Buchanan, Mich.  
 McGregor Electronic Industries, Inc., McGregor, Iowa.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Oxford Electric Corp., 3911 S. Michigan Ave., Chicago 15, Ill.  
 Quam-Nichols Co., Marquette Rd. & Prairie Ave., Chicago 37, Ill.  
 Racon Electric Co., 1261 Broadway, New York 1, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.

## SPEAKERS—Flame & Explosion-Proof

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
 McGregor Electronic Industries, Inc., McGregor, Iowa.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
 Racon Electric Co., 1261 Broadway, New York 1, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**UNIVERSITY LOUDSPEAKERS, INC.**, 80 S. Kensico Ave., White Plains, N. Y. ADV. PG. 514.

## SPEAKERS—Marine Speaker Systems

ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.  
 Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
 Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.  
 Marcon's Wireless Telegraph Co., Ltd., 23-25 Beaver St., New York 4, N. Y.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Racon Electric Co., 1261 Broadway, New York 1, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
**UNIVERSITY LOUDSPEAKERS, INC.**, 80 S. Kensico Ave., White Plains, N. Y. ADV. PG. 514.

## SPECTROMETERS—Mass

Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.

## SPECTROMETERS and SPECTROGRAPHS

American Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 American Optical Co., Instrument Div., Box A, Buffalo 15, N. Y.  
 Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
 Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
 Farrand Optical Co., Inc., Bronx Blvd. at 238th St., New York 70, N. Y.  
 Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
 Gaertner Scientific Corp., 1239 Wrightwood Ave., Chicago 14, Ill.  
 Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.  
 National Spectrographic Labs., Inc., 6300 Euclid Ave., Cleveland 3, Ohio.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 Scientific Instruments Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.  
 Scientific Instruments Service Co., 44 Bromfield St., Boston 8, Mass.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.

## SPECTROPHOTOMETERS

American Electronic Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.  
 American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.

American Optical Co., Instrument Div., Box A, Buffalo 15, N. Y.  
 Applied Physics Corp., 362 W. Colorado St., Pasadena 1, Calif.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
 Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.  
 Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.  
 Farrand Optical Co., Inc., Bronx Blvd. at 238th St., New York 70, N. Y.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.  
 Magnuson Engineers, Inc., 509 Emory St., San Jose 10, Calif.  
 Perkin-Elmer Corp., The, Main Ave., Norwalk, Conn.  
 Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.  
 Scientific Instruments Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.

**SPECTROSCOPIC SOURCE UNITS**

Applied Research Labs., 3717 Park Place, Glendale 8, Calif.  
 Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
 Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.  
 National Spectrographic Labs., Inc., 6300 Euclid Ave., Cleveland 3, Ohio.

**SPEECH INPUT CONSOLES**

See **AMPLIFIERS—Audio Input Systems**

**SPEED CONTROLS AC MOTORS**

See **CONTROLS—Electronic AC Motor Speed**

**SPLICERS—for Magnetic Recording Tape**

**ELECTROMATION CO.**, 1646 Eighteenth St., Santa Monica, Calif. ADV. PG. 692.  
 Multicore Solders, Ltd., Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
 Robins Industries Corp., 214-26 41st Ave., Bayside, N. Y.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.

**SPRINGS**

Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.  
 Ace Spring Mfg. Co., 77 W. Houston St., New York 12, N. Y.  
**BARNES CO., WALLACE, DIV. OF ASSOCIATED SPRING CORP.**, Bristol, Conn. ADV. PG. 311.  
**BARNES-GIBSON-RAYMOND DIVISION**, 40300 Plymouth Rd., Plymouth, Mich. ADV. PG. 311.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
 Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorne, N. J.  
 Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
 Dudek & Bock Spring & Mfg. Co., 4018 W. Grand Ave., Chicago 51, Ill.  
 Dzus Fastener Co., Inc., Box 185, Babylon, N. Y.  
 Eastern Tool & Specialty Co., 1 Montgomery St., Belleville 9, N. J.  
 Exacto Industries, Inc., 8730-36 Santa Monica Blvd., Los Angeles 46, Calif.  
**GIBSON CO., WILLIAM D., THE**, 1800 Clybourn Ave., Chicago 14, Ill. ADV. PG. 311.  
 I. E. Manufacturing, 325 N. Hoyle Ave., Chicago 12, Ill.  
**INSTRUMENT SPECIALTIES CO., INC.**, 254 Bergen Blvd., Little Falls, N. J. ADV. PG. 240.  
 Kleiner Metal Specialties, Inc., P.O. Box K, Dunellen, N. J.  
 Lee Spring Co., Inc., 32 Main St., Brooklyn 1, N. Y.  
 Mid-West Spring Mfg. Co., Mentone, Ind.  
**MILWAUKEE DIV. OF ASSOCIATED SPRING CORP.**, 341 E. Erie St., Milwaukee 2, Wis. ADV. PG. 311.  
 Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
**OHIO DIV. OF ASSOCIATED SPRING CORP.**, 1825 E. First St., Dayton 3, Ohio. ADV. PG. 311.  
 P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
**RAYMOND MANUFACTURING CO.**, Corry, Pa. ADV. PG. 311.  
 Reliable Spring & Wire Forms Co., Fulton Rd. & Paris Ave., Cleveland 9, Ohio.  
**SEABOARD COIL SPRING DIVISION**, 15001 S. Broadway, Gardena, Calif. ADV. PG. 311.  
 Sheffco Mfg. Co., Grand & Ruby Aves., Palisades Park, N. J.  
 Stanley Tools, New Britain, Conn.  
 Stone City Machine & Tool Co., Inc., P.O. Box 351, 1206 Seventh St., Bedford, Ind.

Thomas & Sons, Inc., William, Slocum Ave., Ridgefield, N. J.  
 Trent Tube Co., East Troy, N. Y.  
 Wales-Strippit Co., Akron, New York.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**SPRINGS—Antenna Tension**

Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.  
**BARNES CO., WALLACE DIV. OF ASSOCIATED SPRING CORP.**, Bristol, Conn. ADV. PG. 311.  
**BARNES-GIBSON-RAYMOND DIVISION**, 40300 Plymouth Rd., Plymouth, Mich. ADV. PG. 311.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Communication Products Co., Inc., Marlboro, N. J.  
**GIBSON CO., WILLIAM D., THE**, 1800 Clybourn Ave., Chicago 14, Ill. ADV. PG. 311.  
**HK METAL CRAFT MFG. CORP.**, 3775 Tenth Ave., New York 34, N. Y. ADV. PG. 630.  
**MILWAUKEE DIV. OF ASSOCIATED SPRING CORP.**, 341 E. Erie St., Milwaukee 2, Wis. ADV. PG. 311.  
 Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
**OHIO DIV. OF ASSOCIATED SPRING CORP.**, 1825 E. First St., Dayton 3, Ohio. ADV. PG. 311.  
**RAYMOND MANUFACTURING CO.**, Corry, Pa. ADV. PG. 311.  
**SEABOARD COIL SPRING DIVISION**, 15001 S. Broadway, Gardena, Calif. ADV. PG. 311.  
 Wind Turbine Co., E. Market St. & Penna. R.R., West Chester, Pa.

**SPRINGS—Instrument Hairsprings**

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
 American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
**BARNES CO., WALLACE, DIV. OF ASSOCIATED SPRING CORP.**, Bristol, Conn. ADV. PG. 311.  
**BARNES-GIBSON-RAYMOND DIVISION**, 40300 Plymouth Rd., Plymouth, Mich. ADV. PG. 311.  
 Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
 Dudek & Bock Spring & Mfg. Co., 4018 W. Grand Ave., Chicago 51, Ill.  
 Exacto Industries, Inc., 8730-36 Santa Monica Blvd., Los Angeles 46, Calif.  
**GIBSON CO., WILLIAM D., THE**, 1800 Clybourn Ave., Chicago 14, Ill. ADV. PG. 311.  
 Instrument Wire Co., 41 Kendall Ave., Maplewood, N. J.  
**MILWAUKEE DIV. OF ASSOCIATED SPRING CORP.**, 341 E. Erie St., Milwaukee 2, Wis. ADV. PG. 311.  
 Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
**OHIO DIV. OF ASSOCIATED SPRING CORP.**, 1825 E. First St., Dayton 3, Ohio. ADV. PG. 311.  
 Precision Products Co., Inc., of Waltham, 26 Bedford St., Waltham 54, Mass.  
**RAYMOND MANUFACTURING CO.**, Corry, Pa. ADV. PG. 311.  
**SEABOARD COIL SPRING DIVISION**, 15001 S. Broadway, Gardena, Calif. ADV. PG. 311.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

**SPRINGS—Precision**

Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.  
 Ace Spring Mfg. Co., 77 West Houston St., New York 12, N. Y.  
 American Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.  
**BARNES CO., WALLACE, DIV. OF ASSOCIATED SPRING CORP.**, Bristol, Conn. ADV. PG. 311.  
**BARNES-GIBSON-RAYMOND DIVISION**, 40300 Plymouth Rd., Plymouth, Mich. ADV. PG. 311.  
 Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorne, N. J.  
 Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
 Chatillon & Sons, John, 85 Cliff St., New York, N. Y.  
 Dudek & Bock Spring & Mfg. Co., 4018 W. Grand Ave., Chicago 51, Ill.  
**GIBSON CO., WILLIAM D., THE**, 1800 Clybourn Ave., Chicago 14, Ill. ADV. PG. 311.  
**INSTRUMENT SPECIALTIES CO., INC.**, 254 Bergen Blvd., Little Falls, N. J. ADV. PG. 240.  
 Lee Spring Co., Inc., 32 Main St., Brooklyn 1, N. Y.  
 Lewis Spring & Mfg. Corp., 2656 W. North Ave., Chicago 47, Ill.  
 Mid-West Spring Mfg. Co., Mentone, Ind.  
**MILWAUKEE DIV. OF ASSOCIATED SPRING CORP.**, 341 E. Erie St., Milwaukee 2, Wis. ADV. PG. 311.  
 Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
**OHIO DIV. OF ASSOCIATED SPRING CORP.**, 1825 E. First St., Dayton 3, Ohio. ADV. PG. 311.  
 P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
**PIX MFG. CO., INC.**, 81A Hudson St., Newark, N. J. ADV. PG. 670.  
**RAYMOND MANUFACTURING CO.**, Corry, Pa. ADV. PG. 311.  
 Reliable Spring & Wire Forms Co., Fulton Rd. & Paris Ave., Cleveland 9, Ohio.  
**SEABOARD COIL SPRING DIVISION**, 15001 S. Broadway, Gardena, Calif. ADV. PG. 311.  
 Thomas & Sons, Inc., William, Slocum Ave., Ridgefield, N. J.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

**STABILIZERS**

See **REGULATORS—Voltage Regulators & Stabilizers**

**STAMPED CIRCUITS**

See **CIRCUITS—Printed, Stamped or Etched**

**STAMPS—Marking**

Ackerman-Gould Co., 92 Bleecker St., New York, N. Y.  
 Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.  
 Diamond-Union Stamp Works, 81 Washington St., Boston 8, Mass.  
 Griffin Co., John, 2157 James Ave., St. Paul 5, Minn.  
**KRENGEL MFG. CO., INC.**, 227 Fulton St., New York 7, N. Y. ADV. PG. 690.  
 Noble & Westbrook Mfg. Co., 27 Westbrook St., East Hartford 8, Conn.  
 Numberall Stamp & Tool Co., Huguenot Park, Staten Island 12, N. Y.  
**PRECISE MEASUREMENTS CO.**, R. D., # 1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.

**STANDARDS—Capacitance****STANDARDS—Frequency**

See **INSTRUMENTS—Electrical Measuring**

**STANDARDS—Frequency, Microwave**

See **MICROWAVE ACCESSORIES**

**STANDARDS—Inductance**

See **INSTRUMENTS—Electrical Measuring**

**STANDARDS—Laboratory Time**

Airmec, Ltd., High Wycombe, Buckinghamshire, England.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 National Co., Inc., 61 Sherman St., Malden 48, Mass.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Norrman Laboratories, Ernst, Williams Bay, Wis.  
 Riverbank Laboratories, Dept. of Engineering, P. O. Box 65, Geneva, Ill.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
**TIMES FACSIMILE CORP.**, 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.

**STANDARDS—Resistance**

See **INSTRUMENTS—Electrical Measuring**

**STANDARDS EQUIPMENT—Calibration**

**AIRBORNE INSTRUMENTS LAB., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, DEPT. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
**CONTROL ELECTRONICS CO., INC.**, 1925 New York Ave., Huntington Station, N. Y. ADV. PG. 680.  
 Fluke Mfg. Co., Inc., 1111 W. Nickerson St., Seattle 99, Wash.  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
 Haller, Raymond & Brown, Inc., State College, Pa.  
 Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
**PHYSICS RESEARCH LABS., INC.**, P.O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
**RADIO FREQUENCY LABS, INC.**, Boonton 2, N. J. ADV. PG. 555.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.

**STANDARD WAVE**

See **DETECTORS**

**STANDS—Microphone**

**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Astatic Corp., Conneaut, Ohio.  
 Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 Bruel & Kjaer, Naerum, Denmark.

**ELGIN NATIONAL WATCH CO., ELECTRONICS DIV.,** 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
**Lesi, Via Bergamo 21,** Milan, Italy.  
**O'Brien Electric Corp.,** 6514 Santa Monica Blvd., Hollywood 38, Calif.  
**Racon Electric Co.,** 1261 Broadway, New York 1, N. Y.  
**Stromberg-Carlson Co., Div. of General Dynamics Corp.,** 100 Carlson Rd., Rochester 3, N. Y.  
**Webcor, Inc.,** Chicago, Ill.

### STANDS—Speaker

**Atlas Sound Corp.,** 1443 39th St., Brooklyn 18, N. Y.

### STEATITE

See **INSULATION MATERIALS**

### STETHOSCOPES—Amplifying

**Cinema-Television, Ltd.,** Worsley Bridge Rd., London, S.E. 26, England.  
**Corbett Science Labs., F. W.,** 3117 Venice Blvd., Los Angeles 19, Calif.  
**Electro-Medical Lab., Inc.,** South Woodstock 8, Vt.  
**Maico Co., Inc.,** 21 N. Third St., Minneapolis, Minn.  
**Summit Electronics, Inc.,** 7 Industrial Place, Summit, N. J.  
**Telex, Inc.,** Telex Park, St. Paul 1, Minn.

### STILLS & DEMINERALIZERS

See **DEMINERALIZERS & STILLS—Water**

### STIMULATORS

**Applegate & Co., C. J.,** 1840 24th St., Boulder, Colo.  
**Electro-Medical Lab., Inc.,** South Woodstock 8, Vt.  
**Electrodyn Co.,** Endicott St., Norwood, Mass.  
**Engineering Specialty Co.,** 3100 Eldredge St., Salt Lake City, Utah.  
**Grass Instrument Co.,** 101 Old Colony Ave., Quincy, Mass.  
**Holland Electronics,** 40 Great Jones St., New York 12, N. Y.  
**Lab-Tronics, Inc.,** 3656 N. Lincoln Ave., Chicago 13, Ill.  
**Measurement Engineering, Ltd.,** Arnprior, Ontario, Canada.  
**Nelson Instrument Co.,** 607 Howard St., Evanston, Ill.  
**Standard Electronics Research Corp.,** 2 East End Ave., New York 21, N. Y.  
**Teca Corp.,** 80 Main St., White Plains, N. Y.  
**Wappler, Inc.,** 27-10 Astoria Blvd., Long Island City 2, N. Y.

### STOOLS & BENCHES—for Work Assembly

**Amco Engineering Co.,** 7335 Ainslie St., Chicago 31, Ill.  
**Art-Lloyd Metal Products Corp.,** 2973 Cropsey Ave., Brooklyn 14, N. Y.  
**Cramer Posture Chair Co.,** 1205 Charlotte St., Kansas City 6, Mo.  
**Royal Metal Mfg. Co.,** 175 N. Michigan Ave., Chicago 1, Ill.  
**Standard Pressed Steel Co.,** Box 775, Jenkintown 10, Pa.

### STRAIGHTENERS—Pin, Tube

**DURO SPECIALTY CO., INC.,** 811 Boston St., Lynn, Mass. ADV. PG. 284.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC.,** 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**Production Tool & Fixture Co.,** 37 West Main St., Oyster Bay, N. Y.  
**STAR EXPANSION PRODUCTS CO., INC.,** 142 Liberty St., New York 6, N. Y. ADV. PG. 588.  
**SYLVANIA ELECTRIC PRODUCTS INC.,** 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Walsco Electronics Mfg. Co.,** 100 Green St., Rockford, Ill.

### STRAIN INDICATORS

See **INDICATORS**

### STRAIN RELIEFS

**AMP INC.,** 2100 Paxton St., Harrisburg, Pa. ADV. PG. 339.  
**Fastex Div. of Illinois Tool Works,** 195 Algonquin Rd., Des Plaines, Ill.  
**HEYMAN MFG. CO.,** Kenilworth 2, N. J. ADV. PG. 597.  
**WALKER CO., GEORGE,** 118 Amsterdam Ave., Passaic, N. J. ADV. PG. 640.  
**Walsco Electronics Mfg. Co.,** 100 Green St., Rockford, Ill.

### STRIP TRANSMISSION LINES—Microwave

See **MICROWAVE ACCESSORIES**

### STRIPPERS—Wire

See **MACHINES—Wire Stripping**  
**WIRE STRIPPERS—Chemical**  
**WIRE STRIPPERS—Hand**  
**WIRE STRIPPERS—Mechanical**

### STRIPS—Grounding

**Barwood Mfg. Co., Inc.,** L. J., 22 Williams St., Everett 49, Mass.  
**GENERAL COMPONENTS INC.,** 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
**METAL TEXTILE CORP.,** 647 E. First Ave., Roselle, N. J. ADV. PG. 450.  
**Permonite Mfg. Co.,** 444 N. Lake Shore Dr., Chicago 11, Ill.

### STRIPS—Mounting

**Aerolite Electronics Corp.,** 507-26th St., Union City, N. J.  
**Alcon Metal Products, Inc.,** 1750 N. Kimball Ave., Chicago 4, Ill.  
**Elm Laboratories,** 18 S. Broadway, Dobbs Ferry, N. Y.  
**Enflo Corp.,** Route 38 at Airport Circle, Pensauken, N. J.  
**FEDERAL SCREW PRODUCTS, INC.,** 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
**GENERAL COMPONENTS INC.,** 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
**KULKA ELECTRIC MFG. CO., INC.,** 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685.  
**Permonite Mfg. Co.,** 444 N. Lake Shore Dr., Chicago 11, Ill.  
**Smith, Inc.,** Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
**VECTOR ELECTRONIC CO.,** 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.  
**Warren Plastics Corp.,** Warren, Pa.

### STROBOSCOPE—Synchronizer

**Chadwick Helmuth Co.,** 472 E. Duarte Rd., Monrovia, Calif.  
**Gyro Electronics Co.,** 325 Canal St., New York, N. Y.  
**Kemlite Laboratories,** 1819 W. Grand Ave., Chicago 22, Ill.  
**MERCURY ELECTRONIC CO.,** Box 450, Red Bank, N. J. ADV. PG. 61.  
**Northeast Electronics Corp.,** P. O. Box 425, Municipal Airport, Concord, N. H.  
**Pantek Co.,** Box 212, El Segundo, Calif.  
**TECHNICAL APPARATUS BUILDERS,** 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
**WINKLER LABORATORIES,** 5225 N. 20th St., Phoenix, Ariz. ADV. PG. 477.

### STROBOSCOPES

**AEROLUX LIGHTS CORP.,** 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
**Berkshire Laboratories,** 580 Bank Village, Greenville, N. H.  
**Boulin Instrument Corp.,** 10 First St., Pelham, N. Y.  
**COMMUNICATION MEASUREMENTS LAB., INC.,** 350 Leland Ave., Plainfield, N. J. ADV. PG. 547.  
**Egerton, Gernshausen & Grier, Inc.,** 160 Brookline Ave., Boston, Mass.  
**Epic, Inc.,** 154 Nassau St., New York 38, N. Y.  
**GENERAL RADIO CO.,** 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**Gyro Electronics Co.,** 325 Canal St., New York, N. Y.  
**Kemlite Laboratories,** 1819 W. Grand Ave., Chicago 22, Ill.  
**MERCURY ELECTRONIC CO.,** Box 450, Red Bank, N. J. ADV. PG. 61.  
**Nelson Instrument Co.,** 607 Howard St., Evanston, Ill.  
**Pantek Co.,** Box 212, El Segundo, Calif.  
**SLAUGHTER COMPANY,** Piqua 9, Ohio. ADV. PG. 494.  
**TECHNICAL APPARATUS BUILDERS,** 109 Liberty St., New York 6, N. Y. ADV. PG. 549.

### SUBMINIATURIZATION SERVICES

**ACF Electronics,** 800 N. Pitt St., Alexandria, Va.  
**Allied Products Div.,** Hamilton Watch Co., Lancaster, Pa.  
**BRIGGS ASSOCIATES INC.,** 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
**Cleveland Metal Specialties Co.,** 1783 E. 21st St., Cleveland 14, Ohio.  
**Daystrom Instrument,** Archbald, Pa.  
**DOTY ACOUSTICAL ELECTRONIC LABS., INC.,** 431 Broome St., New York 13, N. Y. ADV. PG. 676.  
**DUNN ENGINEERING ASSOCIATES INC.,** 186 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 695.  
**Dwyer Engineering Co., Inc.,** Box 483, Nashua, N. H.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.,** 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
**Electronic Assembly Co., Inc.,** 5 Prescott St., Boston 19, Mass.  
**ENGINEERED ELECTRONICS CO.,** 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
**Hansen Electronics,** 7117 Santa Monica Blvd., Los Angeles 46, Calif.  
**International Electronics Corp.,** (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**Lear, Inc.,** 3171 S. Bundy Drive, Santa Monica, Calif.  
**Maico Co., Inc.,** 21 N. Third St., Minneapolis, Minn.  
**Metron Corp.,** 8 Coryell St., Lambertville, N. J.  
**Microdot, Inc.,** 220 Pasadena Ave., South Pasadena, Calif.  
**Minneapolis-Honeywell Regulator Co.,** Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINITRON, INC.,** 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
**PHOTOCIRCUITS CORP.,** Glen Cove, N. Y. ADV. PG. 396.  
**Plastronics,** P. O. Box 96, Winter Hill 45, Mass.

**Ram Meter, Inc.,** 1100 Hilton Rd., Ferndale, Detroit 20, Mich.  
**ROSS METALS CO., MILTON,** 505 Davisville Rd., Davlsville, Pa. ADV. PG. 643.  
**Scantlin Electronics, Inc.,** 11624 W. Pico Blvd., Los Angeles 64, Calif.  
**Telectro Industries Corp.,** 35-16 37th St., Long Island City 1, N. Y.  
**Telex, Inc.,** Telex Park, St. Paul 1, Minn.  
**TEXAS INSTRUMENTS INCORPORATED,** 6000 Lemmon Ave., Dallas, Texas. ADV. PG. 280, 281.  
**Topper Mfg. Co., Inc.,** 43 Roselle St., Mineola, N. Y.  
**Waltham Watch Co.,** Instrument & Industrial Products, Waltham 54, Mass.

### SUPERSONIC EQUIPMENT

**Bendix Aviation Corp.,** Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
**Bludworth Marine Div.,** Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
**Chesapeake Instrument Corp.,** Shadyside, Md.  
**Corbett Science Labs., F. W.,** 3117 Venice Blvd., Los Angeles 19, Calif.  
**INTERELECTRONICS CORP.,** 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
**Tesla Electric Co.,** 2871 N. Lincoln Ave., Chicago 13, Ill.

### SUPPRESSORS—Auto Radio Ignition

**CONTINENTAL CARBON, INC.,** 13900 Lorain Ave., Cleveland 11, Ohio. ADV. PG. 368.  
**ERIE RESISTOR CORP.,** Erie 6, Pa. ADV. PG. 170, 171.  
**Hallett Mfg. Co.,** 1601 W. Florence Ave., Inglewood, Calif.  
**INSULINE CORP. OF AMERICA,** 186 Granite St., Manchester, N. H. ADV. PG. 582.  
**JFD MANUFACTURING CO., INC.,** 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**Miller Co., J. W.,** 5917 S. Main St., Los Angeles 3, Calif.  
**Ohio Carbon Co.,** 12508 Berea Rd., Cleveland 11, Ohio.  
**Smith, Inc.,** Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
**Telegraph Condenser Co., Ltd.,** Wales Farm Rd., Acton, London, W. 3, England.  
**TOBE DEUTSCHMANN CORP.,** 921 Providence Highway, Norwood, Mass. ADV. PG. 645.

### SUPPRESSORS—Noise

**CORNELL-DUBILIER ELECTRIC CORP.,** South Plainfield, N. J. ADV. PG. 111.  
**ERIE RESISTOR CORP.,** Erie 6, Pa. ADV. PG. 170, 171.  
**Hallett Mfg. Co.,** 1601 W. Florence Ave., Inglewood, Calif.  
**INSULINE CORP. OF AMERICA,** 186 Granite St., Manchester, N. H. ADV. PG. 582.  
**Interference Measurement Lab., Inc.,** 907 E. 51st St., Brooklyn 3, N. Y.  
**JFD MANUFACTURING CO., INC.,** 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**Miller Co., J. W.,** 5917 S. Main St., Los Angeles 3, Calif.  
**Standard Telephones & Cables, Ltd.,** Connaught House, 63, Aldwych, London, W. C. 2, England.  
**Summit Electronics, Inc.,** 7 Industrial Place, Summit, N. J.  
**Telectro Industries Corp.,** 35-16 37th St., Long Island City 1, N. Y.  
**Telegraph Condenser Co., Ltd.,** Wales Farm Rd., Acton, London, W. 3, England.  
**Telesco Corp.,** 1415 Golf Rd., Des Plaines, Ill.  
**TOBE DEUTSCHMANN CORP.,** 921 Providence Highway, Norwood, Mass. ADV. PG. 645.

### SURFACE ANALYZERS AND COMPARATORS

See **ANALYZER**

### SURPLUS NEW & USED EQUIPMENT

See **Pages 715-731**

### SUSPENSIONS—for Speaker Cones

**Hawley Products Co.,** St. Charles, Ill.

### SWITCHBOARDS—Television Master

**Foto-Video Laboratories, Inc.,** Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
**General Electric Co.,** Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**Marconi's Wireless Telegraph Co., Ltd.,** 23/25 Beaver St., New York 4, N. Y.  
**Peterson & Neville, Inc.,** 365 Dorchester Ave., Boston, Mass.

### SWITCHES—Automatic

**ALLEN-BRADLEY CO.,** 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
**Automatic Electric Sales Corp.,** 1033 W. Van Buren St., Chicago 7, Ill.  
**Automatic Switch Co.,** 50-56 Hanover Rd., Florham Park, N. J.  
**Bristol Co.,** The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**Clark Controller Co.,** 1146 E. 152nd St., Cleveland 10, Ohio.  
**Cutler-Hammer, Inc.,** 411 N. 12th St., Milwaukee 1, Wis.



Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
 GENERAL DEVICES, INC., P. O. Box 253, Princeton,  
 N. J. ADV. PG. 559.  
 GENERAL HERMETIC SEALING CORP., 99 E. Hawthorne,  
 Valley Stream, N. Y. ADV. PG. 679.  
 HAYDON CO., A. W., THE, 238 N. Elm St., Waterbury,  
 Conn. ADV. PG. 531.  
 Haydon Switch Inc., 536 S. Leonard St., Waterbury 20,  
 Conn.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago  
 5, Ill.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Micro Switch Div. of Minneapolis-Honeywell Regulator  
 Co., 7 W. Spring St., Freeport, Ill.  
 Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver,  
 Wash.  
 Philadelphia Scientific Glass Co., Quakertown, Pa.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades  
 Park, N. J.  
 United Electric Controls Co., 85 School St., Watertown,  
 72, Mass.  
 Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

**SWITCHES—Automatic Transfer**

ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee  
 4, Wis. ADV. PG. 194.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham  
 Park, N. J.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10,  
 Ohio.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago  
 5, Ill.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10,  
 Ill.

**SWITCHES—Coaxial Cable**

Admittance-Namco Corp., Farmingdale, N. Y.  
 ALFORD MFG. CO., INC., 299 Atlantic Ave., Boston,  
 Mass. ADV. PG. 398.  
 ANDREW CORP., 363 E. 75th St., Chicago 19, Ill.  
 ADV. PG. 112.  
 AUTOMATIC METAL PRODUCTS CORP., 315 Berry St.,  
 Brooklyn 11, N. Y. ADV. PG. 626.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby,  
 Pa.  
 BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland,  
 14, Ohio. ADV. PG. 278.  
 DANBURY-KNUDSEN, INC., P. O. Box 170, Danbury,  
 Conn. ADV. PG. 631.  
 DeFance Engineering & Microwave Corp., Box 488,  
 Beverly Airport, Beverly, Mass.  
 DOUGLAS MICROWAVE CO., INC., 252 E. Third St.,  
 Mt. Vernon, N. Y. ADV. PG. 310.  
 Electrical & Physical Instrument Corp., 42-19 27th  
 St., Long Island City 1, N. Y.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los  
 Angeles 39, Calif.  
 GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-  
 TETRON INC., 400 S. Wyman St., Rockford, Ill.  
 ADV. PG. 543.  
 Industrial Products Co., Div. of Danbury-Knudsen, Inc.,  
 Danbury, Conn.  
 J-V-M ENGINEERING CO., 4633 S. Lawndale Ave.,  
 Lyons, Ill. ADV. PG. 640.  
 JERROLD ELECTRONICS CORP., 23rd & Chestnut Sts.,  
 Philadelphia 3, Pa. ADV. PG. 574.  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades  
 Park, N. J.  
 Thompson Products, Inc., Electronics Div., 2196 Clark-  
 wood Rd., Cleveland 3, Ohio.  
 TRAD ELECTRONICS CORP., 1001 First Ave., Asbury  
 Park, N. J. ADV. PG. 522.  
 Transco Products, Inc., 12210 Nebraska Ave., Los  
 Angeles 25, Calif.  
 United Electric Controls Co., 85 School St., Watertown  
 72, Mass.  
 UNIWAIVE, INC., 2 Marine St., P. O. Box 474, Farmingdale,  
 N. Y. ADV. PG. 428.

**SWITCHES—Control**

Acro Div. of The Robertshaw-Fulton Controls Co., 2040  
 E. Main St., Columbus 16, Ohio.  
 Alden Systems, Inc., Alden Research Center, Westboro,  
 Mass.  
 ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee  
 4, Wis. ADV. PG. 194.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave.,  
 Brooklyn, 37, N. Y. ADV. PG. 691.  
 Arcoelectric Div. of British Electronics Sales Co., Inc.,  
 Oakland Garden Sta., Flushing 64, N. Y.  
 Ark-Les Switch Corp., 51 Water St., Watertown 72,  
 Mass.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St.,  
 Hartford 6, Conn.  
 Automatic Electric Sales Corp., 1033 W. Van Buren  
 St., Chicago 7, Ill.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham  
 Park, N. J.  
 BARBER-COLMAN CO., Dept. 766, Rockford, Ill. ADV.  
 PG. 430.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20,  
 Conn.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
 CENTRALAB DIV., GLOBE-UNION, INC., 914Y E. Keefe  
 Ave., Milwaukee 1, Wis. ADV. PG. 419.  
 CHICAGO TELEPHONE SUPPLY CORP., 1142 W. Beardsley  
 Ave., Elkhart, Ind. ADV. PG. 223.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10,  
 Ohio.  
 CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG.  
 288, 289.  
 COMPUTER INSTRUMENTS CORP., 92 Madison Ave.,  
 Hempstead, N. Y. ADV. PG. 648.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
 Electro Switch Corp., 167 King Ave., Weymouth 88,  
 Mass.  
 GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-  
 TETRON INC., 400 S. Wyman St., Rockford, Ill.  
 ADV. PG. 543.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34,  
 Mass.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV.,  
 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electric Co., Technical Products Dept., Elec-  
 tronics Park, Syracuse, N. Y.  
 GENERAL HERMETIC SEALING CORP., 99 E. Hawthorne,  
 Valley Stream, N. Y. ADV. PG. 679.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington  
 Heights, Ill.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chi-  
 cago 12, Ill.  
 HART MFG. CO., 242 Bartholomew Ave., Hartford 1,  
 Conn. ADV. PG. 610.  
 Haydon Switch Inc., 536 S. Leonard St., Waterbury 20,  
 Conn.  
 Hetherington, Inc., Sharon Hill, Pa.  
 J-B-L Instrument Co., Sycamore & Mill Rds., Clifton  
 Heights, Pa.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13,  
 Ill.  
 Lesa, Via Bergamo 21, Milan, Italy.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago  
 5, Ill.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indian-  
 apolis 6, Ind.  
 Maxson Instruments, Div. of The W. L. Maxson Corp.,  
 47-37 Austell Place, Long Island City 1, N. Y.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Micro Switch Div. of Minneapolis-Honeywell Regulator  
 Co., 7 W. Spring St., Freeport, Ill.  
 Milli-Switch Corp., 1742 Berkeley St., Santa Monica,  
 Calif.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div.,  
 2600 Ridgway Rd., Minneapolis 13, Minn.  
 National Acme Co., 170 E. 131st St., Cleveland 8,  
 Ohio.  
 OHMITE MFG. CO., 3601 Howard St., Skokie, Ill.  
 ADV. PG. 282, 283.  
 PAINTON DIV. OF BRITISH ELECTRONICS SALES  
 CO., INC., Oakland Garden Sta., Flushing 64, N. Y.  
 ADV. PG. 601.  
 Philadelphia Scientific Glass Co., Quakertown, Pa.  
 POLLAK CORP., JOSEPH, 75-99 Freeport St., Dorches-  
 ter 22, Mass. ADV. PG. 476.  
 Reynolds Electric Co., 3000 River Road, River Grove, Ill.  
 SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale,  
 Pa. ADV. PG. 101.  
 Soreng Products Corp., 9555 Soreng Ave., Schiller Park,  
 Ill.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades  
 Park, N. J.  
 Tuttle & Kirt, 1823 N. Monitor St., Chicago 39, Ill.  
 United Electric Controls Co., 85 School St., Water-  
 town 72, Mass.  
 Universal Circuit Controls Corp., 3610 Oakton St.,  
 Skokie, Ill.  
 Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10,  
 Ill.

**SWITCHES—Crossbar**

Cunningham Son & Co., Inc., James, 33 Litchfield St.,  
 Rochester, N. Y.  
 North Electric Co., 553 S. Market St., Galion, Ohio.

**SWITCHES—Decade**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
 Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33,  
 Pa.  
 GENERAL RADIO CO., 275 Massachusetts Ave., Cam-  
 bridge 39, Mass. ADV. PG. 316, 317.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington  
 Heights, Ill.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar  
 Grove, N. J.  
 J-B-L Instrument Co., Sycamore & Mill Rds., Clifton  
 Heights, Pa.  
 Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia  
 44, Pa.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
 OAK MFG. CO., 1260 Clybourn Ave., Chicago 10, Ill.  
 ADV. PG. 302, 303.  
 PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St.,  
 Anaheim, Calif. ADV. PG. 486.

Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29,  
 Pa.  
 SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale,  
 Pa. ADV. PG. 101.  
 Sullivan Ltd., H. W., 80 Shore Rd., Port Washington,  
 N. Y.  
 Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades  
 Park, N. J.

**SWITCHES—Duplex**

AIRTRON, INC., 1101 W. Elizabeth Ave., Linden,  
 N. J. ADV. PG. 532.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St.,  
 Hartford 6, Conn.  
 CENTRALAB DIV., GLOBE-UNION, INC., 914Y E. Keefe  
 Ave., Milwaukee 1, Wis. ADV. PG. 419.  
 Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza, S.,  
 Long Island City, N. Y.  
 General Electric Co., Construction Materials Div., 1285  
 Boston Ave., Bridgeport 2, Conn.  
 TECHNICAL APPLIANCE CORP., Sherburne, N. Y. ADV.  
 PG. 641.

**SWITCHES—Electronic**

Adler Electronics, Inc., 1 Lefevre Lane, New Rochelle,  
 N. Y.  
 ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee  
 4, Wis. ADV. PG. 194.  
 Autron Engineering, Inc., 1254 W. 6th St., Los Angeles  
 15, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby,  
 Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20,  
 Conn.  
 C.G.S. Laboratories, Inc., 391 Ludlow St., Stamford,  
 Conn.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
 CENTRALAB DIV., GLOBE-UNION, INC., 914Y E. Keefe  
 Ave., Milwaukee 1, Wis. ADV. PG. 419.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland  
 10, Ohio.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London  
 S.E. 26, England.  
 CORNING GLASS WORKS, Corning, N. Y. ADV. PG.  
 390.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 Dubrow Development Co., 235B Penn St., Burlington,  
 N. J.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield  
 Ave., Clifton, N. J.  
 Dynamics Instrumentation Co., Div. of Alberhill Corp.,  
 1118 Mission St., South Pasadena, Calif.  
 EASTERN PRECISION RESISTOR CORP., 675 Barbery  
 St., Brooklyn, N. Y. ADV. PG. 451.  
 Electro-Mechanical Research, Inc., Ridgefield, Conn.  
 Electron-Radar Products, P. O. Box 50, Route #30,  
 North Aurora, Ill.  
 Electronic Instrument Co., Inc., 84 Withers St., Brook-  
 lyn 11, N. Y.  
 EPSCO, INCORPORATED, 588 Commonwealth Ave.,  
 Boston 15, Mass. ADV. PG. 233-235.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25  
 Amity St., Little Falls, N. J.  
 GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-  
 TETRON INC., 400 S. Wyman St., Rockford, Ill.  
 ADV. PG. 543.  
 General Electric Co., Technical Products Dept., Elec-  
 tronics Park, Syracuse, N. Y.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington  
 Heights, Ill.  
 HART MFG. CO., THE, 242 Bartholomew Ave., Hartford  
 1, Conn. ADV. PG. 610.  
 HEATH CO., A SUB. OF DAYSTROM, INC., Benton Har-  
 bor 14, Mich. ADV. PG. 575.  
 Hoover Electronics Co., 3640 Woodland Ave., Balti-  
 more 15, Md.  
 JERROLD ELECTRONICS CORP., 23rd & Chestnut Sts.,  
 Philadelphia 3, Pa. ADV. PG. 574.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago  
 5, Ill.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indian-  
 apolis 6, Ind.  
 Manning, Maxwell & Moores, Inc., Industrial Products  
 Div., 250 E. Main St., Stratford, Conn.  
 Marine Electric Co., 300 Fourth Ave., Brooklyn, N. Y.  
 Micro Switch Div. of Minneapolis-Honeywell Regulator  
 Co., 7 W. Spring St., Freeport, Ill.  
 Milli-Switch Corp., 1742 Berkeley St., Santa Monica,  
 Calif.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div.,  
 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Pantek Co., P. O. Box 212, El Segundo, Calif.  
 PESCHEL ELECTRONICS, INC., 13 Garden St., New  
 Rochelle, N. Y. ADV. PG. 500.  
 Photo Crystals, Inc., 15 S. First St., Geneva, Ill.  
 Ripley Co., Inc., Middletown, Conn.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los  
 Angeles 64, Calif.  
 SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale,  
 Pa. ADV. PG. 101.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box  
 85, Gardena, Calif.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amity-  
 ville, N. Y. ADV. PG. 417.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury,  
 N. Y.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon  
 Ave., Dallas 9, Texas. ADV. PG. 280, 281.

United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.  
 White Electron Devices Inc., Roger, Fourth Ave., Haskell, N. J.

### SWITCHES—Float Type

**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Fla. ADV. PG. 194.  
**ANTIC ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
**Bristol Co.**, The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**Clark Controller Co.**, 1146 E. 152nd St., Cleveland 10, Ohio.  
**Cook Electric Co.**, 2700 Southport Ave., Chicago 14, Ill.  
**Cutler-Hammer, Inc.**, 411 N. 12th St., Milwaukee 1, Wis.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GORN ELECTRIC CO., INC.**, Main St., Stamford, Conn. ADV. PG. 273.  
**Lumenite Electric Co.**, 407 S. Dearborn St., Chicago 5, Ill.  
**REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**Trumbull Components Dept.**, General Electric Co., 41 Woodford Ave., Plainville, Conn.

### SWITCHES—Key

**Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**Ark-Les Switch Corp.**, 51 Water St., Watertown 72, Mass.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 Automatic Electric Sales Corp., 1033 W. Van Buren St., Chicago 7, Ill.  
**Capitol Machine Co.**, The, Switch Div., 36 Balmforth Ave., Danbury, Conn.  
**Carter Parts Co.**, 3401 Madison, Skokie, Ill.  
**Clare & Co. C. P.**, 3101 Pratt Bldg., Chicago 45, Ill.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**General Control Co.**, 1212 Soldiers Field Rd., Boston 34, Mass.  
**General Electric Co.**, Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**Hetherington, Inc.**, Sharon Hill, Pa.  
**Molded Insulation Co.**, 335 E. Price St., Philadelphia 44, Pa.  
**Mossman Inc.**, Donald P., Brewster, N. Y.  
**Muirhead & Co., Ltd.**, Beckenham, Kent, England.  
**North Electric Co.**, 553 S. Market St., Gallion, Ohio.  
**Roffan Co.**, Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
**Stromberg-Carlson Co.**, Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
**SWITCHCRAFT, INC.**, 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
**Universal Circuit Controls Corp.**, 3610 Oakton St., Skokie, Ill.

### SWITCHES—Knife

Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**CENTRALAB DIV., GLOBE-UNION INC.**, 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**Clark Controller Co.**, 1146 E. 152nd St., Cleveland 10, Ohio.  
**Eagle Electric Mfg. Co., Inc.**, 23-10 Bridge Plaza, S., Long Island City, N. Y.  
**Federal Pacific Electric Co.**, 50 Paris St., Newark 5, N. J.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**INSULINE CORP. OF AMERICA**, 186 Granite St., Manchester, N. H. ADV. PG. 582.  
**3FD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**Kolton Mfg. Corp.**, 123 New Jersey Railroad Ave., Newark, N. J.  
**Murray Mfg. Corp.**, 1250 Atlantic Ave., Brooklyn 16, N. Y.  
**Roffan Co.**, Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
**Trumbull Components Dept.**, General Electric Co., 41 Woodford Ave., Plainville, Conn.

### SWITCHES—Limit

Acro Div. of The Robertshaw-Fulton Controls Co., 2040 E. Main St., Columbus 16, Ohio.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
**Arch Gear Works, Inc.**, 97 Holmes St., North Quincy 71, Mass.

Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**Arrow-Hart & Hegeman Electric Co.**, 103 Hawthorn St., Hartford 6, Conn.  
**Automatic Electric Sales Corp.**, 1033 W. Van Buren St., Chicago 7, Ill.  
**Clark Controller Co.**, 1146 E. 152nd St., Cleveland 10, Ohio.  
**Control Products, Inc.**, 306 Sussex St., Harrison, N. J.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**ELECTRA MFG. CO., RESISTOR DIV.**, 4051 Broadway, Kansas City, Mo. ADV. PG. 338.  
**Electro-Snap Switch & Mfg. Co.**, 4218 W. Lake St., Chicago 24, Ill.  
**FARMER ELECTRIC PRODUCTS CO., INC.**, 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
**General Control Co.**, 1212 Soldiers Field Rd., Boston 34, Mass.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**Haydon Switch Inc.**, 536 S. Leonard St., Waterbury 20, Conn.  
**Hetherington, Inc.**, Sharon Hill, Pa.  
**Janco Corp.**, 3111 Winona Ave., Burbank, Calif.  
**Licon Switch & Control Div. of Illinois Tool Works**, 2501 N. Keeler Ave., Chicago 39, Ill.  
**Marine Electric Co.**, 600 Fourth Ave., Brooklyn, N. Y.  
**Mercoid Corp.**, 4201 Belmont Ave., Chicago 41, Ill.  
**Micro Switch Div. of Minneapolis-Honeywell Regulator Co.**, 7 W. Spring St., Freeport, Ill.  
**Milli-Switch Corp.**, 1742 Berkeley St., Santa Monica, Calif.  
**Minneapolis-Honeywell Regulator Co.**, 2753 Fourth Ave., S., Minneapolis 8, Minn.  
**Minneapolis-Honeywell Regulator Co., Aeronautical Div.**, 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
**National Acme Co.**, 170 E. 131st St., Cleveland 5, Ohio.  
**North American Instruments, Inc.**, 2420 N. Lake Ave., Altadena, Calif.  
**Soreng Products Corp.**, 9555 Soreng Ave., Schiller Park, Ill.  
**Spencer Thermostat Div. of Metals & Controls Corp.**, 31 Forest St., Attleboro, Mass.  
**UNIMAX SWITCH DIV., THE W. L. MAXSON CORP.**, Ives Rd., Wallingford, Conn. ADV. PG. 653.  
**United Electric Controls Co.**, 85 School St., Watertown 72, Mass.

### SWITCHES—Mercury

Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**Arrow-Hart & Hegeman Electric Co.**, 103 Hawthorn St., Hartford 6, Conn.  
**Durakool, Inc.**, 1010 N. Main St., Elkhart, Ind.  
**Electrical & Physical Instrument Corp.**, 42-19 27th St., Long Island City 1, N. Y.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
**General Electric Co.**, Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**Gordos Corp.**, 250 Glenwood Ave., Bloomfield, N. J.  
**Mercoid Corp.**, 4201 Belmont Ave., Chicago 41, Ill.  
**Mercury Contacts, Inc.**, Box 615-E, Far Hills Station, Dayton 9, Ohio.  
**Micro Switch Div. of Minneapolis-Honeywell Regulator Co.**, 7 W. Spring St., Freeport, Ill.  
**Minneapolis-Honeywell Regulator Co.**, 2753 Fourth Ave., S., Minneapolis 8, Minn.  
**Minneapolis-Honeywell Regulator Co., Aeronautical Div.**, 2600 Ridgway Rd., Minneapolis 13, Minn.  
**Philadelphia Scientific Glass Co., Quakertown, Pa.**  
**SCIENTIFIC ELECTRONIC LABS., INC.**, 866 Bergen St., Newark 8, N. J. ADV. PG. 670.  
**Sierra Electric Corp.**, 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
**Willy-Gunther K. G.**, 1138 Massachusetts Ave., Arlington, Mass.

### SWITCHES—Microwave

See MICROWAVE ACCESSORIES

### SWITCHES—Miniature

Acro Div. of The Robertshaw-Fulton Controls Co., 2040 E. Main St., Columbus 16, Ohio.  
**Admittance-Namco Corp.**, Farmingdale, N. Y.  
**APPLIED SCIENCE CORP. OF PRINCETON**, P. O. Box 44, Princeton, N. J. ADV. PG. 464, 465.  
 Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**Arrow-Hart & Hegeman Electric Co.**, 103 Hawthorn St., Hartford 6, Conn.  
**Audivox, Inc.**, 123 Worcester St., Boston 18, Mass.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**Bristol Co.**, The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**Carter Parts Co.**, 3401 Madison, Skokie, Ill.  
**CENTRALAB DIV., GLOBE-UNION, INC.**, 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**CHICAGO TELEPHONE SUPPLY CORP.**, 1142 W. Beardsley Ave., Elkhart, Ind. ADV. PG. 223.

**COMPUTER INSTRUMENTS CORP.**, 92 Madison Ave., Hempstead, N. Y. ADV. PG. 648.  
**Cook Electric Co.**, 2700 Southport Ave., Chicago 14, Ill.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**Electro-Snap Switch & Mfg. Co.**, 4218 W. Lake St., Chicago 24, Ill.  
**ELECTRO TEC CORP.**, South Hackensack, N. J. ADV. PG. 149.  
**Farnsworth Electronic Co.**, Pacific Div., 815 S. San Antonio Rd., Palo Alto, Calif.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**GENERAL DEVICES, INC.**, P. O. Box 253, Princeton, N. J. ADV. PG. 559.  
**General Electric Co.**, Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**GRAYHILL, INC.**, 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
**Grigsby-Allison Co., Inc.**, 407 N. Salem Ave., Arlington Heights, Ill.  
**Haydon Switch Inc.**, 536 S. Leonard St., Waterbury 20, Conn.  
**Hetherington, Inc.**, Sharon Hill, Pa.  
**Licon Switch & Control Div., Illinois Tool Works**, 2501 N. Keeler Ave., Chicago 39, Ill.  
**Mallory & Co., Inc.**, P. R., 34 S. Gray St., Indianapolis 6, Ind.  
**Marco Industries Co.**, 207 S. Helena St., Anahelm, Calif.  
**Maxson Instruments, Div. of The W. L. Maxson Corp.**, 47-37 Austell Place, Long Island City 1, N. Y.  
**Micro Switch Div. of Minneapolis-Honeywell Regulator Co.**, 7 W. Spring St., Freeport, Ill.  
**Milli-Switch Corp.**, 1742 Berkeley St., Santa Monica, Calif.  
**MINIATURE SWITCH CORP.**, 36-10 Oceanside Rd., Oceanside, N. Y. ADV. PG. 686.  
**Minneapolis-Honeywell Regulator Co.**, 2753 Fourth Ave., S., Minneapolis 8, Minn.  
**National Acme Co.**, 170 E. 131st St., Cleveland 8, Ohio.  
**OAK MFG. CO.**, 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
**POLLAK CORP., JOSEPH**, 75-99 Freeport St., Dorchester 22, Mass. ADV. PG. 476.  
**R-F ELECTRONICS INC., DIV. OF ELECTRO SWITCH CORP.**, Weymouth, Mass. ADV. PG. 607.  
**REVERE CORP. OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
**Sierra Electric Corp.**, 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
**Spencer Thermostat Div., Metals & Controls Corp.**, 34 Forest St., Attleboro, Mass.  
**Stackpole Carbon Co.**, St. Marys, Pa.  
**SWITCHCRAFT, INC.**, 1320 N. Halsted St., Chicago 22, Ill. ADV. PG. 619.  
**Universal Circuit Controls Corp.**, 3610 Oakton St., Skokie, Ill.

**SWITCHES—Pressure**  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
**GORN ELECTRIC CO., INC.**, Main St., Stamford, Conn. ADV. PG. 273.  
**Lear, Inc.**, 3171 S. Bundy Drive, Santa Monica, Calif.

**SWITCHES—Pushbutton**  
 Acro Div. of The Robertshaw-Fulton Controls Co., 2040 E. Main St., Columbus 16, Ohio.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
**Ark-Les Switch Corp.**, 51 Water St., Watertown 72, Mass.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 Automatic Electric Sales Corp., 1033 W. Van Buren St., Chicago 7, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**Capitol Machine Co.**, The, Switch Div., 36 Balmforth Ave., Danbury, Conn.  
**Carter Parts Co.**, 3401 Madison, Skokie, Ill.  
**Clark Controller Co.**, 1146 E. 152nd St., Cleveland 10, Ohio.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meridan, Conn.  
**Control Products, Inc.**, 306 Sussex St., Harrison, N. J.  
**Cutler-Hammer, Inc.**, 411 N. 12th St., Milwaukee 1, Wis.  
**DIALIGHT CORP.**, 60 Stewart Ave., Brooklyn 37, N. Y. ADV. PG. 120.  
**Eby Co.**, Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
**ELECTRA MFG. CO., RESISTOR DIV.**, 4051 Broadway, Kansas City, Mo. ADV. PG. 338.  
**Electro-Snap Switch & Mfg. Co.**, 4218 W. Lake St., Chicago 24, Ill.  
**Federal Pacific Electric Co.**, 50 Paris St., Newark 5, N. J.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
**General Control Co.**, 1212 Soldiers Field Rd., Boston 34, Mass.

GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 GRAYHILL, INC., 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.  
 HART MFG. CO., THE, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Haydon Switch Inc., 536 S. Leonard St., Waterbury 20, Conn.  
 Hetherington, Inc., Sharon Hill, Pa.  
 Jaidinger Mfg. Co., Inc., The, 1921 W. Hubbard St., Chicago 22, Ill.  
 Kirkland Co., H. R., 8 King St., Morristown, N. J.  
 Licon Switch & Control Div. of Illinois Tool Works, 2501 N. Keeler Ave., Chicago 39, Ill.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Marco Industries, Inc., 207 S. Helena St., Anaheim, Calif.  
 Micro Switch Div. of Minneapolis-Honeywell Regulator Co., 7 W. Spring St., Freeport, Ill.  
 Milli-Switch Corp., 1742 Berkeley St., Santa Monica, Calif.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Mossman, Inc., Donald P., Brewster, N. Y.  
 Muter Co., The, 1255 S. Michigan Ave., Chicago 5, Ill.  
 National Acme Co., 170 E. 131st St., Cleveland 8, Ohio.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 OAK MFG. CO., 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
 PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 Richards Electrocraft, Inc., 3743 N. Kedzie Ave., Chicago 18, Ill.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Robco Mfg. Co., 225 W. Main St., Patchogue, N. Y.  
 SHALLCROSS MFG. CO., 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
 Soreng Products Corp., 9555 Soreng Ave., Schiller Park, Ill.  
 Spencer Thermostat Div., Metals & Controls Corp., 34 Forest St., Attleboro, Mass.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 SWITCHCRAFT, INC., 1320 N. Halstead St., Chicago 22, Ill. ADV. PG. 619.  
 UCINITE CO., DIV. OF UNITED-CARR FASTENER CORP., 459 Watertown St., Newtonville, Mass. ADV. PG. 65.  
 Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 WARD LEONARD ELECTRIC CO., 231 South St., Mount Vernon, N. Y. ADV. PG. 408.

**SWITCHES—Remote Control**

ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Communication Products Co., Inc., Marlboro, N. J.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
 ELECTRA MFG. CO., RESISTOR DIV., 4051 Broadway, Kansas City, Mo. ADV. PG. 338.  
 Electro Switch Corp., 167 King Ave., Weymouth 88, Mass.  
 Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J.  
 GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 GENERAL DEVICES, INC., P. O. Box 253, Princeton, N. J. ADV. PG. 559.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.  
 Gyro Electronics Co., 325 Canal St., New York, N. Y.  
 HAYDON CO., A. W., THE, 238 N. Elm St., Waterbury, Conn. ADV. PG. 531.  
 Hetherington, Inc., Sharon Hill, Pa.  
 Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Lumelite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Micro Switch Div. of Minneapolis-Honeywell Regulator Co., 7 W. Spring St., Freeport, Ill.  
 OAK MFG. CO., 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
 OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.

PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 POLLAK CORP., JOSEPH, 75-99 Dorchester 22, Mass. ADV. PG. 476.  
 Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y.  
 Recora Co., Inc., 6190 S. Archer Rd., Summit, Ill.  
 Tech Laboratories, Inc., Bergen & Edsall Bldvs., Palisades Park, N. J.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 Wind Turbine Co., E. Market St. & Penna. R. R., West Chester, Pa.  
 Winterburn Mfg. Co., Box 386, Putnam, Conn.

**SWITCHES—Rotary and Band Change**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Carling Electric, Inc., 505 New Park Ave., West Hartford 10, Conn.  
 CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.  
 Communication Products Co., Inc., Marlboro, N. J.  
 DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
 Electro Development Co., 14701 Keswick St., Van Nuys, Calif.  
 ELECTRO MINIATURES CORP., 1060 Elm Ave., Ridgefield, N. J. ADV. PG. 539.  
 Electro Switch Corp., 167 King Ave., Weymouth 88, Mass.  
 Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.  
 Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J.  
 GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 GENERAL DEVICES, INC., P. O. Box 253, Princeton, N. J. ADV. PG. 559.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 GRAPHITE METALLIZING CORP., 1052 Nepperhan Ave., Yonkers, N. Y. ADV. PG. 330, 331.  
 GRAYHILL, INC., 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.  
 HART MFG. CO., 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Haydon Switch Inc., 536 S. Leonard St., Waterbury 20, Conn.  
 INSTRUMENT DEVELOPMENT LABORATORIES, INC., 163 Highland Ave., Needham Heights, Mass. ADV. PG. 611.  
 INTERNATIONAL INSTRUMENTS, INC., P. O. Box 2954, New Haven 15, Conn. ADV. PG. 480.  
 J-B-L Instrument Co., Sycamore & Mills Rds., Clifton Heights, Pa.  
 J-B-T INSTRUMENTS, INC., 432 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif.  
 LEWIS ENGINEERING CO., 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Micro Switch Div., Minneapolis-Honeywell Regulator Co., 7 W. Spring St., Freeport, Ill.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 OAK MFG. CO., 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
 OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
 PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC., Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
 R-F ELECTRONICS INC., DIV. OF ELECTRO SWITCH CORP., Weymouth, Mass. ADV. PG. 607.  
 Reynolds Electric Co., 3000 River Road, River Grove, Ill.  
 Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
 Soreng Products Corp., 9555 Soreng Ave., Schiller Park, Ill.  
 SWITCHCRAFT, INC., 1320 N. Halstead St., Chicago 22, Ill. ADV. PG. 619.  
 Tech Laboratories, Inc., Bergen & Edsall Bldvs., Palisades Park, N. J.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
 UCINITE CO., DIV. OF UNITED-CARR FASTENER CORP., 459 Watertown St., Newtonville, Mass. ADV. PG. 65.  
 Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.

**SWITCHES—Safety**

Arcolectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Electro-Snap Switch & Mfg. Co., 4218 W. Lake St., Chicago 24, Ill.  
 Federal Pacific Products Co., 50 Paris St., Newark 5, N. Y.  
 Koltan Electric Mfg. Co., 123 New Jersey Railroad Ave., Newark 5, N. J.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
 Micro Switch Div. of Minneapolis-Honeywell Regulator Co., 7 W. Spring St., Freeport, Ill.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Murray Mfg. Corp., 1250 Atlantic Ave., Brooklyn 16, N. Y.  
 Recora Co., Inc., 6190 S. Archer Rd., Summit, Ill.  
 Soreng Products Corp., 9555 Soreng Ave., Schiller Park, Ill.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Trumbull Components Dept., General Electric Co., 41 Woodford Ave., Plainville, Conn.  
 Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

**SWITCHES—Slide**

Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 Beck's Inc., 298-300 E. Fifth St., Paul 1, Minn.  
 BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Carling Electric, Inc., 505 New Park Ave., West Hartford 10, Conn.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
 CENTRALAB DIV., GLOBE-UNION INC., 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
 CONTINENTAL CARBON, INC., 13900 Lorain Ave., Cleveland 11, Ohio. ADV. PG. 368.  
 GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON, INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.  
 HART MFG. CO., 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Mallory & Co., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Micro Switch Div., Minneapolis-Honeywell Regulator Co., 7 W. Spring St., Freeport, Ill.  
 Muter Co., The, 1255 S. Michigan Ave., Chicago 5, Ill.  
 OAK MFG. CO., 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.  
 Walisco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**SWITCHES—Snap Action**

Acro Div. of The Robertshaw-Fulton Controls Co., 2040 E. Main St., Columbus 16, Ohio.  
 ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
 Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
 Carling Electric, Inc., 505 New Park Ave., West Hartford 10, Conn.  
 Carter Parts Co., 3401 Madison, Skokie, Ill.  
 CHICAGO TELEPHONE SUPPLY CORP., 1142 W. Beardsley Ave., Elkhart, Ind. ADV. PG. 223.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.  
 Control Products, Inc., 306 Sussex St., Harrison, N. J.  
 DAVEN CO., Route 10, Livingston, N. J. ADV. PG. 245.  
 ELECTRA MFG. CO., RESISTOR DIV., 4051 Broadway, Kansas City, Mo. ADV. PG. 338.  
 Electro-Snap Switch & Mfg. Co., 4218 W. Lake St., Chicago 24, Ill.  
 Electro Switch Corp., 167 King Ave., Weymouth 88, Mass.  
 GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 GENERAL CONTROLS CO., Glendale 1, Calif. ADV. PG. 546.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 HART MFG. CO., THE, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
 Haydon Switch, Inc., 536 S. Leonard St., Waterbury 20, Conn.

Hetherington, Inc., Sharon Hill, Pa.  
Jaidering Mfg. Co., Inc., The, 1921 W. Hubbard St., Chicago 22, Ill.  
**KULKA ELECTRIC MFG. CO., INC.**, 633 S. Fulton Ave., Mt. Vernon, N. Y. ADV. PG. 685.  
Licon Switch & Control Div. of Illinois Tool Works, 2501 N. Keeler Ave., Chicago 39, Ill.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Micro Switch Div. of Minneapolis-Honeywell Regulator Co., 7 W. Spring St., Freeport, Ill.  
Milli-Switch Corp., 1742 Berkeley St., Santa Monica, Calif.  
National Acme Co., 170 E. 131st St., Cleveland 8, Ohio.  
Network Mfg. Corp., 213 W. Fifth St., Bayonne, N. J.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
**POLLAK CORP., JOSEPH**, 75-99 Freeport St., Dorchester 22, Mass. ADV. PG. 476.  
Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
Soreng Products Corp., 9555 Soreng Ave., Schiller Park, Ill.  
Spencer Thermostat Div., Metals & Controls Corp., 34 Forest St., Attleboro, Mass.  
Square D Co., 4041 N. Richards, Milwaukee, Wis.  
Stackpole Carbon Co., St. Marys, Pa.  
Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
**UCINITE CO., DIV. OF UNITED-CARR FASTENER CORP.**, 459 Watertown St., Newtonville, Mass. ADV. PG. 65.  
**UNIMAX SWITCH DIV., THE W. L. MAXSON CORP.**, Ives Rd., Wallingford, Conn. ADV. PG. 653.  
United Electric Controls Co., 85 School St., Watertown 72, Mass.  
Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.

### SWITCHES—Step Type

Automatic Electric Sales Co., 1033 W. Van Buren St., Chicago 7, Ill.  
Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**CINEMA ENGINEERING DIV., AEROVOX CORP.**, 1100 Chestnut St., Burbank, Calif. ADV. PG. 688.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**ENGINEERED ELECTRONICS CO.**, 506 E. First St., Santa Ana, Calif. ADV. PG. 623.  
**GENERAL DEVICES, INC.**, P. O. Box 253, Princeton, N. J. ADV. PG. 559.  
General Electric Co., Ltd. of England (Imtra Corp.), 58 Charles St., Cambridge, Mass.  
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
Lumenite Electric Co., 407 S. Dearborn St., Chicago 5, Ill.  
North Electric Co., 553 S. Market St., Galion, Ohio.  
**OAK MFG. CO.**, 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.

### SWITCHES—Sub-Miniature

Acro Div. of The Robertshaw-Fulton Controls Co., 2040 E. Main St., Columbus 16, Ohio.  
Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**CENTRAL LAB DIV., GLOBE-UNION, INC.**, 914 E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**COMPUTER INSTRUMENTS CORP.**, 92 Madison Ave., Hempstead, N. Y. ADV. PG. 648.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
Electro Development Co., 14701 Keswick St., Van Nuys, Calif.  
Electro-Snap Switch & Mfg. Co., 4218 W. Lake St., Chicago 24, Ill.  
**ELECTRO TEC CORP.**, South Hackensack, N. J. ADV. PG. 149.  
**GENERAL DEVICES, INC.**, P. O. Box 253, Princeton, N. J. ADV. PG. 559.  
Grisby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.  
**HART MFG. CO.**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
Haydon Switch Inc., 536 S. Leonard St., Waterbury 20, Conn.  
Licon Switch & Control Div., Illinois Tool Works, 2501 N. Keeler Ave., Chicago 39, Ill.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Micro Switch Div., Minneapolis-Honeywell Regulator Co., 7 W. Spring St., Freeport, Ill.  
Milli-Switch Corp., 1742 Berkeley St., Santa Monica, Calif.  
**MINIATURE SWITCH CORP.**, 36-10 Oceanside Rd., Oceanside, N. Y. ADV. PG. 686.

Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
**OAK MFG. CO.**, 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**R-F ELECTRONICS, INC., DIV. OF ELECTRO SWITCH CORP.**, Weymouth, Mass. ADV. PG. 607.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
**UNIMAX SWITCH DIV., THE W. L. MAXSON CORP.**, Ives Rd., Wallingford, Conn. ADV. PG. 653.

### SWITCHES—Tap

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass.  
Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
Carter Parts Co., 3401 Madison, Skokie, Ill.  
**CINEMA ENGINEERING DIV., AEROVOX CORP.**, 1100 Chestnut St., Burbank, Calif. ADV. PG. 688.  
Communication Products Co., Inc., Marlboro, N. J.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
Eastern Specialty Co., Philadelphia 40, Pa.  
Electro-Switch Corp., 167 King Ave., Weymouth 88, Mass.  
**GRAYHILL, INC.**, 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
Grisby-Allison Co., 407 N. Salem Ave., Arlington Heights, Ill.  
J-B-L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
**OAK MFG. CO.**, 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
**OHMITE MFG. CO.**, 3601 Howard St., Skokie, Ill. ADV. PG. 282, 283.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**POLLAK CORP., JOSEPH**, 75-99 Freeport St., Dorchester 22, Mass. ADV. PG. 476.  
**R-F ELECTRONICS, INC., DIV. OF ELECTRO SWITCH CORP.**, Weymouth, Mass. ADV. PG. 607.  
Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.  
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.

### SWITCHES—Telemetering

**APPLIED SCIENCE CORP. OF PRINCETON**, P.O. Box 44, Princeton, N. J. ADV. PG. 464, 465.  
Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**COMPUTER INSTRUMENTS CORP.**, 92 Madison Ave., Hempstead, N. Y. ADV. PG. 648.  
**DAVEN CO.**, Route 10, Livingston, N. J. ADV. PG. 245.  
**ELECTRO-MINIATURES CORP.**, 1060 Elm Ave., Ridgefield, N. J. ADV. PG. 539.  
**ELECTRO TEC CORP.**, South Hackensack, N. J. ADV. PG. 149.  
Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.  
General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
**GENERAL DEVICES, INC.**, P. O. Box 253, Princeton, N. J. ADV. PG. 559.  
**HAYDON CO., A. W., THE**, 238 N. Elm St., Waterbury, Conn. ADV. PG. 531.  
Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.  
**INSTRUMENT DEVELOPMENT LABORATORIES, INC.**, 163 Highland Ave., Needham Heights, Mass. ADV. PG. 611.  
Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
**MYCALEX CORP. OF AMERICA**, 125 Clifton Blvd., Clifton, N. J. ADV. PG. 140, 141.  
Mycalex Electronics Corp., 125 Clifton Blvd., Clifton, N. J.  
Seeburg, J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.  
Tech Laboratories, Inc., Bergen & Edsall Blvds., Palisades Park, N. J.

### SWITCHES—Time

Aemco, Inc., 62 State St., Mankato, Minn.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
**DIMCO-GRAY CO.**, 207 E. Sixth St., Dayton, Ohio. ADV. PG. 638.  
Eagle Signal Corp., Moline, Ill.  
General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.

**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Electric Co., Clock and Timer Dept., Ashland, Mass.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**HAYDON CO., A. W., THE**, 238 N. Elm St., Waterbury, Conn. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
Ingraham Co., E., Bristol, Conn.  
International Register Co., 2620 Washington Blvd., Chicago 12, Ill.  
Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
Paragon Electric Co., Two Rivers, Wisconsin.  
Reliance Automatic Lighting Co., 1919 Mead St., Racine, Wis.  
Rhodes, Inc., M. H., 30 Bartholomew Ave., Hartford, Conn.  
Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
Soreng Products Corp., 9555 Soreng Ave., Schiller Park, Ill.  
Tork Time Controls Inc., 32 Grove St., Mt. Vernon, N. Y.  
Tuttle & Kift, 1823 N. Monitor St., Chicago 38, Ill.  
Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
Willy Guenther K. G., 1138 Massachusetts Ave., Arlington 74, Mass.  
Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

### SWITCHES—Toggle

**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass.  
Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
Carling Electric, Inc., 505 New Park Ave., West Hartford 10, Conn.  
Carter Parts Co., 3401 Madison, Skokie, Ill.  
Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
Control Products, Inc., 306 Sussex St., Harrison, N. J.  
Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza, S., Long Island City, N. Y.  
Electro-Snap Switch & Mfg. Co., 4218 W. Lake St., Chicago 24, Ill.  
**GEE-LAR MFG. CO., DIV. OF GENERAL CEMENT-TEXTRON INC.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
**HART MFG. CO.**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
Haydon Switch Inc., 536 S. Leonard St., Waterbury 20, Conn.  
Hetherington, Inc., Sharon Hill, Pa.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**KULKA ELECTRIC MFG. CO., INC.**, 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685.  
Licon Switch & Control Div. of Illinois Tool Works, 2501 N. Keeler Ave., Chicago 39, Ill.  
**LIECO, INC.**, 147 Ocean Ave., Lynbrook, N. Y. ADV. PG. 686.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Master Appliance Mfg. Co., Fourth & Ontario Sts., Racine, Wis.  
Micro Switch Div. of Minneapolis-Honeywell Regulator Co., 7 W. Spring St., Freeport, Ill.  
Milli-Switch Corp., 1742 Berkeley St., Santa Monica, Calif.  
**MINIATURE SWITCH CORP.**, 36-10 Oceanside Rd., Oceanside, N. Y. ADV. PG. 686.  
Network Mfg. Corp., 213 W. Fifth St., Bayonne, N. J.  
**PAINTON DIV. OF BRITISH ELECTRONICS SALES CO., INC.**, Oakland Garden Sta., Flushing 64, N. Y. ADV. PG. 601.  
Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
Valsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

### SWITCHES—Transformer

Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
J-B-L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa.

**SWITCHES—Vacuum**

Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
**DOLINKO & WILKENS, INC.**, 1901-7 Summit Ave., Union City, N. J. ADV. PG. 508.  
**EITEL-McCULLOUGH INC.**, San Bruno, Calif. ADV. PG. 128, 129.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**JENNINGS RADIO MFG. CORP.**, 970 McLaughlin Ave., P. O. Box 1278, San Jose 8, Calif. ADV. PG. 406, 407.  
 Luther Electronic Mfg. Co., 5728 W. Washington Blvd., Los Angeles 16, Calif.  
 McQuay-Norris Mfg. Co., 2320 Marconi Ave., St. Louis 10, Mo.  
 Mercoid Corp., 4201 Belmont Ave., Chicago 41, Ill.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
 Penta Laboratories, Inc., 312 N. Nopal St., Santa Barbara, Calif.  
 Philadelphia Scientific Glass Co., Quakertown, Pa.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.

**SYNCHROS**

Cedar Engineering, Inc., 5806 W. 36th St., Minneapolis 16, Minn.  
**CLIFTON PRECISION PRODUCTS CO., INC.**, Broadway at Marple Ave., Clifton Heights, Pa. ADV. PG. 134, 135.  
**ECLIPSE-PIONEER DIV., BENDIX AVIATION CORP.**, Teterboro, N. J. ADV. PG. 333-336.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.  
 Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y.  
**INDUCTION MOTORS CORP.**, 570 Main St., Westbury, N. Y. ADV. PG. 266.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
 Kollsman Instrument Corp., Sub. of Standard Coil Products Co., Inc., 80-08 45th Ave., Elmhurst, N. Y. Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
**MINNEAPOLIS-HONEYWELL, BOSTON DIV.**, 1400 Soldiers Field Rd., Boston 15, Mass. ADV. PG. 445.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Muirhead & Co., Ltd., Beckman, Kent, England.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
**OSTER MFG. CO., JOHN, AVIONICS DIV.**, 1 N. Main St., Racine, Wis. ADV. PG. 130.  
**PSP ENGINEERING CO.**, 8608 Otis St., South Gate, Calif. ADV. PG. 621.  
 Summers Gyroscope Co., 2328 Broadway, Santa Monica, Calif.  
**TRANSICOIL CORP.**, Worcester, Penna. ADV. PG. 324.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**SYNCHRONIZER STROBOSCOPE**

See **STROBOSCOPE—Synchronizer**

**SYNCHROSCOPES**

DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
**WESTINGHOUSE ELECTRIC CO.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**SYSTEMS—Remote Control**

Antlab, 4950 N. High St., Columbus 14, Ohio.  
 Babcock Radio Engineering Co., P. O. Box 3097, Van Nuys, Calif.  
 Bendix Aviation Corp., Pacific Division, 11600 Sherman Way, North Hollywood, Calif.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.

Bone Engineering Corp., 701 W. Broadway, Glendale 4, Calif.  
**BOWMAR INSTRUMENT CORP.**, 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 CG Electronics Div. of Gulton Industries, Inc., 305 Dallas St., N.E., Albuquerque, N. M.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Concord Control Inc., 1282 Soldiers Field Rd., Boston 35, Mass.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 Devco Engineering Inc., P. O. Box 387, Caldwell, N. J.  
**ECLIPSE PIONEER DIV., BENDIX AVIATION CORP.**, Teterboro, N. J. ADV. PG. 333-336.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Feedback Controls, Inc., 899 Main St., Waltham 54, Mass.  
 Gates Radio Co., Quincy, Ill.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
 Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
 Gyro Electronics Co., 325 Canal St., New York, N. Y.  
 Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
 Haller, Raymond & Brown, Inc., State College, Pa.  
**HAMMARLUND MFG. CO., INC.**, 460 W. 34th St., New York 1, N. Y. ADV. PG. 265.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
**JERROLD ELECTRONICS CORP.**, 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Lenkurt Electric Co., Inc., 1105 County Rd., San Carlos, Calif.  
 Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.  
 Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 Parsons Co., Ralph M., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RADIO FREQUENCY LABS, INC.**, Boonton 2, N. J. ADV. PG. 555.  
 Reflectone Corp., Cor. Post Rd. & Myano Lane, Stamford, Conn.  
 Robinette Co., W. C., 802 Fair Oaks Ave., South Pasadena, Calif.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London W.C. 2, England.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telebro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**UNION SWITCH & SIGNAL DIV. OF WESTINGHOUSE AIR BRAKE CO.**, Pittsburgh 18, Pa. ADV. PG. 384, 385.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
 Webcor, Inc., Chicago, Ill.

**TACHOMETERS**

**ACROMAG CO.**, 22519 Telegraph Rd., Detroit 19, Mich. ADV. PG. 492.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
 American Electronics Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 Anthor Testing Instrument Co., 45-53 Van Sinderen Ave., Brooklyn 7, N. Y.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 Boulin Instrument Corp., 10 First St., Pelham, N. Y.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Crown Industrial Products Co., 713 Amsterdam St., Woodstock, Ill.

**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
 Diehl Mfg. Co., Somerville, N. J.  
**EASTERN AIR DEVICES, INC.**, 385 Central Ave., Dover, N. H. ADV. PG. 312.  
 Electro Engineering Products Co., 609 W. Lake St., Chicago, Ill.  
 Epic, Inc., 154 Nassau St., New York 38, N. Y.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
**HEWLETT-PACKARD CO.**, 275 Page Mill Rd., Palo Alto, Calif. ADV. PG. 29-40.  
 Hupp Instru/Mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
**KEARFOTT CO., INC., ENGINEERING & SALES DIV.**, 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
 King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio.  
 Martindale Electric Co., Edgewater Branch, Box 617, Cleveland 7, Ohio.  
 Metron Instrument Co., 432 Lincoln St., Denver 3, Colo.  
 Motordyne Inc., 2661 S. Myrtle Ave., Monrovia, Calif.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
**OSTER MFG. CO., JOHN, AVIONICS DIV.**, 1 N. Main St., Racine, Wis. ADV. PG. 130.  
**SERVOMECHANISMS, INC., MECHATROL DIV.**, 625 Main St., Westbury, N. Y. ADV. PG. 25.  
 Servo-Tek Products Co., Inc., 1086 Goffie Rd., Hawthorne, N. Y.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Syntorque, Inc., 601 W. 26th St., New York 1, N. Y.  
 Tallier & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
 WacLine, Inc., 35 S. Ct. Clair St., Dayton 2, Ohio.  
 Westberg Mfg. Co., 144 S. Coombs St., Napa, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**TACHOMETERS—Electronic**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
**BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC.**, Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solano Beach, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
 Electro Instruments, Inc., 3794 Rosecrans, San Diego, Calif.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
 Erco Engineering Corp., Addison, Ill.  
 Foxboro Co., The, Foxboro, Mass.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 Magtrol, Inc., 38 Virginia Place, Buffalo, N. Y.  
 Maice Co., Inc., 21 N. Third St., Minneapolis, Minn.  
**MERCURY ELECTRONIC CO.**, Box 450, Red Bank, N. J. ADV. PG. 61.  
 Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y.  
 Performance Measurements Co., 15310 W. McNichols, Detroit 35, Mich.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
**SERVOMECHANISMS, INC., MECHATROL DIV.**, 625 Main St., Westbury, N. Y. ADV. PG. 25.  
 Servospeed Div. of Electro Devices, Inc., 4 Goodwin Ave., Paterson, N. J.  
 Servo-Tek Products Co., Inc., 1086 Goffie Rd., Hawthorne, N. J.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
**UNIWAIVE, INC.**, 2 Marine St., P. O. Box 474, Farmingdale, N. Y. ADV. PG. 428.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.

WANG LABORATORIES, 37 Hurley St., Cambridge 41, Mass. ADV. PG. 630.  
 WAUGH ENGINEERING CO., 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.  
 Westberg Mfg. Co., 144 S. Coombs St., Napa, Calif.  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### TAPE MECHANISMS

AIRBORNE INSTRUMENTS LAB., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Alwac Corp., 13041 S. Cerise Ave., Hawthorne, Calif.  
 AMPEX CORP., 934 Charter St., Redwood City, Calif. ADV. PG. 285.  
 Audio-Master Corp., 17 E. 45th, New York 17, N. Y.  
 Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
 Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.  
 DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
 Electro Data Div. of Burroughs Corp., 460 Sierra Madre Villa, Pasadena 6, Calif.  
 General Kinetics Inc., 555 23rd St., S., Arlington 2, Va.  
 Magnecord Inc., 1101 N. Kilbourn Ave., Chicago 24, Ill.  
 Maico Co., Inc., 21 N. Third St., Minneapolis, Minn.  
 Midwestern Instruments, 41 & Sheridan Rd., Tulsa, Okla.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Presto Recording Corp., P. O. Box 500, Paramus, N. J.  
 Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Technical Associates, 140 W. Providencia Ave., Burbank, Calif.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Ten Bosch, Inc., M., 80 Wheeler Ave., Pleasantville, N. Y.  
 Webcor, Inc., Chicago, Ill.  
 Webster Electric Co., 1900 Clark St., Racine, Wis.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Whiteford Laboratory, 420 Market St., San Francisco 11, Calif.

### TAPES—Electrical Insulation

Accurate Mfg. Co., 44 Hepworth Place, Garfield, N. J.  
 ACME WIRE CO., New Haven 14, Conn. ADV. PG. 611.  
 Bishop Mfg. Corp., 10 Canfield Rd., Cedar Grove, N. J.  
 Bonny Mfg. Corp., 339 Auburn St., Auburndale, Mass.  
 BORDEN CO., RESINITE DEPT., Box 1589, Santa Barbara, Calif. ADV. PG. 604.  
 Brady Co., W. H., 727 W. Glendale Ave., Milwaukee 12, Wis.  
 Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
 CHART-PAK, Inc., Leeds, Mass.  
 CONNECTICUT HARD RUBBER CO., 407 East St., New Haven 9, Conn. ADV. PG. 646.  
 CONTINENTAL-DIAMOND FIBRE CORP., Newark 100, Delaware. ADV. PG. 345-348.  
 Dow, Corning Corp., Midland, Mich.  
 Dunton Co., M. W., 7 Goff St., Providence, R. I.  
 ELECTRO-TECHNICAL PRODUCTS DIV. OF SUN CHEMICAL CORP., 113 E. Centre St., Nutley 10, N. J. ADV. PG. 232.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Johns-Manville Dutch Brand Division, 7600 Woodlawn Ave., Chicago 19, Ill.  
 MAIGNE CO., O. J., 321 Pearl St., New York 38, N. Y. ADV. PG. 679.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.  
 Minnesota Mining & Mfg. Co., Magnetic Tape Div., 900 Bush Ave., St. Paul 6, Minn.  
 Mitchell-Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Mystik Adhesive Products Co., 2635 N. Kildare, Chicago, Ill.  
 NATVAR CORP., Woodbridge, N. J. ADV. PG. 568.  
 New England Tape Co., Hudson, Mass.  
 New Jersey Wood Finishing Co., Amboy Ave., Woodbridge, N. J.  
 Okonite Co., The Canal St., Passaic, N. J.  
 Permacel Tape Corp., U. S. Highway 1, New Brunswick, N. J.  
 Polyken Sales Div. of The Kendall Co., 309 W. Jackson Blvd., Chicago 6, Ill.  
 POLYMER CORP., THE, Reading, Pa. ADV. PG. 502.  
 Resin Industries, P. O. Box 1589, Santa Barbara, Calif.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
 Webcor, Inc., Chicago, Ill.  
 Wright & Sons Co., William E., West Warren, Mass.

### TAPES—Lacing See CORDS—Lacing

### TAPES—Recording

Audio Devices Inc., 444 Madison Ave., New York 22, N. Y.

Audio-Master Corp., 17 E. 45th St., New York 17, N. Y.  
 Duotone Co., Inc., Keyport, N. J.  
 Electro Data Div. of Burroughs Corp., 460 Sierra Madre Villa, Pasadena 6, Calif.  
 Ferrodyne Corp., Gregg & Route 17, Lodi, N. J.  
 Fidelitone, Inc., 6415 Ravenswood, Chicago 26, Ill.  
 Minnesota Mining & Mfg. Co., Magnetic Tape Div., 900 Bush Ave., St. Paul 6, Minn.  
 Orradio Industries, Inc., Shamrock Circle, Opelika, Ala.  
 Permo, Inc., 6415 Ravenswood Ave., Chicago 26, Ill.  
 Potter Instrument Co., Inc., 115 Cutter Mill Rd., Great Neck, N. Y.  
 Radio Corp. of America, Consumer Products Div., Camden 8, N. J.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covert.  
 Recoton Corp., 52-35 Barnett Ave., Long Island City 4, N. Y.  
 Reeves Soundcraft Corp., 10 E. 52nd St., New York 22, N. Y.  
 Sorensen Industrial Electronic Co., Route 10, Dover, N. J.  
 Zephyr Products Co., 129 E. 124th St., New York 55, N. Y.

### TECHNICAL BOOKS—Publishers

Academic Press Inc., 125 E. 23rd St., New York 10, N. Y.  
 Addison-Wesley Publishing Co., Route 128, Reading 8, Mass.  
 American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
 American Institute of Electrical Engineers, 33 W. 39th St., New York, N. Y.  
 American Radio Relay League, West Hartford, Conn.  
 American Standards Association, 70 E. 45th St., New York, N. Y.  
 Audel & Co., Theodore, 49 W. 23rd St., New York, N. Y.  
 Bernards Publishers Ltd., The Gramplans, Western Gate, London W 6, England.  
 Blakiston Co., 1012 Walnut St., Philadelphia 5, Pa.  
 Boyce-Roche Book Co., 460 Bloomfield Ave., Montclair, N. J.  
 Chapman & Hall Ltd., 37 Essex St., London, W. C. 2, England.  
 Day Co., Inc., John, 62 W. 45th St., New York, N. Y.  
 Dover Publications Inc., 1780 Broadway, New York, N. Y.  
 Editors and Engineers Ltd., Santa Barbara, Calif.  
 Electronics Research Publishing Co., Inc., 480 Canal St., New York 13, N. Y.  
 Elsevier Publishing Co., Inc., 215 Fourth Ave., New York, N. Y.  
 Engineers Council for Professional Development, 29 W. 39th St., New York, N. Y.  
 Federal Telephone & Radio Corp., Publication Dept., 67 Broad St., New York 4, N. Y.  
 Frederick Research Corp., 4630 Montgomery Ave., Bethesda, Md.  
 Harper & Brothers, 49 E. 33rd St., New York, N. Y.  
 Industrial Research Service, Dover, N. H.  
 Institute of Radio Engineers, Inc., 1 E. 79th St., New York, N. Y.  
 International Publishers Co., 381 Fourth Ave., New York, N. Y.  
 Interscience Publishers Inc., 215 Fourth Ave., New York 3, N. Y.  
 Irwin Inc., Richard D., 3201 S. Michigan Ave., Chicago 16, Ill.  
 Kalite Technical Co., Inc., 715 Mattison Ave., Asbury Park, N. J.  
 Johnson Research Corp., Bethpage, N. Y.  
 MacMillan Co., The, 60 Fifth Ave., New York 11, N. Y.  
 McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 36, N. Y.  
 Maedel Publishing House, 593 East 38th St., Brooklyn 3, N. Y.  
 National Bureau of Standards, Washington, D. C.  
 Nelson & Sons, Thomas, 385 Madison Ave., New York, N. Y.  
 Oxford University Press, 114 Fifth Ave., New York, N. Y.  
 Pergamon Press Inc., 122 E. 55th St., New York 22, N. Y.  
 Philips Gloeilampenfabrieken, N. V., Eindhoven, The Netherlands.  
 Philosophical Library, Publishers, 15 E. 40th St., New York 16, N. Y.  
 Pitman Publishing Corp., 2 W. 45th St., New York, N. Y.  
 Prentice-Hall, Inc., 70 Fifth Ave., New York, N. Y.  
 Princeton University Press, Princeton, N. J.  
 Radcraft Publications Inc., 25 W. Broadway, New York, N. Y.  
 Radio Corporation of America, R C A Laboratories Div., Princeton, N. J.  
 Rider Publications Inc., John F., 480 Canal St., New York 13, N. Y.  
 Rinehart Books Inc., 232 Madison Ave., New York 16, N. Y.  
 Ronald Press Co., The, 15 E. 26th St., New York 10, N. Y.  
 SAMS & CO., INC., HOWARD W., 2201 E. 46th St., Indianapolis 5, Ind. ADV. PG. 533.  
 Stechert-Hafner Inc., 31 East 10th St., New York, N. Y.  
 Stockman Electronics Research Co., 543 Lexington St., Waltham 54, Mass.  
 Technical Associates, Inc., 129 W. 52nd St., New York 19, N. Y.

Technical Publishing House, 4 Tyler Rd., Lexington 73, Mass.  
 United Catalog Publishers, Inc., 60 Madison Ave., Hempstead, N. Y.  
 Universal Scientific Co., Inc., Vincennes, Ind.  
 University of Chicago Press, The, Chicago, Ill.  
 VanNostrand Co., Inc., D., 250 Fourth Ave., New York 3, N. Y.  
 Wiley & Sons Inc., John, 440 Fourth Ave., New York, N. Y.

### TECHNICAL WRITING—Electronic

AVR Publications Inc., 41 E. 42nd St., New York 17, N. Y.  
 Cook Co., The, Ken, 9929 W. Silver Spring Rd., Milwaukee, Wis.  
 DUNN ENGINEERING ASSOCIATES INC., 186 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 695.  
 Kalite Technical Co., Inc., 715 Mattison Ave., Asbury Park, N. J.  
 McGraw-Hill Book Co., Technical Writing Service, 330 W. 42nd St., New York 36, N. Y.  
 Publication Engineering Consultants, 93 Nassau St., New York 38, N. Y.  
 SAMS & CO., INC., HOWARD W., 2201 E. 46th St., Indianapolis 5, Ind. ADV. PG. 533.  
 Technical Associates Inc., 129 W. 52nd St., New York 19, N. Y.  
 Technical Publishing House, 4 Tyler Rd., Lexington 73, Mass.

### TEES—Microwave

See MICROWAVE ACCESSORIES  
 Hybrid Junctions—Microwave

### TEFLON

See PLASTIC MATERIALS  
 Tetrafluoroethylene

### TELEMETERING SYSTEMS—Electronic

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
 AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 APPLIED SCIENCE CORP. OF PRINCETON, P. O. Box 44, Princeton, N. J. ADV. PG. 464, 465.  
 ASSEMBLY PRODUCTS, INC., Chesterland 6, Ohio. ADV. PG. 504, 505.  
 Bendix Aviation Corp., Pacific Division, 11600 Sherman Way, North Hollywood, Calif.  
 BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 78-80.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Control Corp., 718 Central Ave., Minneapolis 14, Minn.  
 Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.  
 DAVIES LABORATORIES DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
 DORSETT LABORATORIES, INC., 401 E. Boyd St., Box 862, Norman, Okla. ADV. PG. 460.  
 Dwyer Engineering Co., Inc., Box 483, Nashua, N. H.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
 Electro-Mechanical Research, Inc., Ridgefield, Conn.  
 EPSCO, INCORPORATED, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235.  
 Farnsworth Electronics Co., Div. of IT&T, 3700 E. Pontiac St., Fort Wayne, Ind.  
 Foxboro Co., The, Foxboro, Mass.  
 GENERAL COMMUNICATION CO., 681 Beacon St., Boston 15, Mass. ADV. PG. 563.  
 GENERAL DEVICES, INC., P. O. Box 253, Princeton, N. J. ADV. PG. 559.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
 HAMMARLUND MFG. CO., INC., 460 W. 34th St., New York 1, N. Y. ADV. PG. 265.  
 Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.  
 KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Manning, Maxwell & Moore, Inc., Industrial Products Div., 250 E. Main St., Stratford, Conn.  
 MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV., Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 NORTHEASTERN ENGINEERING, INC., Manchester, N. H. ADV. PG. 518, 519.  
 NORTHERN RADIO CO., INC., 143-145 W. 22nd St., New York 11, N. Y. ADV. PG. 200-202.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Parsons Co., Ralph M., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.

POTTER AERONAUTICAL CORP., Route #22, Union, N. J. ADV. PG. 372, 373.  
 Radiation, Inc., Melbourne, Fla.  
 RADIO FREQUENCY LABS., INC., Boonton 2, N. J. ADV. PG. 555.  
 Seeburg, J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.  
 Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
 Stelma, Inc., 190 Henry St., Stamford, Conn.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.  
 Telemetering Associates, 6419 Indigo St., Houston, Texas.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 United Electrodynamics Div. of United Geophysical Co., Inc., 1200 S. Marengo, Pasadena, Calif.  
 Warren Mfg. Co., Inc., The, Newtown Rd., Littleton, Mass.  
 WAUGH ENGINEERING CO., 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**TELEPHONES—Handsets**

Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 Automatic Electric Sales Corp., 1033 W. Van Buren St., Chicago 7, Ill.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 Kellogg Switchboard & Supply Co., 79 W. Monroe St., Chicago 3, Ill.  
 North Electric Mfg. Co., 553 S. Market St., Galion, Ohio.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 TELECOM, INC., 1019 Admiral Blvd., Kansas City, Mo. ADV. PG. 661.  
 Telephonics Corp., Park Ave., Huntington, N. Y.

**TELEPHONES—Handsets, Sound Powered**

Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.  
 Automatic Electric Sales Corp., 1033 W. Van Buren St., Chicago 7, Ill.  
 ELGIN NATIONAL WATCH CO., ELECTRONICS DIV., 2435 N. Naomi St., Burbank, Calif. ADV. PG. 579.  
 North Electric Co., 553 S. Market St., Galion, Ohio.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
 Telephonics Corp., Park Ave., Huntington, N. Y.

**TELEVISION MASKS**

See MASKS—Television

**TELEVISION PROJECTION SCREENS**

See SCREENS—Television Projection

**TELEVISION SYSTEMS—Industrial**

Ampl-Vision Div. of The International Telemeter Corp., 2000 Stoner Ave., Los Angeles 25, Calif.  
 Blonder-Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London SE 26, England.  
 Community Engineering Corp., Box 824, State College, Pa.  
 Dage Television Div. of Thompson Products, Inc., W. 10th St., Michigan City, Ind.  
 Diamond Power Specialty Corp., Electronics Dept., Lancaster, Ohio.  
 DuPont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
 Entron, Inc., 4902 Lawrence St., Bladensburg, Md.  
 Farnsworth Electronics Div. of IT&T, 3700 E. Pontiac St., Fort Wayne, Ind.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. Y.  
 General Cybernetics Corp., 1751 N. Coronada St., Los Angeles 26, Calif.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Precision Laboratory Inc., 63 Bedford Rd., Pleasantville, N. Y.

Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 JERROLD ELECTRONICS CORP., 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
 KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Philco Corp., Government & Industrial Div., 4700 Wissahickon Ave., Philadelphia 44, Pa.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Taller & Cooper Co., 75 Front St., Brooklyn 1, N. Y.  
 Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**TEMPERATURE**

See INDICATORS

**TENSIONS—Coil Winding**

Oaktron Electric Co., Tinley Park, Ill.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill.  
 Universal Winding Co., P. O. Box 1605, Providence, R. I.

**TERMINAL BLOCKS**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
 AMERICAN LAVA CORP., Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Applied Resins Corp., 304 Oraton St., Newark 4, N. J.  
 Arnel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y.  
 Audio Development Co., 2833 13th Ave., S., Minneapolis 7, Minn.  
 Baer Co., N. S., 9 Montgomery St., Hillside, N. J.  
 British Electronics Sales Co., Inc., Oakland Garden Station, Flushing 64, N. Y.  
 Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillside, N. J.  
 BURNDY CORPORATION, Norwalk, Conn. ADV. PG. 441.  
 CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 COILS-ELECTRONICS CO., 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
 COLLECTRON CORP., 304 E. 45th St., New York 17, N. Y. ADV. PG. 557.  
 Continental Connector Corp., 34-63 56th St., Woodside 77, N. Y.  
 CONTINENTAL-DIAMOND FIBRE CORP., Newark 100, Delaware. ADV. PG. 345-348.  
 Curtis Development & Mfg. Co., 3226 N. 33rd St., Milwaukee 16, Wis.  
 DeJUR-AMSCO CORP., Northern Blvd. at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.  
 Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Enfo Corp., Route 38 at Airport Circle, Pensauken, N. J.  
 Exceller Electronics, Inc., 475 Chestnut St., Cedarhurst, N. Y.  
 Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
 Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
 GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.  
 Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.  
 Helipot Corp., Newport Beach, Calif.  
 Isco Corporation, Cincinnati 27, Ohio.  
 Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
 JONES DIV. HOWARD B., CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 Kellogg Switchboard & Supply Co., 79 W. Monroe St., Chicago 3, Ill.  
 Kolton Electric Mfg. Co., 123 New Jersey Railroad Ave., Newark 5, N. J.  
 KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
 Luzerne Rubber Co., Muirhead Ave., Trenton, N. J.

Marathon Electric Mfg. Corp., Randolph & Cherry Sts., Wausau, Wis.  
 Mica Insulator Co., Schenectady 1, N. Y.  
 Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
 Molding Corp. of America, 40 Church St., Pawtucket, R. I.  
 Molex Products Co., 9515 Southview Ave., Brookfield, Ill.  
 NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
 Olympic Plastics Co., Inc., 3471 S. LaCienega Blvd., Los Angeles 16, Calif.  
 Panelyte Div., St. Regis Paper Corp., 261 Madison Ave., New York 16, N. Y.  
 Permonite Mfg. Co., 444 N. Lake Shore Dr., Chicago 11, Ill.  
 Pfeiffer Products, 3901 W. 54th St., Los Angeles, Calif.  
 REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.  
 RICHARDSON CO., 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
 Roflan Co., Corner Route 1 & Camp Meeting Rd., Topshfield, Mass.  
 ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Shaw Insulator Co., 160 Coit St., Irvington 11, N. J.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Smith Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 States Co., 19 New Park Ave., Hartford 6, Conn.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
 U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.

**TERMINAL BOARDS**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
 Aerolite Electronics Corp., 507 26th St., Union City, N. J.  
 Aeronautical Electric Co., 5656 Northwest Highway, Chicago 30, Ill.  
 AIRCRAFT RADIO CORP., Boonton, N. J. ADV. PG. 495.  
 Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.  
 ALDEN PRODUCTS CO., 112 N. Main St., Brockton, Mass. ADV. PG. 567.  
 ALLIED ALLEGRI INC., 141 River Rd., Nutley, N. J. ADV. PG. 650.  
 Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.  
 AMERICAN LAVA CORP., Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass.  
 Arnel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y.  
 ATLAS E-E CORP., 47 Prospect St., Woburn, Mass. ADV. PG. 562.  
 Atlee Corp., 47 Prospect St., Woburn, Mass.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Baer Co., N. S., 9 Montgomery St., Hillside, N. J.  
 Beck's Inc., 298-300 E. Fifth St., St. Paul 1, Minn.  
 British Electronics Sales Co., Inc., Oakland Garden Station, Flushing 64, N. Y.  
 Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillside, N. J.  
 BUREAU OF ENGRAVING, INC., INDUSTRIAL DIV., 500 S. Fourth St., Minneapolis 15, Minn. ADV. PG. 633.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
 CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.  
 CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
 COILS-ELECTRONICS CO., 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.  
 COLLECTRON CORP., 304 E. 45th St., New York 17, N. Y. ADV. PG. 557.  
 Continental Connector Corp., 34-63 56th St., Woodside 77, N. Y.  
 CONTINENTAL-DIAMOND FIBRE CORP., Newark 100, Delaware. ADV. PG. 345-348.  
 CORNING GLASS WORKS, Corning, N. Y. ADV. PG. 390.  
 Decatur Electronics Industries Corp., 203 Ornicco Drive, Brightwater, N. Y.  
 DIMCO-GRAY CO., 207 E. Sixth St., Dayton, Ohio. ADV. PG. 638.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
 ELECTRICAL INSULATION CO., INC., 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.

Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.

Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.

Excellex Electronics, Inc., 475 Chestnut St., Cedarhurst, N. Y.

Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.

Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.

GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.

GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.

General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.

General Metal Products Co., 1010-14 Centre St., Easton, Pa.

Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.

Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.

GREAT EASTERN METAL PRODUCTS CO., 22 Woodworth Ave., Yonkers, N.Y. ADV. PG. 696.

Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.

INDUSTRIAL HARDWARE MFG. CO., INC., 109 Prince St., New York, N. Y. ADV. PG. 693.

Isolanite Manufacturing Corp., Stirling, N. J.

Jodee Plastics Corp., 213 Shepherd Ave., Brooklyn 8, N. Y.

Johns-Manville, 22 E. 40th St., New York 16, N. Y.

JONES DIV., HOWARD B., CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.

KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.

KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685.

LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.

LERCO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664.

Litton Industries, Beverly Hills, Calif.

Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.

Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill.

Measurement Engineering, Ltd., Arnprior, Ontario, Canada.

Meridian, Inc., 880 Main St., Stamford, Conn.

Mica Insulator Co., Schenectady 1, N. Y.

Micarta Fabricators, Inc., 5412 N. Clark, Chicago 40, Ill.

Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.

Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.

MINITRON, INC., 1105 Second St., Encinitas, Calif. ADV. PG. 622.

Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.

Molding Corporation of America, 40 Church St., Pawtucket, R. I.

Molex Products Co., 9515 Southview Ave., Brookfield, Ill.

NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.

Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass.

Olympic Plastics Co., Inc., 3471 S. La Cienega Blvd., Los Angeles 16, Calif.

Panelite Div., St. Regis Paper Corp., 261 Madison Ave., New York 16, N. Y.

Permonite Mfg. Co., 444 N. Lake Shore Dr., Chicago 11, Ill.

Pflegger Products, 3901 W. 54th St., Los Angeles, Calif.

Precision Metal Products Co. of Malden, 41 Elm St., Stoneham 80, Mass.

REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.

Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.

RICHARDSON CO., THE, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.

Roffan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.

Rogers Corp., Goodyear, Conn.

ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.

Shaw Insulator Co., 160 Coit St., Irvington 11, N. J.

Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.

Smith Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.

Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.

Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.

States Co., 19 New Park Ave., Hartford 6, Conn.

Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago 47, Ill.

SUFFOLK PRODUCTS CORP., Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif.

Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.

Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.

Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.

Taylor Fibre Co., Norristown, Pa.

Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

Tingstol Co., 1461 W. Grand Ave., Chicago 22, Ill.

Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.

U. S. Engineering Co., Div. of Litton Industries, 5873 Rodeo Rd., Los Angeles 18, Calif.

U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.

Vitroseal Corp., The, 709 E. 106th St., Box 6048, Indianapolis 20, Ind.

Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.

Warren Plastics Corp., Warren, Pa.

**TERMINAL STRIPS**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.

Aerolite Electronics Corp., 507 26th St., Union City, N. J.

Aeronautical Electric Co., 5656 Northwest Highway, Chicago 30, Ill.

Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.

ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.

Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.

AMERICAN LAVA CORP., Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.

AMPHENOL ELECTRONICS CORP., 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.

ANTON ELECTRONIC LABS, INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.

Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass.

Armel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y.

Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.

Baer Co., N. S., 9 Montgomery St., Hillside, N. J.

Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn.

BIRNBACH RADIO CO., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.

Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillside, N. J.

BURNDY CORPORATION, Norwalk, Conn. ADV. PG. 441.

CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.

CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.

COILS-ELECTRONICS CO., 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589.

CONTINENTAL-DIAMOND FIBRE CORP., Newark 100, Delaware. ADV. PG. 345-348.

DEJUR-AMSCO CORP., Northern Blvd at 45th St., Long Island City 1, N. Y. ADV. PG. 237-239.

Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.

ELECTRICAL INSULATION CO., INC., 1245 Marcom Blvd., Copague, N. Y. ADV. PG. 699.

Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.

Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.

Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J.

Excellex Electronics, Inc., 475 Chestnut St., Cedarhurst, N. Y.

FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.

Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.

Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.

GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.

General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.

General Metal Products Co., 1010-14 Centre St., Easton, Pa.

Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.

Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.

HARVEY HUBBELL, INC., State St. & Bostwick Ave., Bridgeport 2, Conn. ADV. PG. 409.

I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.

Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.

INDUSTRIAL HARDWARE MFG. CO., INC., 109 Prince St., New York, N. Y. ADV. PG. 693.

Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.

Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill.

JONES DIV., HOWARD B., CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.

Kellogg Switchboard & Supply Co., 79 W. Monroe St., Chicago 3, Ill.

KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675.

KULKA ELECTRIC CO., INC., 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685.

LACEY BROTHERS ETCHED CIRCUITS, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.

Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.

LERCO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664.

Litton Industries, Beverly Hills, Calif.

Luzerne Rubber Co., Muirhead Ave., Trenton, N. J.

Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill.

Meridian, Inc., 880 Main St., Stamford, Conn.

Mica Insulator Co., Schenectady 1, N. Y.

Micarta Fabricators, Inc., 5412 N. Clark, Chicago 40, Ill.

Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.

Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.

Molding Corporation of America, 40 Church St., Pawtucket, R. I.

Molex Products Co., 9515 Southview Ave., Brookfield, Ill.

National Fabricated Products Div. of Hoffman Electronics Corp., 2650 W. Belden Ave., Chicago 47, Ill.

NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.

North Electric Co., 553 S. Market St., Gallon, Ohio.

Northern Industrial Chemical Co., 7-11 Elkin St., South Boston 27, Mass.

Olympic Plastics Co., Inc., 3471 S. La Cienega Blvd., Los Angeles 16, Calif.

Panelite Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y.

Permonite Mfg. Co., 444 N. Lake Shore Dr., Chicago 11, Ill.

Pflegger Products, 3901 W. 54th St., Los Angeles, Calif.

REEVES INSTRUMENT CORP., 227 E. 91st St., New York 28, N. Y. ADV. PG. 437.

Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.

RICHARDSON CO., THE, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.

Roffan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.

ROSS METALS CO., MILTON, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.

Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.

Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.

Sinclair Mfg. Co., Chartley, Mass.

Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.

Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.

States Co., 19 New Park Ave., Hartford 6, Conn.

Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.

Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago 47, Ill.

Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.

SUFFOLK PRODUCTS CORP., Woodbine & Scudder, Northport, N. Y. ADV. PG. 598.

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

Swedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif.

Taylor Fibre Co., Norristown, Pa.

Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

Tingstol Co., 1461 W. Grand Ave., Chicago 22, Ill.

TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405.

Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.

U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.

VECTOR ELECTRONICS CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.

Vitroseal Corp., The, 709 E. 106th St., Box 6048, Indianapolis 20, Ind.

Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.

Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.

Warren Plastics Corp., Warren, Pa.

WESTLINE PRODUCTS DIV. OF WESTERN LITHOGRAPH CO., 600 E. Second St., Los Angeles 54, Calif. ADV. PG. 470.

Whitaker Cable Corp., Kansas City 16, Mo.

**TERMINALS**

(h) Indicates hermetically sealed types.

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.

Advanced Vacuum Products, Inc., Div. of General Ceramics Corp., 122 Liberty St., Stamford, Conn.

Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.

ALDEN PRODUCTS CO., 112 N. Main St., Brockton, Mass. ADV. PG. 567.

ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.

ALLIED ALLEGRI INC., 141 River Rd., Nutley, N. J. ADV. PG. 650.

Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.

American Brass Co., 414 Meadow St., Waterbury 20, Conn. (h)

AMERICAN LAVA CORP., Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.

ANTON ELECTRONIC LABS, INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691. (h)

Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass.

Armel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y.

Atlee Corp., 47 Prospect St., Woburn, Mass.

BG Corp., The, 321 Broad Ave., Ridgefield, N. J. (h)

BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.

BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.



- Brilhart Plastics Corp., Old Country Rd., Mineola, N. Y. (h)
- British Electronics Sales Co., Inc., Oakland Garden Station, Flushing 64, N. Y. (h)
- Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillside, N. Y. (h)
- BURNDY CORPORATION, Norwalk, Conn. ADV. PG. 441.
- CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150.
- Ceramaseal Co., The, Box 25, New Lebanon Center, N. Y. (h)
- CINCH MFG. CORP., 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.
- CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.
- COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600. (h)
- CONSTANTIN & CO., L. L., Route #46, Lodi, N. J. ADV. PG. 377. (h)
- Continental Connector Corp., 34-63 56th St., Woodside 77, N. Y. (h)
- Dante Electric Mfg. Co., Bantam, Conn.
- Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.
- ELECTRICAL INDUSTRIES DIV., PHILIPS ELECTRONICS, INC., 691 Central Ave., Murray Hill, N. J. ADV. PG. 315. (h)
- Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J. (h)
- ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171.
- Excellex Electronics, Inc., 475 Chestnut St., Cedarhurst, N. Y. (h)
- Farnsworth Electronic Co., Pacific Div., 815 S. San Antonio Rd., Palo Alto, Calif. (h)
- FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.
- Frenchtown Porcelain Co., Trenton 9, N. J. (h)
- FUSITE CORP., 6000 Fernview Ave., Cincinnati 13, Ohio. ADV. PG. 413. (h)
- Garde Mfg. Co., 588 Eddy St., Providence 3, R. I. (h)
- GENERAL CERAMICS CORP., Keasbey, N. J. ADV. PG. 28. (h)
- GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.
- GENERAL HERMETIC SEALING CORP., 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679. (h)
- Glasseal Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J. (h)
- Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif. (h)
- Goe Engineering Co., 219 S. Mednik Ave., Los Angeles 22, Calif. (h)
- HARVEY HUBBELL, INC., State St. & Bostwick Ave., Bridgeport 2, Conn. ADV. PG. 409. (h)
- Heldor Corp., 238 Lewis St., Paterson, N. J. (h)
- Hermaseal Co., Inc., 1101 Lafayette St., Elkhart, Ind. (h)
- Hermetite Corp., 702 Beacon St., Boston 15, Mass. (h)
- HERMETIC SEAL CORP., 29-37 S. Sixth St., Newark 7, N. J. ADV. PG. 325. (h)
- Hobson Brothers, 4940 W. Lawrence Ave., Chicago 30, Ill. (h)
- I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill. (h)
- Ilco Corporation, Cincinnati 27, Ohio.
- INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192. (h)
- Ippolito & Co., Inc., James, 401 Concord Ave., Bronx 54, N. Y. (h)
- Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill. (h)
- Janco Corp., 3111 Winona Ave., Burbank, Calif. (h)
- KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675. (h)
- KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685. (h)
- LERCO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664. (h)
- Litton Industries, Beverly Hills, Calif. (h)
- Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif. (h)
- Lundey Associates, 694 Main St., Waltham 54, Mass. (h)
- MALCO TOOL & MFG. CO., 4025 W. Lake St., Chicago 24, Ill. ADV. PG. 252. (h)
- Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill. (h)
- MANVOL CERAMICS, 140 Little St., Belleville, N. J. ADV. PG. 697. (h)
- Marshall Associates, Inc., John, Box 2463, Bridgeport 8, Conn. (h)
- Metron Corp., 8 Coryell St., Lambertville, N. J. (h)
- Micarta Fabricators, Inc., 5412 N. Clark, Chicago 40, Ill. (h)
- Millen Mfg. Co., James, 150 Exchange St., Malden, Mass. (h)
- Mitronics, Inc., 1290 Central Ave., Hillside, N. J. (h)
- Molding Corp. of America, 40 Church St., Pawtucket, R. I. (h)
- Molex Products Co., 9515 Southview Ave., Brookfield, Ill. (h)
- Morse Co., Frank W., 1300 Soldiers Field Rd., Boston 35, Mass. (h)
- NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642. (h)
- Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y. (h)
- North Electric Co., 553 S. Market St., Galion, Ohio. (h)
- PATTON-MACGUYER CO., 17 Virginia Ave., Providence 5, R. I. ADV. PG. 590. (h)
- Permonite Mfg. Co., 444 N. Lake Shore Dr., Chicago 11, Ill. (h)
- PIX MFG. CO., INC., 81A Hudson St., Newark, N. J. ADV. PG. 670. (h)
- Precise Instrument Parts Co., 4520 San Fernando Rd., Glendale 4, Calif. (h)
- Precision Metal Products Co. of Malden, 41 Elm St., Stoneham 80, Mass. (h)
- Quality Products Co., 387 Charles St., Providence 4, R. I. (h)
- Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass. (h)
- RAYHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS, Waltham 54, Mass. ADV. PG. 249. (h)
- Robco Mfg. Co., 225 W. Main St., Patchogue, N. Y. (h)
- Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass. (h)
- SEALLECTRO CORP., 610 Fayette Ave., Mamaroneck, N. Y. ADV. PG. 484. (h)
- Shakeproof Div. of Illinois Tool Works, St. Charles Rd., Elgin, Ill. (h)
- Shamban & Co., W. S., 11617 W. Jefferson Blvd., Culver City, Calif. (h)
- Sheffco Mfg. Co., Grand & Ruby Aves., Palisades Park, N. J. (h)
- Sherman Mfg. Co., H. B., 22 Barney St., Battle Creek, Mich. (h)
- Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago 18, Ill. (h)
- Sinclair Mfg. Co., Chartley, Mass. (h)
- Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y. (h)
- SPHERE CO., INC., THE, 25 Amity St., Little Falls, N. J. ADV. PG. 652. (h)
- Stimpson Co., Inc., Edwin B., 74 Franklin Ave., Brooklyn 5, N. Y. (h)
- Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind. (h)
- Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago 47, Ill. (h)
- STUPAKOFF DIV. OF THE CARBORUNDUM CO., Latrobe, Pa. ADV. PG. 108, 109. (h)
- Thomas & Betts Co., Inc., 36 Butler St., Elizabeth 1, N. J. (h)
- Thompson-Bremer & Co., 520 N. Dearborn, Chicago 10, Ill. (h)
- THOR CERAMICS, INC., 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603. (h)
- TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405. (h)
- Tri-Point Plastics, Inc., 177 I.U. Willets Rd., Albertson, N. Y. (h)
- United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y. (h)
- U. S. Engineering Co., Div. of Litton Industries, 5873 Rodeo Rd., Los Angeles 18, Calif. (h)
- U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635. (h)
- VECTOR ELECTRONIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476. (h)
- Vitroseal Corp., The, 709 E. 106th St., Box 6048, Indianapolis 20, Ind. (h)
- VOLKERT STAMPINGS, INC., 222-34 96th Ave., Queens Village 8, N. Y. ADV. PG. 103. (h)
- Wade Electric Products Co., 400 Jacob St., Sturgis, Mich. (h)
- Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill. (h)
- Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill. (h)
- Warren Plastics Corp., Warren, Pa. (h)
- Waterbury Companies, Inc., Waterbury 20, Conn. (h)
- Wheaton Co., T. C., Millville, N. J. (h)
- Whitaker Cable Corp., Kansas City 16, Mo. (h)
- WHITSO, INC., 9328 Byron St., Schiller Park, Ill. ADV. PG. 637. (h)
- Winchester Electronics, Inc., Willard Rd., Norwalk, Conn. (h)
- ZIERICK MFG. CORP., Beechwood & Rockdale Aves., New Rochelle, N. Y. ADV. PG. 605. (h)
- Farnsworth Electronic Co., Pacific Div., 815 S. San Antonio Rd., Palo Alto, Calif. (h)
- Garde Mfg. Co., 588 Eddy St., Providence 3, R. I. (h)
- GENERAL COMPONENTS INC., 225-229 E. 144th St., New York 51, N. Y. ADV. PG. 696.
- GENERAL HERMETIC SEALING CORP., 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679. (h)
- Glasseal Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J. (h)
- Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif. (h)
- Goe Engineering Co., 219 S. Mednik Ave., Los Angeles 22, Calif. (h)
- HARVEY HUBBELL, INC., State St. & Bostwick Ave., Bridgeport 2, Conn. ADV. PG. 409. (h)
- Heldor Corp., 238 Lewis St., Paterson, N. J. (h)
- Hermaseal Co., Inc., 1101 Lafayette St., Elkhart, Ind. (h)
- Hermetite Corp., 702 Beacon St., Boston 15, Mass. (h)
- HERMETIC SEAL CORP., 29-37 S. Sixth St., Newark 7, N. J. ADV. PG. 325. (h)
- Hobson Brothers, 4940 W. Lawrence Ave., Chicago 30, Ill. (h)
- I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill. (h)
- Ilco Corporation, Cincinnati 27, Ohio.
- INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192. (h)
- Ippolito & Co., Inc., James, 401 Concord Ave., Bronx 54, N. Y. (h)
- Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill. (h)
- Janco Corp., 3111 Winona Ave., Burbank, Calif. (h)
- KEYSTONE ELECTRONICS CORP., 423 Broome St., New York 13, N. Y. ADV. PG. 675. (h)
- KULKA ELECTRIC MFG. CO., INC., 633 S. Fulton Ave., Mount Vernon, N. Y. ADV. PG. 685. (h)
- LERCO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664. (h)
- Litton Industries, Beverly Hills, Calif. (h)
- Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif. (h)
- Lundey Associates, 694 Main St., Waltham 54, Mass. (h)
- MALCO TOOL & MFG. CO., 4025 W. Lake St., Chicago 24, Ill. ADV. PG. 252. (h)
- Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill. (h)
- MANVOL CERAMICS, 140 Little St., Belleville, N. J. ADV. PG. 697. (h)
- Marshall Associates, Inc., John, Box 2463, Bridgeport 8, Conn. (h)
- Metron Corp., 8 Coryell St., Lambertville, N. J. (h)
- Micarta Fabricators, Inc., 5412 N. Clark, Chicago 40, Ill. (h)
- Millen Mfg. Co., James, 150 Exchange St., Malden, Mass. (h)
- Mitronics, Inc., 1290 Central Ave., Hillside, N. J. (h)
- Molding Corp. of America, 40 Church St., Pawtucket, R. I. (h)
- Molex Products Co., 9515 Southview Ave., Brookfield, Ill. (h)
- Morse Co., Frank W., 1300 Soldiers Field Rd., Boston 35, Mass. (h)
- NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642. (h)
- Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y. (h)
- North Electric Co., 553 S. Market St., Galion, Ohio. (h)
- PATTON-MACGUYER CO., 17 Virginia Ave., Providence 5, R. I. ADV. PG. 590. (h)
- Permonite Mfg. Co., 444 N. Lake Shore Dr., Chicago 11, Ill. (h)
- PIX MFG. CO., INC., 81A Hudson St., Newark, N. J. ADV. PG. 670. (h)
- Precise Instrument Parts Co., 4520 San Fernando Rd., Glendale 4, Calif. (h)
- Precision Metal Products Co. of Malden, 41 Elm St., Stoneham 80, Mass. (h)
- Quality Products Co., 387 Charles St., Providence 4, R. I. (h)
- Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass. (h)
- RAYHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS, Waltham 54, Mass. ADV. PG. 249. (h)
- Robco Mfg. Co., 225 W. Main St., Patchogue, N. Y. (h)
- Roflan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass. (h)
- SEALLECTRO CORP., 610 Fayette Ave., Mamaroneck, N. Y. ADV. PG. 484. (h)
- Shakeproof Div. of Illinois Tool Works, St. Charles Rd., Elgin, Ill. (h)
- Shamban & Co., W. S., 11617 W. Jefferson Blvd., Culver City, Calif. (h)
- Sheffco Mfg. Co., Grand & Ruby Aves., Palisades Park, N. J. (h)
- Sherman Mfg. Co., H. B., 22 Barney St., Battle Creek, Mich. (h)
- Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago 18, Ill. (h)
- Sinclair Mfg. Co., Chartley, Mass. (h)
- Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y. (h)
- SPHERE CO., INC., THE, 25 Amity St., Little Falls, N. J. ADV. PG. 652. (h)
- Stimpson Co., Inc., Edwin B., 74 Franklin Ave., Brooklyn 5, N. Y. (h)
- Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind. (h)
- Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago 47, Ill. (h)
- STUPAKOFF DIV. OF THE CARBORUNDUM CO., Latrobe, Pa. ADV. PG. 108, 109. (h)
- Thomas & Betts Co., Inc., 36 Butler St., Elizabeth 1, N. J. (h)
- Thompson-Bremer & Co., 520 N. Dearborn, Chicago 10, Ill. (h)
- THOR CERAMICS, INC., 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603. (h)
- TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405. (h)
- Tri-Point Plastics, Inc., 177 I.U. Willets Rd., Albertson, N. Y. (h)
- United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y. (h)
- U. S. Engineering Co., Div. of Litton Industries, 5873 Rodeo Rd., Los Angeles 18, Calif. (h)
- U. S. GASKET CO., Camden, N. J. ADV. PG. 418, 635. (h)
- VECTOR ELECTRONIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476. (h)
- Vitroseal Corp., The, 709 E. 106th St., Box 6048, Indianapolis 20, Ind. (h)
- VOLKERT STAMPINGS, INC., 222-34 96th Ave., Queens Village 8, N. Y. ADV. PG. 103. (h)
- Wade Electric Products Co., 400 Jacob St., Sturgis, Mich. (h)
- Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill. (h)
- Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill. (h)
- Warren Plastics Corp., Warren, Pa. (h)
- Waterbury Companies, Inc., Waterbury 20, Conn. (h)
- Wheaton Co., T. C., Millville, N. J. (h)
- Whitaker Cable Corp., Kansas City 16, Mo. (h)
- WHITSO, INC., 9328 Byron St., Schiller Park, Ill. ADV. PG. 637. (h)
- Winchester Electronics, Inc., Willard Rd., Norwalk, Conn. (h)
- ZIERICK MFG. CORP., Beechwood & Rockdale Aves., New Rochelle, N. Y. ADV. PG. 605. (h)

TERMINALS—Miniature & Subminiature  
M—Miniature . . . S—Subminiature

- Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill. (h)
- ALDEN PRODUCTS CO., 112 N Main St., Brockton, Mass. ADV. PG. 567. (h)
- ALLIED ALLEGRI, INC., 141 River Rd., Nutley, N. J. ADV. PG. 650. (h)
- Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y. (h)
- Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass. (h)
- Armel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y. (h)
- Atlee Corp., 47 Prospect St., Woburn, Mass. (h)
- BEAD CHAIN MFG. CO., 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615. (h)
- Beck's, Inc., 298-300 E. Fifth St., St. Paul 1, Minn. (h)
- BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501. (h)
- CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150. (h)
- Ceramaseal Co., The, Box 25, New Lebanon Center, N. Y. (h)
- CIRCON COMPONENT CO., Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638. (h)
- COAXIAL CONNECTOR CO., INC., 37 N Second Ave., Mt. Vernon, N. Y. ADV. PG. 600. (h)
- Continental Connector Corp., 34-63 56th St., Woodside 77, N. Y. (h)
- ELECTRICAL INDUSTRIES DIV., PHILIPS ELECTRONICS, INC., 691 Central Ave., Murray Hill, N. J. ADV. PG. 315. (h)
- Enflo Corp., Route 38 at Airport Circle, Pensauken, N. J. (h)
- ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171. (h)

TERMINALS—Solderless

- American Pamcor, Inc., Havertown, Pa. (h)
- AMP INC., 2100 Paxton St., Harrisburg, Pa. ADV. PG. 339. (h)
- Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass. (h)
- Berg Mfg. Corp., 142 Reno Ave., New Cumberland, Pa. (h)
- BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501. (h)
- Buchanan Electrical Products Corp., 223 U. S. Route 22, Hillside, N. Y. (h)
- BURNDY CORPORATION, Norwalk, Conn. ADV. PG. 441.
- CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150. (h)
- COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600. (h)
- Dante Electric Mfg. Co., Bantam, Conn. (h)
- ERIE RESISTOR CORP., Erie 6, Pa. ADV. PG. 170, 171. (h)
- FEDERAL SCREW PRODUCTS, INC., 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558. (h)
- Goe Engineering Co., 219 S. Mednik Ave., Los Angeles 22, Calif. (h)
- HARVEY HUBBELL, INC., State St. & Bostwick Ave., Bridgeport 2, Conn. ADV. PG. 409. (h)
- HOLLINGSWORTH CO., SOLDERLESS TERMINAL DIV., Box 430, Phoenixville, Pa. ADV. PG. 630. (h)
- Ilco Corp., Cincinnati 27, Ohio. (h)
- Javex, P. O. Box 646, Redlands, Calif. (h)
- Johnson Co., E. F., Waseca, Minn. (h)
- Kolton Electric Mfg. Co., 123 New Jersey Railroad Ave., Newark 5, N. J. (h)
- LERCO ELECTRONICS, INC., 501 S. Varney St., Burbank, Calif. ADV. PG. 664. (h)
- Litton Industries, Beverly Hills, Calif. (h)

MALCO TOOL & MFG. CO., 4025 W. Lake St., Chicago 24, Ill. ADV. PG. 252.  
Molding Corp. of America, 40 Church St., Pawtucket, R. I.  
Molox Products Co., 9515 Southview Ave., Brookfield, Ill.  
NATIONAL TEL-TRONICS CORP., 35 St. Casmirs Ave., Yonkers, N. Y. ADV. PG. 642.  
Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
ATTON-MAC GUYER CO., 17 Virginia Ave., Providence 5, R. I. ADV. PG. 590.  
PIX MFG. CO., INC., 81A Hudson St., Newark, N. J. ADV. PG. 670.  
Sherman Mfg. Co., H. B., 22 Barney St., Battle Creek, Mich.  
Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
Thomas & Betts Co., 36 Butler St., Elizabeth 1, N. J.  
Trumbull Components Dept., General Electric Co., 41 Woodford Ave., Plainville, Conn.  
Vaco Products Co., 317 E. Ontario St., Chicago 11, Ill.  
VECTOR ELECTRONIC CO., 3352 San Fernando Rd., Los Angeles 65, Calif. ADV. PG. 476.  
Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.  
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
Whitaker Cable Corp., Kansas City 16, Mo.  
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

### TERMINATIONS—Microwave See MICROWAVE ACCESSORIES

### TERMINATIONS for VHF, Video & Pulse Work

Admittance-Namco Corp., Farmingdale, N. Y.  
APPLIED RESEARCH INC., 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
BJ ELECTRONICS, BORG-WARNER CORP., 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
BIRD ELECTRONIC CORP., 1800 E. 38th St., Cleveland 14, Ohio. ADV. PG. 278.  
COAXIAL CONNECTOR CO., INC., 37 N. Second Ave., Mt. Vernon, N. Y. ADV. PG. 600.  
Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.  
Intron, Inc., 4902 Lawrence St., Bladensburg, Md.  
Holland Electronics, 40 Grant Jones St., New York 12, N. Y.  
MICROLAB, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
MELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
TRANSITRON, INC., 186 Granite St., Manchester, N. H. ADV. PG. 326.  
S. GASKET CO., Camden, N. J. ADV. PG. 418, 635.  
VaLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
WEINSCHL ENGINEERING CO., INC., 10503 Metropolitan Ave., Kensington, Md. ADV. PG. 42.

### TEST CHAMBERS See CHAMBERS—Test

### TEST EQUIPMENT—Environmental

Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.  
Aereco, Inc., 2323 Second Ave., Carman, Schenectady 3, N. Y.  
American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
American Research Corp., Route 6 & New Britain Ave., Farmington, Conn.  
ASSOCIATED TESTING LABORATORIES, INC., 407 Clinton Rd., Caldwell, N. J. ADV. PG. 627.  
Atmosphere Control Co., Inc., 5315 Chester Ave., Philadelphia 43, Pa.  
Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
Blue M Electric Co., 138th & Chatham St., Blue Island, Ill.  
Bowser Technical Refrigeration Div., Bowser, Inc., Eagle St., Terryville, Conn.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
ALIDYNE CO., THE, 120 Cross St., Winchester, Mass. ADV. PG. 472.  
Century Engineers, Inc., Burbank, Calif.  
CONRAD, INC., 141 Jefferson St., Holland, Mich. ADV. PG. 395.  
Controlled Atmosphere Enclosures Corp., 230-11 141st Ave., Springfield Gardens 13, N. Y.  
DEVELOPMENT ENGINEERING CO., 9 Cross St., Norwalk, Conn. ADV. PG. 500.  
ENVIRONMENTAL EQUIPMENT CORP., 371 Linden St., Brooklyn 27, N. Y. ADV. PG. 600.  
Ficks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.  
Geatt Engineering Co., 2228 N. Hollywood Way, Burbank, Calif.  
Hudson Bay Co., Div. of Labline Inc., 3070 W. Grand Ave., Chicago 22, Ill.  
International Radiant Corp., 4 Manhasset Ave., Port Washington, N. Y.

Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
Litton Industries, Beverly Hills, Calif.  
MB MFG. DIV. OF TEXTRON AMERICAN, INC., 1060 State St., New Haven 11, Conn. ADV. PG. 552.  
Mantec, Inc., 126 Maryland St., El Segundo, Calif.  
Midwestern Instruments, 41 & Sheridan Rd., Tulsa, Okla.  
MURPHY & MILLER, INC., 1322 S. Michigan Ave., Chicago 5, Ill. ADV. PG. 677.  
North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
STANDARD CABINET CO., 57 Washington Ave., Carlstadt, N. J. ADV. PG. 642.  
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
TENNEY ENGINEERING INC., 1090 Springfield Rd., Union, N. J. ADV. PG. 422.  
Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
TROP-ARCTIC, INC., P. O. Box 334, Mishawaka, Ind. ADV. PG. 628.  
Webber Corp., P. O. Box 217, Indianapolis 6, Ind.  
Whittington Pump & Engineering Corp., 1126 Prospect St., Indianapolis 3, Ind.

### TEST LEADS See LEADS—Test

### TESTERS See Also INDICATORS METERS

#### TESTERS—Amplitude Linearity

Darco Industries, Inc., Gyro Dynamics Div., 2151 E. Rosecrans Ave., El Segundo, Calif.  
Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.

#### TESTERS—Automatic Tube

B & K Mfg. Co., 3726 N. Southport Ave., Chicago 13, Ill.  
BRIGGS ASSOCIATES INC., 10 DeKalb St., Norristown, Pa. ADV. PG. 286.  
Cinema-Television, Ltd., Worsley Bridge Rd., London S. E. 26, England.  
Hunter-Bristol Corp., Bristol, Pa.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
MULLARD OVERSEAS LTD., EQUIPMENT DIV., Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Research Electronics Laboratories, Roslyn, Pa.  
Teletest Instrument Corp., 136-10 31st Rd., Flushing 54, N. Y.  
Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.  
Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
Wright Equipment Co., 128 N. Main St., Milltown, N. J.

#### TESTERS—Battery

AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
Bright Star Industries, 600 Getty Ave., Clifton, N. J.  
CHRISTIE ELECTRIC CORP., 3410 W. 67th St., Los Angeles 43, Calif. ADV. PG. 528.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
Fox Products Co., 4720 N. 18th St., Philadelphia 41, Pa.  
Goldak Co., Inc., The, Dept. E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.  
Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio.  
Lee Electronics Labs., Inc., 88 Evans St., Watertown, Mass.  
Measurement Engineering Ltd., Arnprior, Ontario, Canada.  
Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
Rectifier Engineering Co., Inc., 1803 E. Seventh St., Los Angeles 21, Calif.  
Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Willard Storage Battery Div. of The Electric Storage Battery Co., 246-286 E. 131st St., Cleveland 1, Ohio.

#### TESTERS—Capacitor

BALLANTINE LABORATORIES, INC., Boonton, N. J. ADV. PG. 159.

BOONTON ELECTRONICS CORP., 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Cinema-Television, Ltd., Worsley Bridge Rd., London S. E. 26, England.  
CLEGG LABORATORIES DV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
CORNELL-DUBILIER ELECTRIC CORP., South Plainfield, N. J. ADV. PG. 111.  
Dubrow Development Co., 235B Penn St., Burlington, N. J.  
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316-317.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
Hunter-Bristol Corp., Bristol, Pa.  
INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio.  
Lee Electronics Labs., Inc., 88 Evans St., Watertown, Mass.  
Liquidometer Corp., The, Skillman Ave. at 36th St., Long Island City 1, N. Y.  
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
Pennsylvania Testing Lab., Inc., Boyerstown, Pa.  
Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
Service Instruments Corp., 171 Official Rd., Addison, Ill.  
Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.  
Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
Teletest Instrument Corp., 136-10 31st Rd., Flushing 54, N. Y.

#### TESTERS—Cathode Ray Tube

Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
Jackson Electrical Instrument Co., 161 S. Patterson Blvd., Dayton 2, Ohio.  
Lee Electronics Labs., Inc., 88 Evans St., Watertown, Mass.  
MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
Research Electronics Laboratories, Roslyn, Pa.  
Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
Wright Equipment Co., 128 N. Main St., Milltown, N. J.

#### TESTERS—Circuit

ACF Electronics, 800 N. Pitt St., Alexandria, Va.  
Allegany Instrument Co., Inc., 1091 Wills Mountain, Cumberland, Md.  
Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.  
AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
B & K Mfg. Co., 3726 N. Southport Ave., Chicago 13, Ill.  
Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
Bliss Electronic Corp., Box 366, Sussex, N. J.  
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
Century Engineers, Inc., Burbank, Calif.  
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Craft Laboratories, P. O. Box 606, Westfield, N. J.  
Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo.  
Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza S., Long Island City, N. Y.  
ELECTRONICS, INC., 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.

Hunter-Bristol Corp., Bristol, Pa.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Syracuse, Ill.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Instrument Laboratories, 315 W. Walton Place, Chicago 10, Ill.  
 King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Lee Electronics Labs., 88 Evans St., Watertown, Mass.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
 Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Precise Development Corp., 2 Neil Court, Oceanside, N. Y.  
 Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, Calif.  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Seco Mfg. Co., 5015 Penn Ave., S. Minneapolis, Minn.  
 Service Instruments Corp., 171 Official Rd., Addison, Ill.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Sittler Corp., 18 N. Ada St., Chicago 7, Ill.  
 Sorensen Industrial Electronic Co., Route 10, Dover, N. J.  
 Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
 Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa.

**TESTERS—Coating Thickness**

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
**BOONTON RADIO CORP.**, Boonton, N. J. ADV. PG. 427.  
 Gardner Lab., Inc., 4723 Elm St., Bethesda 14, Md.  
 Research Electronics Laboratories, Roslyn, Pa.  
 Unit Process Assemblies, Inc., 61 E. 4th St., New York 3, N. Y.

**TESTERS—Color Infra Red**

Gardner Lab., Inc., 4723 Elm St., Bethesda 14, Md.  
 Haller, Raymond & Brown, Inc., State College, Pa.  
**PRECISE MEASUREMENTS CO.**, R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
 Production Research Corp., Thornwood, N. Y.

**TESTERS—Continuity**

**AMERICAN MACHINE & FOUNDRY CO., DEFENSE PRODUCTS GROUP**, 1101 N. Royal St., Alexandria, Va. ADV. PG. 491.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
 Bright Star Industries, 600 Getty Ave., Clifton, N. J.  
 California Technical Industries, 1421 Old County Rd., Belmont, Calif.  
 Century Engineers, Inc., Burbank, Calif.  
 Color Television Inc., 973 E. San Carlos Ave., San Carlos, Calif.  
 Dante Electric Mfg. Co., Bantam, Conn.  
 Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo.  
**ELECTRONICS, INC.**, 39 York Rd., Willow Grove, Pa. ADV. PG. 286.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Hunter-Bristol Corp., Bristol, Pa.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Syracuse, Ill.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Lee Electronics Labs, Inc., 88 Evans St., Watertown, Mass.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Seco Mfg. Co., 5015 Penn Ave., S., Minneapolis, Minn.  
 Service Instruments Corp., 171 Official Rd., Addison, Ill.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.

**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**TESTERS—Crystal Testing**

**AIRBORNE INSTRUMENTS LABS., INC.**, 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
 Bassett, Inc., Rex, 1314 N. E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.  
**DUNN ENGINEERING ASSOCIATES, INC.**, 186 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 695.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
**RADIO FREQUENCY LABS., INC.**, Boonton 2, N. J. ADV. PG. 555.  
**TECHNITROL ENGINEERING CO.**, 1952 E. Allegheny Ave., Philadelphia 34, Pa. ADV. PG. 542.  
 Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
 United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
 Winston Electronics, Inc., 4812 Main St., Philadelphia 27, Pa.

**TESTERS—Distortion**

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**BOONTON ELECTRONICS CORP.**, 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
**HEATH CO. A. SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Towaco Electronics, Pine Brook Rd., Towaco, N. J.  
 Warren Mfg. Co., Inc., The Newtown Rd., Littleton, Mass.

**TESTERS—Induction**

Pennsylvania Testing Lab., Inc., Doylestown, Pa.

**TESTERS—Insulation**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
**ASSOCIATED RESEARCH, INC.**, 3788 W. Belmont Ave., Chicago 18, Ill. ADV. PG. 570.  
**BETA ELECTRIC DIV. OF SORENSEN CO., INC.**, 333 E. 103rd St., New York 23, N. Y. ADV. PG. 155, 156.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 Bliss Electronic Corp., Box 366, Sussex, N. J.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Central Research Laboratories, Inc., Red Wing, Minn.  
 Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo.  
 Eastern Specialty Co., Philadelphia 40, Pa.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Holtzer-Cabot Div. of National Pneumatic Co., Inc., 125 Amory St., Boston 19, Mass.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. ADV. PG. 454, 455.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif.  
 Lee Electronics Labs., Inc., 88 Evans St., Watertown, Mass.  
 Liquidometer Corp., The Skillman Ave. at 36th St., Long Island City 1, N. Y.  
**MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
**OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
 Parameters, Inc., 195 Herricks Rd., New Hyde Park, N. Y.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**PRECISE MEASUREMENTS CO.**, R. D. #1, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
**SLAUGHTER COMPANY, Piqua 9, Ohio.** ADV. PG. 494.

**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Takk Corp., The Box 346, Newark, Ohio.  
**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.

**TESTERS—Insulation Breakdown**

Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
 Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Amthor Testing Instrument Co., 45-53 Van Sinderen Ave., Brooklyn 7, N. Y.  
**ASSOCIATED RESEARCH, INC.**, 3788 W. Belmont Ave., Chicago 18, Ill. ADV. PG. 570.  
**BETA ELECTRIC DIV. OF SORENSEN CO., INC.**, 333 E. 103rd St., New York 23, N. Y. ADV. PG. 155, 156.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
 Bliss Electronic Corp., Box 366, Sussex, N. J.  
**BRIGGS ASSOCIATES INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Embassy Engineering Corp., 673 Elton Ave., New York 51, N. Y.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**GENERAL HERMETIC SEALING CORP.**, 99 E. Hawthorne, Valley Stream, N. Y. ADV. PG. 679.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
**INDUSTRIAL TEST EQUIPMENT CO.**, 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. ADV. PG. 454, 455.  
**MANSON LABORATORIES, INC.**, 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
**OPAD ELECTRIC CO.**, 69-5 Murray St., New York 7, N. Y. ADV. PG. 650.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**PRECISE MEASUREMENTS CO., R. D. #1,** Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
**SHALLCROSS MFG. CO.**, 10 Jackson Ave., Collingdale, Pa. ADV. PG. 101.  
**SLAUGHTER COMPANY, Piqua 9, Ohio.** ADV. PG. 494.  
**SPELLMAN TELEVISION CO., INC.**, 3029 Webster Ave., New York 67, N. Y. ADV. PG. 230, 231.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.

**TESTERS—Meter**

Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Booth Co., Arthur E., 265 S. Alexandria Ave., Los Angeles, Calif.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 Eastern Specialty Co., Philadelphia 40, Pa.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
**RADIO FREQUENCY LABS., INC.**, Boonton 2, N. J. ADV. PG. 555.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
 Rockwell Engineering Co., 2125 E. 45th St., Indianapolis 5, Ind.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**TESTERS—Microwave Testing Equipment**

See **MICROWAVE ACCESSORIES**

**TESTERS—Moisture Detection, Electronic**

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.  
 Delmhorst Instrument Co., 601 Cedar St., Boonton, N. J.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Moisture Register Co., 1510 W. Chestnut St., Alhambra, Calif.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.

Photo Crystals Inc., 15 S. First St., Geneva, Ill.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### TESTERS—Multitestors

ANTON ELECTRONIC LABS., INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.  
Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
Instrument Laboratories, 315 W. Walton Place, Chicago 10, Ill.  
Millivac Instrument Corp., 2315 Second Ave., Carman, P. O. Box 997, Schenectady, N. Y.  
Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, Calif.  
Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
RAWSON ELECTRICAL INSTRUMENT CO., 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### TESTERS—Phanotron

See ANALYZERS—Thyratron or Phanotron

### TESTERS—Radar

BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Norristown, N. J. ADV. PG. 632.  
KEARFOTT CO., INC., WESTERN DIV., 14844 Oxnard St., Van Nuys, Calif. ADV. PG. 182.  
MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
Research Electronics Laboratories, Roslyn, Pa.

### TESTERS—Synchro Error

EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV., 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
ELECTRO-MEC LABORATORY, INC., 47-51 33rd St., Long Island City 1, N. Y. ADV. PG. 584.  
GRAY INSTRUMENT CO., 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
INDUSTRIAL TEST EQUIPMENT CO., 55 E. 11th St., New York 3, N. Y. ADV. PG. 676.  
Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.  
KEARFOTT CO., INC., ENGINEERING & SALES DIV., 1378 Main Ave., Clifton, N. J. ADV. PG. 181.  
MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
Millitest Co., 88 Madison Ave., Hempstead, N. Y.  
Muirhead & Co., Ltd., Beckenham, Kent, England.  
Pennsylvania Testing Lab., Inc., Doylestown, Pa.  
Rubicon Co., Ridge Ave. at 35th St., Philadelphia 29, Pa.  
Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.  
Theta Instrument Corp., 204 Market St., East Paterson, N. J.

### TESTERS—Thyratron

See ANALYZERS—Thyratron or Phanotron

### TESTERS—Transconductance Tube

Alpha Instrument Co., 43 Hempstead St., New London, Conn.  
B & K Mfg. Co., 3726 Southport Ave., Chicago 13, Ill.  
Eder Engineering Co., The, 219 E. Becher St., Milwaukee 2, Wis.  
Electronic Measurements Corp., 280 Lafayette St., New York 12, N. Y.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
New London Instrument Co., P. O. Box 189, New London, Conn.  
Pennsylvania Testing Lab., Inc., Boylestown, Pa.

SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Teletest Instrument Corp., 136-10 31st Rd., Flushing 54, N. Y.

### TESTERS—Transistor

Alco Electronics Mfg. Co., 3 Wolcott Ave., Lawrence, Mass.  
B & K Mfg. Co., 3726 N. Southport Ave., Chicago 13, Ill.  
BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
CG Electronics Div. of Gulton Industries, Inc., 305 Dallas St., N.E., Albuquerque, N. M.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
CUBIC CORP., 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
DUNN ENGINEERING ASSOCIATES, INC., 186 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 695.  
Dursion Co., Dept. A-1, 10416 National Blvd., Los Angeles 34, Calif.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
ELECTRONIC MEASUREMENTS CO., Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
Fairchild Engine & Airplane Corp., Guided Missiles Div., Wyandanch, N. Y.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
GENERAL TRANSISTOR CORP., 130-11 90th Ave., Richmond Hill 18, N. Y. ADV. PG. 243.  
GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
INSTANT CIRCUITS DIV. OF ALFRED W. BARBER LABS., 32-44 Francis Lewis Blvd., Flushing, N. Y. ADV. PG. 660.  
Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
KAY ELECTRIC CO., 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
MAGNETIC AMPLIFIERS, INC., 632 Tinton Ave., New York 55, N. Y. ADV. PG. 389.  
MEASUREMENTS CORP., Boonton, N. J. ADV. PG. 94.  
Metronix, Inc., Mill Lane, Waterford, Conn.  
Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
OWEN LABORATORIES, INC., 55 Beacon Place, Pasadena, Calif. ADV. PG. 680.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
Quantum Electronics, Inc., 2312 Wisconsin St. NE, Albuquerque, N. M.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
Ransom Research, Box 382, San Pedro, Calif.  
Research Electronics Laboratories, Roslyn, Pa.  
Service Instruments Co., 171 Official Rd., Addison, Ill.  
SONEX, INC., 73 S. State Rd., Upper Darby, Pa. ADV. PG. 664.  
Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.  
Trans Electronics Inc., 7349 Canoga Ave., Canoga Park, Calif.  
WALLSON ASSOCIATES, LTD., 963 Frelinghuysen Ave., Newark 5, N. Y. ADV. PG. 691.  
Wright Equipment Co., 128 N. Main St., Milltown, N. J.

### TESTERS—Vacuum Tube

Alpha Instrument Co., 43 Hempstead St., New London, Conn.  
American Scientific Development Co., 334 S. Main St., Atkinson, Wis.  
B & K Mfg. Co., 3726 Southport Ave., Chicago 13, Ill.  
BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
Cinema-Television, Ltd., Worsley Bridge Rd., London S.E. 26, England.  
Eder Engineering Co., The, 219 E. Becher St., Milwaukee 2, Wis.  
Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.  
Electronic Measurements Corp., 280 Lafayette St., New York 12, N. Y.  
GENERAL RADIO CO., 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
New London Instrument Co., P. O. Box 189, New London, Conn.  
Pennsylvania Testing Lab., Inc., Boylestown, Pa.

Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
Research Electronics Laboratories, Roslyn, Pa.  
RHEEM ELECTRONICS DIVISION, 7777 Industry Ave., Riveria, Calif. ADV. PG. 654.  
Seco Mfg. Co., 5015 Penn Ave., S. Minneapolis, Minn.  
Simpson Electric Co. Div. American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.  
Sutter Electronics Co., P. O. Box 896, Palo Alto, Calif.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
Teletest Instrument Corp., 136-10 31st Rd., Flushing 54, N. Y.  
Tricraft Products Corp., 1124 W. Newport Ave., Chicago 13, Ill.  
WALLSON ASSOCIATES, LTD., 963 Frelinghuysen Ave., Newark 5, N. J. ADV. PG. 691.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
Wright Equipment Co., 128 N. Main St., Milltown, N. J.

### TESTERS—Voltage

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
ASSOCIATED RESEARCH, INC., 3788 W. Belmont Ave., Chicago 18, Ill. ADV. PG. 570.  
Bliss Electronic Corp., Box 366, Sussex, N. J.  
BOONTON ELECTRONICS CORP., 738 Speedwell Ave., Morris Plains, N. J. ADV. PG. 562.  
Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
Holub Industries, Inc., 414 Dekalb Ave., Sycamore, Ill.  
Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
KIN TEL (KAY LAB), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
Knopp, Inc., 4224 Holden St., Oakland 8, Calif.  
MANSON LABORATORIES, INC., 207 Greenwich Ave., Stamford, Conn. ADV. PG. 513.  
Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
Pameco, Mill Lane, Waterford, Conn.  
PESCHER ELECTRONICS, INC., 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.  
SENSITIVE RESEARCH INSTRUMENT CORP., 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.  
SHURITE METERS, INC., 35-B Hamilton St., New Haven 8, Conn. ADV. PG. 655.  
Simpson Electric Co. Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
Sittler Corp., 18 N. Ada St., Chicago 7, Ill.  
STICHT CO., INC., HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

### THERMISTORS

See also CRYSTAL MOUNTS & MIXERS

FENWAL ELECTRONICS, INC., Ashland, Mass. ADV. PG. 624.  
Friez Instrument Div., Bendix Aviation Corp., Baltimore 4, Md.  
G-C ELECTRONICS MFG. CO., DIV. OF G-C TEXTRON INC., 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
GENERAL ELECTRIC CO., MAGNETIC MATERIALS SECTION, 7780 Neff Rd., Edmore, Mich. ADV. PG. 16, 17.  
GLOBAL DIV., CARBORUNDUM CO., Niagara Falls, N. Y. ADV. PG. 217.  
GULTON INDUSTRIES, INC., Metuchen, N. J. ADV. PG. 425.  
Keystone Carbon Co., Inc., St. Mary, Pa.  
MICROWAVE ASSOCIATES, INC., Burlington, Mass. ADV. PG. 225-228.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
NARDA CORP., 160 Herricks Rd., Mineola, N. Y. ADV. PG. 184.  
Serve Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.

Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London W.C. 2, England.  
Victory Engineering Corp., 101 Springfield Rd., Union, N. J.  
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

**THERMOCOUPLES**

Aero Research Instrument Co., 315 N. Aberdeen St., Chicago 7, Ill.  
**ALLIED ALLEGRI, INC.**, 141 River Rd., Nutley, N. J. ADV. PG. 650.  
American Thermo Electric Co., 7269 Santa Monica Blvd., Los Angeles 46, Calif.  
**ANTON ELECTRONIC LABS, INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
**BARBER-COLMAN CO.**, Dept 766, Rockford, Ill. ADV. PG. 430.  
Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
Bishop & Co., J., Platinum Works, Malvern, Pa.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**DYNA-EMPIRE, INC.**, 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
**ELECTRO IMPULSE LABS.**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
Electrovert, Inc., 489 Fifth Ave., New York 17, N. Y.  
**FENWAL INCORPORATED**, Ashland, Mass. ADV. PG. 371.  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
Foxboro Co., The, Foxboro, Mass.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Gordon Co., Claud S., 3000 S. Wallace St., Chicago 16, Ill.  
**GRAY INSTRUMENT CO.**, 200 E. Church Lane, Philadelphia 44, Pa. ADV. PG. 643.  
Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S. Minneapolis 8, Minn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
Perkin-Elmer Corp., The, Main Ave., Norwalk, Conn.  
**PHYSICS RESEARCH LABS, INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
Precision Tube Co., Inc., North Wales, Pa.  
Reeder & Co., Charles M., 173 Victor Ave., Detroit 3, Mich.  
**REVERSE CORPORATION OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
Richards Co., Inc., Arklay S., 38 Winchester St., Newton Highlands 61, Mass.  
Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 34, Ill.  
Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
Vacuum Tube Products, 506 S. Cleveland St., Oceanside, Calif.  
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.  
**WESTERN GOLD & PLATINUM CO.**, 525 Harbor Blvd., Belmont, Calif. ADV. PG. 593.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**THERMOCOUPLES—Pyrometric**

**ASSEMBLY PRODUCTS, INC.**, Chesterland 6, Ohio. ADV. PG. 504, 505.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Foxboro Co., The, Foxboro, Mass.  
Gordon Co., Claud S., 3000 S. Wallace St., Chicago 16, Ill.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
Richards Co., Inc., Arklay S., 38 Winchester St., Newton Highlands 61, Mass.

Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
Tuttle & Kift, 1823 N. Monitor St., Chicago 38, Ill.  
West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.

**THERMOCOUPLES—Vacuum Type**

American Thermo Electric Co., 7269 Santa Monica Blvd., Los Angeles 46, Calif.  
Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
Consolidated Electrodynamics Corp., Rochester Div., Rochester 3, N. Y.  
Electronic Research Labs., 85 Surrey St., Brighton 35, Mass.  
Field Electrical Instrument Co., 8 N. Manheim Blvd., New Paltz, N. Y.  
High Vacuum Equipment Corp., 2 Churchill Rd., Hingham, Mass.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
Reeder & Co., Charles M., 173 Victor Ave., Detroit 3, Mich.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
Vacuum Equipment Div. of the New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
Vacuum Tube Products, 506 S. Cleveland St., Oceanside, Calif.  
**WESTINGHOUSE ELECTRIC CORP.**, P.O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**THERMOMETERS—Resistance**

American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.  
Arnoux Corp., Box 34628, Los Angeles, Calif.  
Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, Ohio.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
Foxboro Co., The, Foxboro, Mass.  
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Minco Products, Inc., 740 Washington Ave. N., Minneapolis 1, Minn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
Multicore Solders, Ltd., Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
New England Scientific Instrument Co., Box 408, Cambridge 39, Mass.  
Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
Ruge Associates, Inc., Arthur, 733 Concord Ave., Cambridge, Mass.  
Thwing-Albert Instrument Co., 5351 Pulaski Ave., Philadelphia 44, Pa.  
**TRANS-SONICS, INC.**, P.O. Box 328, Lexington 73, Mass. ADV. PG. 525.  
United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.  
**WESTINGHOUSE ELECTRIC CORP.**, P.O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**THERMOPILES**

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**ELECTRO IMPULSE LABS**, 208 River St., Red Bank, N. J. ADV. PG. 658, 659.  
Eppley Lab., Inc., The, Newport, R. I.  
Field Electrical Instrument Co., 8 N. Manheim Blvd., New Paltz, N. Y.  
Gaertner Scientific Corp., 1239 Wrightwood Ave., Chicago 14, Ill.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S. Minneapolis 8, Minn.  
Reeder & Co., Charles M., 173 Victor Ave., Detroit 3, Mich.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
Tuttle & Kift, 1823 N. Monitor St., Chicago 38, Ill.  
Williamson Development Co., Inc., 317 Main St., West Concord, Mass.

**THERMOSTATS—Bimetal**

**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Control Products, Inc., 306 Sussex St., Harrison, N. J.  
Curtis Development & Mfg. Co., 3226 N. 33rd St., Milwaukee 16, Wis.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave., West Orange, N. J. ADV. PG. 144-146.  
**FENWAL INCORPORATED**, Ashland, Mass. ADV. PG. 371.  
**G-V CONTROLS, INC.**, 20 Hollywood Plaza, East Orange, N. J. ADV. PG. 106.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. ADV. PG. 546.  
Gleason-Avery Co., Auburn, N. Y.  
**HART MFG. CO., THE**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
Mechanical Industries Production Co., 217 Ash St., Akron 8, Ohio.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S. Minneapolis 8, Minn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Spencer Thermostat Div., Metals & Controls Corp., 34 Forest St., Attleboro, Mass.  
**STEVENS MFG. CO., INC.**, P. O. Annex 1007, Mansfield, Ohio. ADV. PG. 319.  
Thermal-Devices Div. of Curtiss-Wright Corp., 631 Central Ave., Carlstadt, N. J.  
**ULANET CO., GEORGE**, 413 Market St., Newark 5, N. J. ADV. PG. 547.  
United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.  
**WILSON CO., THE, H. A.**, 2655 U.S. Hwy 22, Union, N. J. ADV. PG. 257.

**THERMOSTATS—Electronic**

**See also CONTROLS—Temperature**  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**FENWAL INCORPORATED**, Ashland, Mass. ADV. PAGE 371.  
**HART MFG. CO., THE**, 242 Bartholomew Ave., Hartford 1, Conn. ADV. PG. 610.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S. Minneapolis 8, Minn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
Philadelphia Scientific Glass Co., Quakertown, Pa.  
**VECTROL ENGINEERING, INC.**, P.O. Box 1089, Stamford, Conn. ADV. PG. 632.  
West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.  
White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.  
Yellow Springs Instrument Co., Inc., P. O. Box 106, Yellow Springs, Ohio.

**THYRATRONS**

**See TUBES**

**TIMERS—Automatic Cycle**

Aemco, Inc., 62 State St., Mankato, Minn.  
Appliance Products, 520 Fifth Ave., New York 36, N. Y.  
Automatic Timing & Controls, Inc., King of Prussia, Pa.  
**BARBER-COLMAN CO.**, Dept. 766, Rockford, Ill. ADV. PG. 430.  
Birdsell Mfg. Co., Inc., 750 San Antonio Rd., Palo Alto, Calif.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bristol Motor Division, Vocaline Company of America, Inc., Old Saybrook, Conn.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Cramer Controls Corp., Box 13, Centerbrook, Conn.  
**DAYSTROM PACIFIC CORP.**, 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
Eagle Signal Corp., Moline, Illinois.  
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
Elasta Ltd., Bad Ragaz, Switzerland.  
**FARMER ELECTRIC PRODUCTS CO., INC.**, 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
Foxboro Co., The, Foxboro, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
Hagen Mfg. Co., 202 20th St., Moline, Ill.  
**HAYDON CO., A. W., THE**, 238 N. Elm St., Waterbury, Conn. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
**INDUSTRIAL TIMER CORP.**, 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
Ingraham Co., E., Bristol, Conn.  
International Register Co., 2620 Washington Blvd., Chicago 12, Ill.

Lektra Laboratories, 154 11th Ave., New York 3, N. Y.  
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
Pantek Co., Box 212, El Segundo, Calif.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
POTTER AERONAUTICAL CORP., Route #22, Union, N. J. ADV. PG. 372, 373.  
Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
Sessions Clock Co., Industrial Products Div., Forestville, Conn.  
STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
Tork Time Controls Inc., 32 Grove St., Mt. Vernon, N. Y.  
Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.  
Vacuum Tube Products, 506 S. Cleveland St., Oceanside, Calif.  
Vemaline Products Co., P. O. Box 222 Hawthorne, N. J.  
WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

### TIMERS—Automatic Interval

Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing 1, Mich.  
Aemco, Inc., 62 State St., Mankato, Minn.  
Appliance Products, 520 Fifth Ave., New York 36, N. Y.  
Automatic Timing & Controls, Inc., King of Prussia, Pa.  
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bristol Motor Division, Vocaline Company of America, Inc., Old Saybrook, Conn.  
Cinema-Television, Ltd., Worsley Bridge Rd., London S.E. 26, England.  
COMPUTER-MEASUREMENT CORP., 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Cramer Controls Corp., Box 13, Centerbrook, Conn.  
DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
DIMCO-GRAY CO., 207 E. Sixth St., Dayton, Ohio. ADV. PG. 638.  
Dynapar Corp., 5150 Church St., Skokie, Ill.  
Eagle Signal Corp., Moline, Ill.  
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
Elega Ltd., Bad Ragaz, Switzerland.  
Ferrara, Inc., 8106 W. Nine Mile Rd., Oak Park 37, Ill.  
Foxboro Co., The, Foxboro, Mass.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Electric Co., Clock and Timer Dept., Ashland, Mass.  
Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
Hagen Mfg. Co., 202 20th St., Moline, Ill.  
HAYDON CO., A. W., THE, 238 Elm St., Waterbury, Conn. ADV. PG. 531.  
HAYDON MFG. CO., INC., 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
Hubbard Scientific Labs., Inc., 1292 E. Third St., Pomona, Calif.  
Hupp Instru/Mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
INDUSTRIAL TIMER CORP., 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
Ingraham Co., E., Bristol, Conn.  
International Register Co., 2620 Washington Blvd., Chicago 12, Ill.  
Lektra Laboratories, 154 11th Ave., New York 3, N. Y.  
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
Pantek Co., Box 212, El Segundo, Calif.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
Ransom Research, Box 382, San Pedro, Calif.  
Reliance Automatic Lighting Co., 1919 Mead St., Racine, Wis.  
Sessions Clock Co., Industrial Products Div., Forestville, Conn.  
STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
Tork Time Controls Inc., 32 Grove St., Mt. Vernon, N. Y.

Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
Walser Automatic Timer Corp., Graybar Bldg., New York 17, N. Y.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.  
Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

### TIMERS—Automatic Reset

Aemco, Inc., 62 State St., Mankato, Minn.  
Automatic Timing & Controls, Inc., King of Prussia, Pa.  
Appliance Products, 520 Fifth Ave., New York 36, N. Y.  
Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.  
Camera Mart, Inc., 1845 Broadway, New York 23, N. Y.  
Cinema-Television, Ltd., Worsley Bridge Rd., London SE 26, England.  
Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
COMPUTER-MEASUREMENT CORP., 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Cramer Controls Corp., Box 13, Centerbrook, Conn.  
DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
Dynapar Corp., 5150 Church St., Skokie, Ill.  
Eagle Signal Corp., Moline, Illinois.  
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
Elega Ltd., Bad Ragaz, Switzerland.  
FARMER ELECTRIC PRODUCTS CO., INC., 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
Ferrara, Inc., 8106 W. Nine Mile Rd., Oak Park 37, Mich.  
General Photo Products Co., Inc., General Photo Bldg., 15 Summit Ave., Chatham, N. J.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
Hagen Mfg. Co., 202 20th St., Moline, Ill.  
HAYDON CO., A. W., THE, 238 Elm St., Waterbury, Conn. ADV. PG. 531.  
HAYDON MFG. CO., INC., 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
Hupp Instru/Mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
INDUSTRIAL TIMER CORP., 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
International Register Co., 2620 Washington Blvd., Chicago 12, Ill.  
Lektra Laboratories, 154 11th Ave., New York 3, N. Y.  
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
Pantek Co., Box 212, El Segundo, Calif.  
PHOTOGRAPHIC PRODUCTS INC., 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
Ransom Research, Box 382, San Pedro, Calif.  
STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
WALKIRT CO., 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.  
Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va.  
X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.  
Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

### TIMERS—Clock Radio

Elm Laboratories, 18 S. Broadway, Dobbs Ferry, N. Y.  
General Electric Co., Clock and Timer Dept., Ashland, Mass.  
Ingraham Co., E., Bristol, Conn.  
International Register Co., 2620 Washington Blvd., Chicago 12, Ill.  
Sessions Clock Co., Industrial Prod. Div., Forestville, Conn.

### TIMERS—Cycle

Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing, Mich.  
Aemco, Inc., 62 State St., Mankato, Minn.  
Alden Systems, Inc., Alden Research Center, Westboro, Mass.  
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.  
Anglo Corp., 4333 N. Ravenswood Ave., Chicago 13, Ill.  
Appliance Products, 520 Fifth Ave., New York 36, N. Y.  
Automatic Timing & Controls, Inc., King of Prussia, Pa.

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.  
Cramer Controls Corp., Box 13, Centerbrook, Conn.  
DAYSTROM PACIFIC CORP., 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
Dynapar Corp., 5150 Church St., Skokie, Ill.  
Eagle Signal Corp., Moline, Ill.  
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
Elega Ltd., Bad Ragaz, Switzerland.  
Ferrara, Inc., 8106 W. Nine Mile Rd., Oak Park 37, Mich.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
Hagen Mfg. Co., 202 20th St., Moline, Ill.  
HAYDON CO., A. W., THE, 238 Elm St., Waterbury, Conn. ADV. PG. 531.  
HAYDON MFG. CO., INC., 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
Hubbard Scientific Labs., Inc., 1292 E. Third St., Pomona, Calif.  
INDUSTRIAL TIMER CORP., 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
Ingraham Co., E., Bristol, Conn.  
International Register Co., 2620 Washington Blvd., Chicago 12, Ill.  
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
Pantek Co., Box 212, El Segundo, Calif.  
STANDARD ELECTRIC TIME CO., 97 Logan St., Springfield, Mass. ADV. PG. 143.  
Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
Tuttle & Kift, 1823 N. Monitor St., Chicago 38, Ill.  
Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va.  
Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

### TIMERS—Electronic

Allegheny Instrument Co., Inc., 1091 Willis Mountain, Cumberland, Md.  
ALLEN-BRADLEY CO., 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
Appliance Products, 520 Fifth Ave., New York 36, N. Y.  
Automatic Timing & Controls, Inc., King of Prussia, Pa.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
BERKELEY DIVISION, BECKMAN INSTRUMENTS, INC., Dept. G-13, 2200 Wright Ave., Richmond 3, Calif. ADV. PG. 73-80.  
BRIGGS ASSOCIATES INC., 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
Cinema-Television, Ltd., Worsley Bridge Rd., London S. E. 26, England.  
Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
COMPUTER-MEASUREMENT CORP., 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
Dynapar Corp., 5150 Church St., Skokie, Ill.  
Eagle Signal Corp., Moline, Ill.  
Electro Instruments, Inc., 3794 Rosecrans, San Diego, Calif.  
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
Elega Ltd., Bad Ragaz, Switzerland.  
FARMER ELECTRIC PRODUCTS CO., INC., 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
Ferrara, Inc., 8106 W. Nine Mile Rd., Oak Park 37, Mich.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
Holland Electronics, 40 Grant Jones St., New York 12, N. Y.  
Hupp Instru/Mation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
Lektra Laboratories, 154 11th Ave., New York 3, N. Y.  
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
Machinery Electrification, Inc., Northboro, Mass.  
Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.  
Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.

Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Pantek Co., Box 212, El Segundo, Calif.  
**PESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photoswitch Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
 Photovolt Corp., 95 Madison Ave., New York 16, N. Y.  
 Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.  
**POTTER AERONAUTICAL CORP.**, Route #22, Union, N. J. ADV. PG. 372, 373.  
 Ransom Research, Box 382, San Pedro, Calif.  
 Research Electronics Laboratories, Roslyn, Pa.  
 Robotron Corp., 21300 W. Eight Mile Rd., Detroit 19, Mich.  
 Rutherford Electronics Co., 8944 Lindblade St., Culver City, Calif.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
**STICHT CO., INC.**, HERMAN H., 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
 Teca Corp., 80 Main St., White Plains, N. Y.  
 Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Tempo Instrument Co., 5 Centre St., Hempstead, N. Y.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Weltron Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.  
 Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va.

**TIMERS—Hour Counting**

Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Bristol Motor Division, Vocaline Company of America, Inc., Old Saybrook, Conn.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London SE 26, England.  
 Clary Corp., San Gabriel, Calif.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
**HAYDON CO., A. W., THE**, 238 N. Elm St., Waterbury, Conn. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
**INDUSTRIAL TIMER CORP.**, 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
 Ingraham Co., E., Bristol, Conn.  
**J-B-T INSTRUMENTS, INC.**, 431 Chapel St., New Haven 8, Conn. ADV. PG. 503.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.

**TIMERS—Impulse**

**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
**DAYSTROM PACIFIC CORP.**, 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
 Eagle Signal Corp., Moline, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
 Hagen Mfg. Co., 202 20th St., Moline, Ill.  
**HAYDON CO., A. W., THE**, 238 Elm St., Waterbury, Conn. ADV. PG. 531.  
 Hubbard Scientific Labs., Inc., 1292 E. Third St., Pomona, Calif.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.  
 Streeter-Amet Co., Grayslake, Ill.

Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
**WALKIRT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

**TIMERS—Inertia**

Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.

**TIMERS—Motor Operated**

Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing, Mich.  
 Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
**ALLEN-BRADLEY CO.**, 136 W. Greenfield Ave., Milwaukee 4, Wis. ADV. PG. 194.  
 Amelco, Inc., 2040 Colorado Ave., Santa Monica, Calif.  
 Anglo Corp., 4333 N. Ravenswood Ave., Chicago 13, Ill.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bristol Motor Division, Vocaline Company of America, Inc., Old Saybrook, Conn.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
 Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
**DAYSTROM PACIFIC CORP.**, 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
**DIMCO-GRAY CO.**, 207 E. Sixth St., Dayton, Ohio. ADV. PG. 638.  
 Exact Engineering & Mfg. Co., P. O. Box 668, Oceanside, Calif.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
 Hagen Mfg. Co., 202 20th St., Moline, Ill.  
**HAYDON CO., A. W., THE**, 238 Elm St., Waterbury, Conn. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
 Hubbard Scientific Labs., Inc., 1292 E. Third St., Pomona, Calif.  
**INDUSTRIAL TIMER CORP.**, 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
 Ingraham Co., E., Bristol, Conn.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave. S., Minneapolis 8, Minn.  
 Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
 Robco Mfg. Co., 225 W. Main St., Patchogue, N. Y.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
 Sessions Clock Co., Industrial Products Div., Forestville, Conn.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.

**TIMERS—Multicontact**

Anglo Corp., 4333 N. Ravenswood Ave., Chicago 13, Ill.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
**DAYSTROM PACIFIC CORP.**, 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
 Eyelet Tool Co., Inc., 236A Broadway, Cambridge 42, Mass.  
 Ferrara, Int., 8106 W. Nine Mile Rd., Oak Park 37, Mich.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
**HAYDON CO., A. W., THE**, 238 Elm St., Waterbury, Conn. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
 Ingraham Co., E., Bristol, Conn.

Hubbard Scientific Labs., Inc., 1292 E. Third St., Pomona, Calif.  
**INDUSTRIAL TIMER CORP.**, 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
 Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

**TIMERS—Percentage**

Automatic Timing & Controls, Inc., King of Prussia, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
 Hagen Mfg. Co., 202 20th St., Moline, Ill.  
**INDUSTRIAL TIMER CORP.**, 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

**TIMERS—Photoelectric**

Airmec Ltd., High Wycombe, Buckinghamshire, England.  
 Autotron, Inc., 3629 N. Vermilion St., Danville, Ill.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
**COMPUTER-MEASUREMENT CORP.**, 5528 Vineland Ave., North Hollywood, Calif. ADV. PG. 168.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
**FARMER ELECTRIC PRODUCTS CO., INC.**, 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
 Lektra Laboratories, 154 11th Ave., New York 11, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Machinery Electrification, Inc., Northboro, Mass.  
 Pantek Co., P. O. Box 212, El Segundo, Calif.  
 Photo Crystals Inc., 15 S. First St., Geneva, Ill.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Photocon Research Products, 421 N. Altdena Drive, Pasadena, Calif.  
 Photoswitch Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
 Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.  
**RIPLEY CO., INC.**, Middletown, Conn. ADV. PG. 458.  
 Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.  
 Unitronics, Inc., 472 Paul Ave., Ferguson Station, St. Louis 21, Mo.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.

**TIMERS—Sequence**

Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing, Mich.  
**ADAMS & WESTLAKE CO.**, Michigan St., Elkhart, Ind. ADV. PG. 58, 59.  
 Aemco, Inc., 62 State St., Maykato, Minn.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Anglo Corp., 4333 N. Ravenswood Ave., Chicago 13, Ill.  
 Automatic Timing & Controls, Inc., King of Prussia, Pa.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Birdsell Mfg. Co., Inc., 750 San Antonio Rd., Palo Alto, Calif.  
**BRIGGS ASSOCIATES, INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.  
 Consolidated Avionics, Inc., 66 Brooklyn Ave., Westbury, N. Y.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
**DAYSTROM PACIFIC CORP.**, 9320 Lincoln Blvd., Los Angeles 45, Calif. ADV. PG. 690.  
 Eagle Signal Corp., Moline, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.  
 Ferrara, Inc., 8106 W. Nine Mile Rd., Oak Park 37, Mich.  
 General Control Co., 1212 Soldiers Field Rd., Boston 34, Mass.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.  
 Hagen Mfg. Co., 202 20th St., Moline, Ill.

**HAYDON CO., A. W., THE**, 238 Elm St., Waterbury, Conn. ADV. PG. 531.  
**HAYDON MFG. CO., INC.**, 245 E. Elm St., Torrington, Conn. ADV. PG. 157.  
 Hubbard Scientific Labs., Inc., 1292 E. Third St., Pomona, Calif.  
**INDUSTRIAL TIMER CORP.**, 1407 McCarter Highway, Newark 4, N. J. ADV. PG. 506.  
 Ingraham Co., E., Bristol, Conn.  
 International Register Co., 2620 Washington Blvd., Chicago 12, Ill.  
 Lektra Laboratories, 154 11th Ave., New York 11, N. Y.  
 Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.  
 Maico Co., Inc., 21 N. Third St., Minneapolis, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
 Pantek Co., Box 212, El Segundo, Calif.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
 Robotron Corp., 21300 W. Eight Mile Rd., Detroit 19, Mich.  
 Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Vernaline Products Co., P. O. Box 222, Hawthorne, N. J.  
**WALKERT CO.**, 141 W. Hazel St., Inglewood 3, Calif. ADV. PG. 470.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
 Weltronic Co., 19500 West Eight Mile Rd., Detroit 19, Mich.  
 Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.

### TIMERS—Thermal

Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**EDISON INDUSTRIES, THOMAS A., INSTRUMENT DIV.**, 81 Lakeside Ave, West Orange, N. J. ADV. PG. 144-146.  
**G-V CONTROLS INC.**, 28 Hollywood Plaza, East Orange, N. J. ADV. PG. 106.  
 Livingston Electronic Corp., Livingston, N. J.  
 Photo Crystals Inc., 15 S. First St., Geneva, Ill.  
 Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
**ULANET CO., GEORGE**, 413 Market St., Newark 5, N. J. ADV. PG. 547.

### TIMERS—Welding, Electronic

Appliance Products, 520 Fifth Ave., New York 36, N. Y.  
 Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.  
 Birdsell Mfg. Co., Inc., 750 San Antonio Rd., Palo Alto, Calif.  
**BRIGGS ASSOCIATES, INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
 Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
 Ewald Instruments, Route 7E, Kent, Conn.  
**FARMER ELECTRIC PRODUCTS CO., INC.**, 2300 Washington St., Newton Lower Falls 62, Mass. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Lektra Labs., 154 11th Ave., New York 11, N. Y.  
 Livingston Electronic Corp., Livingston, N. J.  
 Photo Crystals Inc., 15 S. First St., Geneva, Ill.  
 Robotron Corp., 21300 W. Eight Mile Rd., Detroit 19, Mich.  
 Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Thor Transformer & Electronics Co., 750 San Antonio Rd., Palo Alto, Calif.  
 Vacuum Tube Products, 506 S. Cleveland St., Oceanside, Calif.  
 Vernaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 Weltronic Co., 19500 West Eight Mile Road, Detroit 19, Mich.  
 Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va.

### TIMING

See CONTROLS—Timing

### TINNING—Hot Dipped

**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. ADV. PG. 454, 455.  
 Johnson Mfg. Co., Inc., Mt. Vernon, Iowa.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.  
**MINITRON, INC.**, 1105 Second St., Encinitas, Calif. ADV. PG. 622.  
 Somers Brass Co., 94 Baldwin Ave., Waterbury, Conn.  
 Steel Protection & Chemical Co., Inc., Mooresville, Ind.  
 Wright Metalcoaters Inc., 255 West St., South Hackensack, N. J.

### TITRATION APPARATUS—Electronic

Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.

**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W.C. 2, England. ADV. PG. 560.

### TOOLS—Hand or Mechanical

**Note: Includes grinders, milling cutters, pliers, punches, reamers, screwdrivers, taps, wrenches; wrenches, torque, etc. For further particulars, consult advertisement of manufacturer in this issue.**

Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.  
 Ark-Les Switch Corp., 51 Water St, Watertown 72, Mass.  
 Clauss Cutlery Co., Fremont, Ohio.  
**DESIGN TOOL CORP.**, 80 Washington St., New York 6, N. Y. ADV. PG. 678.  
 Dremel Mfg. Co., 2300 18th St., Racine, Wis.  
 Ed-Berl Products, Inc., 87 Merrick Rd., Baldwin, N. Y.  
 Erwood, Inc., 1770 Berceau Ave., Chicago 13, Ill.  
 F & M Sales, Inc., 1054 Cahuenga Blvd., Hollywood 38, Calif.  
 Huck Mfg. Co., 2480 Bellevue Ave., Detroit 7, Mich.  
 Hunter Tool Co., 9851 Albutris, Whittier, Calif.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
**KEYSTONE ELECTRONICS CORP.**, 423 Broome St., New York 13, N. Y. ADV. PG. 675.  
 Klein & Sons, Mathias, 7200 McCormick Rd., Chicago 45, Ill.  
 Krauter & Co., Inc., 583 18th Ave., Newark 3, N. J.  
 Martindale Electric Co., Edgewater Branch, Box 617, Cleveland 7, Ohio.  
 Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
 Millers Falls Co., Greenfield, Mass.  
 Moody Machine Products Co., Inc., 39 Oudley St., Providence 5, R. I.  
**PRECISE MEASUREMENTS CO., R. D. #1**, Millbrooks Rd., Flemington, N. J. ADV. PG. 399.  
 Richmond, Inc., 922 S. Myrtle Ave., Monrovia, Calif.  
 Rush Wire Stripper Div. of The Eraser Co., Inc., 1068 S. Clinton St., Syracuse 4, N. Y.  
 Shearcut Tool Co., 7045 Darby Ave., Reseda, Calif.  
 Special Products Co., P. O. Box 188, Rockville 3, Md.  
 Speedway Mfg. Co., 1834 S. 52nd Ave., Cicero 50, Ill.  
 Stanley Tools, New Britain, Conn.  
 Stevens-Walden, Inc., 475 Shrewsbury St., Worcester 4, Mass.  
 Sturtevant Co., P. A., Addison, Ill.  
 Television Accessories Co., Box 368, Scottsdale, Ariz.  
 Utica Drop Forge & Tool Div. of Kelsey-Hayes Co., 2415 Whitesboro St., Utica 4, N. Y.  
 Vaco Products Co., 317 E. Ontario St., Chicago 11, Ill.  
 Wen Products, Inc., 5808 Northwest Highway, Chicago 31, Ill.  
**WENCO MFG CO.**, 1133 W. Hubbard St., Chicago 22, Ill. ADV. PG. 520.  
 Xcelite, Inc., 28 Bank St., Orchard Park, N. Y.

### TOOLS—Pneumatic Assembly

High Speed Hammer Co., Rochester, N. Y.  
 Huck Mfg. Co., 2480 Bellevue Ave., Detroit 7, Mich.  
 Keller Tool Div., Gardner-Denver Co., Grand Haven, Mich.  
 Lemert Engineering Co., Inc., 185 E. Jefferson St., Plymouth, Ind.  
 United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.

### TOOLS—Resistance Soldering

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
 Cole Radio Works, 86 Westville Ave., Caldwell, N. J.  
 Hexacon Electric Co., 130 W. Caly Ave., Roselle Park, N. J.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
 Luma Electric Equipment Co., P. O. Box 132, Toledo 1, Ohio.  
 Television Accessories Co., Box 368, Scottsdale, Ariz.  
 Vernaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 Wassco Electric Products Corp., 204 S. Larkin Ave., Joliet, Ill.

### TOOLS—Thermal Soldering

Hexacon Electric Co., 130 W. Caly Ave., Roselle Park, N. J.  
 Technicraft Co., 1156 Commonwealth Ave., Boston 34, Mass.  
 Television Accessories Co., Box 368, Scottsdale, Ariz.

### TOOLS—Ultrasonic Soldering

Aeroprojects Incorporated, 310 E. Rosedale Ave., West Chester, Pa.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
**MULLARD OVERSEAS LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W.C. 2, England. ADV. PG. 560.

### TOOLS—Wire Wrapping

**DESIGN TOOL CORP.**, 80 Washington St., New York 6, N. Y. ADV. PG. 678.  
 Keller Tool Div., Gardner-Denver Co., Grand Haven, Mich.  
 Rush Wire Stripper Div. of The Eraser Co., Inc., 1068 S. Clinton St., Syracuse 4, N. Y.

### TOROIDAL WINDERS

See MACHINES—Coil Winding  
 MACHINES—Coil Winding, Toroidal

### TOROIDS

A. P. W. Co., 72 W. Main St., Rockaway, N. J.  
 Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J.  
 American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
**ARNOLD MAGNETICS CORP.**, 4613 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 553.  
 Avion Division, ACF Industries, Inc., 11 Park Place, Paramus, N. J.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
**BURNELL & CO., INC.**, 10 Pelham Parkway, Pelham, N. Y. ADV. PG. 350, 351.  
 Campbell Co., Inc., Colin, Westville Ave., Danbury, Conn.  
 Carad Corp., 2850 Bay Rd., Redwood City, Calif.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
**CHASE ELECTRONICS INC.**, 82-31 51st Ave., Elmhurst, N. Y. ADV. PG. 601.  
 Coast Coil Co., 5333 W. Washington Blvd., Los Angeles 16, Calif.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
 De Coursey Engineering Lab., 11828 W. Jefferson Blvd., Culver City, Calif.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
 Double "E" Products Co., 216 Standard St., El Segundo, Calif.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**DYNAMICS RESEARCH ASSOCIATES DIV. OF UNIVERSAL MATCH CORP.**, 472 Paul Ave., Ferguson 21, Mo. ADV. PG. 649.  
 Electro-Tech Pacific, Santa Barbara Airport, P. O. Box 455, Goleta, Calif.  
**ELECTRONIC COILS, INC.**, P. O. Box 1665, 33 Lyman St., Springfield, Mass. ADV. PG. 682.  
**ENDICOTT COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 571.  
**EPCO PRODUCTS, INC.**, 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
**FILTER NETWORKS, INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 496.  
 Five Star Co., 10 W. Main St., Plantsville, Conn.  
 Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill.  
 Hall Mfg. Co., 3901 Wesley Terrace, Schiller Park, Ill.  
**HERMETIC SEAL TRANSFORMER CO.**, 555 N. Fifth St., Garland, Texas. ADV. PG. 410.  
**HOULIHAN CO., T. J.** 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590.  
**HYCOR DIV. OF INTERNATIONAL RESISTANCE CO.**, 12970 Bradley Ave., Sylmar, Calif. ADV. PG. 188.  
**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. ADV. PG. 454, 455.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.  
 Keystone Products Co., 904-6 23rd St., Union City, N. J.  
 Litton Industries, Beverly Hills, Calif.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
**MAGNETIC CORE CORP.**, 199 Main St., Ossining, N. Y. ADV. PG. 650.  
**MAGNETICO, INC.**, 18 Scudder Ave., Northport, N. Y. ADV. PG. 617.  
 Magnetics Research Co., Cor. Grove St., & E. Post Rd., White Plains, N. Y.  
 Mectronics, 1372-74 E. Walnut St., Pasadena, Calif.  
**MICO INSTRUMENT CO.**, 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522.  
 Mid-West Coil & Transformer Co., 1642 N. Halstead St., Chicago 14, Ill.  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis.  
 Missouri Research Labs., Inc., 2019 Locust St., St. Louis 3, Mo.  
 Mt. Vernon Precision Transformer Co., 201 S. Third Ave., Mt. Vernon, N. Y.  
**NYT Electronics, Inc.**, 2979 N. Ontario St., Burbank, Calif.  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676.  
 Notherfel Winding Labs., Inc., P. O. Box 455, Trenton, N. J.  
**ORTHO FILTER CORP.**, 198 Alblon Ave., Paterson 2, N. J. ADV. PG. 648.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridgeport, Penna. ADV. PG. 697.



**POUGHKEEPSIE COIL CO., INC.**, 24 Charlotte St., Binghamton, N. Y. ADV. PG. 681.  
**Precision, Inc.**, 730 Lyndale Ave., N. Minneapolis, Minn.  
**PULSE ENGINEERING, INC.**, 2657 Spring St., Redwood City, Calif. ADV. PG. 607.  
**Railway Communications, Inc.**, 9351 E. 59th St., Raytown, Mo.  
**Randall Inc.**, Douglas, 6 Pawcatuck Ave., Westerly, R. I.  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thompsonville, Conn. ADV. PG. 522.  
**Standard Coil Products Co.**, 2085 N. Hawthorne St., Melrose Park, Ill.  
**Stator Electric Corp.**, 46-25 58th St., Woodside, N. Y.  
**Telex, Inc.**, Telex Park, St. Paul 1, Minn.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
**Thermador Electric Mfg. Co.**, 5215 S. Boyle Ave., Los Angeles, Calif.  
**Torocoil Co.**, 2615 Bristol Rd., Columbus 21, Ohio.  
**Transformer Engineers**, 161 E. California, Pasadena 1, Calif.  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
**Transonic, Inc.**, 808 Sixteenth St., Box 59, Bakersfield, Calif.  
**TRIAD TRANSFORMER CORP., SUB. OF LITTON INDUSTRIES**, 4055 Redwood Ave., Venice, Calif. ADV. PG. 242.  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
**Valor Electronic Components Co.**, 5808 Marilyn Ave., Culver City, Calif.  
**VARI-L CO., INC.**, P. O. Box 1433, Stamford, Conn. ADV. PG. 608.  
**Warsaw Coil Co.**, Warsaw, Ind.

#### TOURMALINE See CRYSTALS

#### TOWER SERVICE—Installers, Erectors, Maintainers

**Electrical Tower Service, Inc.**, 325 S. Washington St., Peoria, Ill.  
**Republic Steel Corp.**, Republic Bldg., Cleveland 1, Ohio.  
**Stainless, Inc.**, Third St., North Wales, Pa.  
**Tower Construction Co.**, 2700 Hawkeye Drive, Sioux City, Iowa.  
**Wind Turbine Co.**, E. Market St. & Penna. R. R., West Chester, Pa.  
**Wunderlich Radio Co.**, 2 Fifth Ave., New York 11, N. Y.

#### TRACERS—Signal See INSTRUMENTS—Electrical Measuring

#### TRANSCEIVERS—Aviation

**Acme Teletronix Div. of NEA Service, Inc.**, W. Third & Lakeside, Cleveland 13, Ohio.  
**Admiral Corp.**, 3800 Cortland St., Chicago 47, Ill.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**Federal Telecommunication Lab.**, A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
**Hudson Associates, Inc.**, 50 Drumm St., San Francisco 11, Calif.  
**Intercontinental Electronics Corp.**, 1551 Franklin Ave., Mineola, N. Y.  
**Lear, Inc.**, 3171 S. Bundy Drive, Santa Monica, Calif.  
**National Aeronautical Corp.**, Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.  
**Production Research Corp.**, Thornwood, N. Y.  
**Spivey Inc.**, James S., 4908 Hampden Lane, Washington 14, D. C.  
**Springer Aircraft Radio Co.**, Earl W., Route 11, Box 330, Sky Harbor Airport, Indianapolis, Ind.  
**Standard Telephones & Cables, Ltd.**, Connaught House, 63 Aldwych, London, W.C.2, England.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Telephonics Corp.**, Park Ave., Huntington, N. Y.

#### TRANSCEIVERS—Lifeboat

**Hudson Associates, Inc.**, 50 Drumm St., San Francisco 11, Calif.  
**Intercontinental Electronics Corp.**, 1551 Franklin Ave., Mineola, N. Y.  
**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.

#### TRANSCEIVERS—Portable

**Avco Mfg. Corp.**, Crosley Div., 1329 Arlington St., Cincinnati 25, Ohio.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**Cleveland Electronics, Inc.**, 1974 E. 61st St., Cleveland 3, Ohio.  
**DuMont Laboratories, Inc.**, Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**Hoffman Laboratories, Inc.**, 3761 S. Hill St., Los Angeles 7, Calif.  
**Hudson Associates, Inc.**, 50 Drumm St., San Francisco 11, Calif.  
**Kaar Engineering Corp.**, 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.

**Measurement Engineering, Ltd.**, Arnprior, Ontario, Canada.  
**Morrow Radio Mfg. Co., Inc.**, 2794 Market St., Salem, Ore.  
**Motorola Communications & Electronics Inc.**, 4501 W. Augusta Blvd., Chicago 51, Ill.  
**Production Research Corp.**, Thornwood, N. Y.  
**Pye Telecommunications Ltd.**, Newmarket Rd., Cambridge, England.  
**Vocatron Mfg. Div. of Vocaline Co. of America, Inc.**, Old Saybrook, Conn.

#### TRANSCEIVERS—uhf

**Admiral Corp.**, 3800 Cortland St., Chicago 47, Ill.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
**Cleveland Electronics, Inc.**, 1974 E. 61st St., Cleveland 3, Ohio.  
**Erco Radio Labs., Inc.**, 637 Stewart Ave., Garden City, N. Y.  
**Gonset Co.**, 801 S. Main St., Burbank, Calif.  
**Hudson Associates, Inc.**, 50 Drumm St., San Francisco 11, Calif.  
**Intercontinental Electronics Corp.**, 1551 Franklin Ave., Mineola, N. Y.  
**Kaar Engineering Corp.**, 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
**Mack Electronics A Div. of Mack Trucks, Inc.**, Plainfield, N. J.  
**Motorola Communications & Electronics Inc.**, 4501 W. Augusta Blvd., Chicago 51, Ill.  
**Production Research Corp.**, Thornwood, N. Y.  
**Resdel Engineering Corp.**, 330 S. Fair Oaks Ave., Pasadena 1, Calif.  
**Stewart-Warner Electronics Div. of Stewart-Warner Corp.**, 1300 N. Kostner Ave., Chicago 51, Ill.  
**Telephonics Corp.**, Park Ave., Huntington, N. Y.  
**Vocatron Mfg. Div. of Vocaline Co. of America, Inc.**, Old Saybrook, Conn.

#### TRANSCEIVERS—vhf

**Admiral Corp.**, 3800 Cortland St., Chicago 47, Ill.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
**Gonset Co.**, 801 S. Main St., Burbank, Calif.  
**Hoffman Laboratories, Inc.**, 3761 S. Hill St., Los Angeles 7, Calif.  
**Hudson Associates, Inc.**, 50 Drumm St., San Francisco 11, Calif.  
**Intercontinental Electronics Corp.**, 1551 Franklin Ave., Mineola, N. Y.  
**Kaar Engineering Corp.**, 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
**Lear, Inc.**, 3171 S. Bundy Drive, Santa Monica, Calif.  
**Mack Electronics A Div. of Mack Trucks, Inc.**, Plainfield, N. J.  
**Marconi's Wireless Telegraph Co., Ltd.**, 23/25 Beaver St., New York 4, N. Y.  
**Mitchell Industries, Inc.**, P. O. Box 17, Mineral Wells, Texas.  
**Morrow Radio Mfg. Co., Inc.**, 2794 Market St., Salem, Ore.  
**Motorola Communications & Electronics Inc.**, 4501 W. Augusta Blvd., Chicago 51, Ill.  
**National Aeronautical Corp.**, Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.  
**National Electronics Laboratories, Inc.**, 1713 Kalorama Rd., N. W., Washington 9, D. C.  
**Pye Telecommunications Ltd.**, Newmarket Rd., Cambridge, England.  
**Resdel Engineering Corp.**, 330 S. Fair Oaks Ave., Pasadena 1, Calif.  
**Standard Telephones & Cables Ltd.**, Connaught House, 63 Aldwych, London, W.C.2, England.  
**Stewart-Warner Electronics Div. of Stewart-Warner Corp.**, 1300 N. Kostner Ave., Chicago 51, Ill.  
**Stromberg-Carlson Co. Div. of General Dynamics Corp.**, 100 Carlson Rd., Rochester 3, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Telephonics Corp.**, Park Ave., Huntington, N. Y.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
**West Coast Electronics Co.**, 9261 W. 3rd St., Beverly Hills, Calif.

#### TRANSDUCERS

**Acoustica Associates, Inc.**, Shore Rd., Glenwood Landing 2, N. Y.  
**Aeroprojects, Incorporated**, 310 E. Rosedale Ave., West Chester, Pa.  
**Alcar Instruments, Inc.**, 17 Industrial Ave., Little Ferry, N. J.  
**American Diathermy Products, Inc.**, 11858 Mississippi Ave., Los Angeles 25, Calif.  
**Atlantic Research Corp.**, 901 N. Columbus, Alexandria, Va.  
**Automatic Timing & Controls, Inc.**, King of Prussia, Pa.  
**BJ ELECTRONICS, BORG-WARNER CORP.**, 3300 Newport Blvd., Santa Ana, Calif. ADV. PG. 541.  
**Bludworth Marine Div., Kearfott Co., Inc.**, 92 Gold St., New York 38, N. Y.  
**BOURNS LABORATORIES, INC.**, 6135 Magnolia Ave., Riverside, Calif. ADV. PG. 444.  
**Bristol Co., The**, P. O. Box 1790 EBG, Waterbury 20, Conn.

**CENTRALAB DIV., GLOBE-UNION INC.**, 9149 E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**Chesapeake Instrument Corp.**, Shadyside, Md.  
**Clark Electronic Lab.**, Box 165, Palm Springs, Calif.  
**Colvin Labs., Inc.**, 364 Glenwood Ave., East Orange, N. J.  
**Consolidated Avionics, Inc.**, Stamford, Conn.  
**Consolidated Electrodynamics Corp.**, 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
**Crescent Engineering & Research Co.**, 5440 N. Peck Rd., El Monte, Calif.  
**Darco Industries, Inc.**, Gyro Dynamics Div., 2151 E. Rosencrans Ave., El Segundo, Calif.  
**Datran Electronics**, 3615 Aviation Blvd., Manhattan Beach, Calif.  
**Daytronic Corp.**, 216 S. Main St., Dayton, Ohio.  
**Delttime, Inc.**, 608 Fayette Ave., Mamaroneck, N. Y.  
**DYNA-EMPIRE, INC.**, 1075 Stewart Ave., Garden City, N. Y. ADV. PG. 677.  
**Dynapar Corp.**, 5150 Church St., Skokie, Ill.  
**Edchiff Instruments**, 383 N. Foothill Blvd., Pasadena 8, Calif.  
**Electro Craft Industries, Inc.**, 68 Jackson St., Stamford, Conn.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
**Electronic Engineering Associates, Ltd.**, 1048 Brittan Ave., San Carlos, Calif.  
**Endevco Corp.**, 161 E. California St., Pasadena, Calif.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
**Genisco, Inc.**, 2233 Federal Ave., Los Angeles 64, Calif.  
**GIANNINI & CO., INC.**, G. M., 918 E. Green St., Pasadena 1, Calif. ADV. PG. 344.  
**Gow-Mac Instrument Co.**, 100 Kings Rd., Madison, N. J.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
**Harris Transducer Corp.**, Woodbury, Conn.  
**Helco Products Corp.**, 7832 Balboa Blvd., Van Nuys, Calif.  
**Hupp Electronics Co.**, 265 E. Pomfret St., Carlisle, Pa.  
**Industrial Electronics, Inc.**, 8060 Wheeler St., Detroit 10, Mich.  
**King Laboratory, Inc.**, 2645 S. Second W., Salt Lake City 15, Utah.  
**Kistler Instrument Corp.**, 15 Webster St., North Tonawanda, N. Y.  
**McKenna Laboratories**, Santa Monica 6, Calif.  
**Manning, Maxwell & Moore, Inc.**, Industrial Products Div., 250 E. Main St., Stratford, Conn.  
**Massa Laboratories, Inc.**, 5 Fottler Rd., Hingham, Mass.  
**Minatron Corp.**, 17 Cliveden Place, Belle Mead, N. J.  
**Minneapolis-Honeywell Regulator Co.**, Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**Nilsen Mfg. Co.**, Addison, Ill.  
**Norden-Ketay Corp.**, 99 Park Ave., New York 16, N. Y.  
**North American Instruments, Inc.**, 2420 N. Lake Ave., Altadena, Calif.  
**Optron Corp.**, 3526 State St., Santa Barbara, Calif.  
**Photocon Research Products**, 421 N. Altadena Drive, Pasadena, Calif.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
**Premier Research Laboratories, Inc.**, 83 Seventh Ave., New York 11, N. Y.  
**Radiation, Inc.**, Melbourne, Fla.  
**SANBORN CO.**, 175 Wyman St., Waltham 54, Mass. ADV. PG. 125.  
**Sangamo Electric Co.**, 1201 N. 11th St., Springfield, Ill.  
**Schaevitz Engineering**, P. O. Box 505, Camden 1, N. J.  
**Servonic Instruments, Inc.**, 1143 S. Fair Oaks Ave., Pasadena 2, Calif.  
**STANDARD ELECTRIC TIME CO.**, 97 Logan St., Springfield, Mass. ADV. PG. 143.  
**Statham Laboratories, Inc.**, 12401 W. Olympic Blvd., Los Angeles 64, Calif.  
**Stephens Tru-Sonic Inc.**, 8538 Warner Drive, Culver City, Calif.  
**Telectro Industries Corp.**, 35-16 37th St., Long Island City 1, N. Y.  
**Telephonics Corp.**, Park Ave., Huntington, N. Y.  
**Telex, Inc.**, Telex Park, St. Paul 1, Minn.  
**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.  
**Transline Associates**, 95 Summit St., Newark 3, N. J.  
**TRANS-SONICS, INC.**, P. O. Box 328, Lexington 73, Mass. ADV. PG. 525.  
**Ultradyn Engineering Labs., Inc.**, P. O. Box 8007, Albuquerque, N. M.  
**WAUGH ENGINEERING CO.**, 7842 Burnet Ave., Van Nuys, Calif. ADV. PG. 663.

#### TRANSFORMER WINDINGS

**Barker & Williamson**, 235 Fairfield Ave., Upper Darby, Pa.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
**Central Transformer Co.**, 910 W. Jackson Blvd., Chicago, Ill.  
**Chicago Telephone of California, Inc.**, 105 Pasadena Ave., South Pasadena, Calif.  
**Coilcraft, Inc.**, Cary, Ill.  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595.  
**DuMont Laboratories, Inc.**, Allen B., 750 Bloomfield Ave., Clifton, N. J.  
**Electrical Windings, Inc.**, 2015 N. Kolmar St., Chicago 39, Ill.  
**Ensign Coil Co.**, 2516 S. Pulaski Rd., Chicago, Ill.  
**EPCO PRODUCTS, INC.**, 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674.

Forest Electric Co., 7216 Circle Road, Forest Park, Ill.  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio.  
 Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill.  
 Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.  
**MAGNETIC CO., INC.**, 18 Scudder Ave., Northport, N. Y. ADV. PG. 617.  
 Mid-West Coil & Transformer Co., 1642 N. Halstead St., Chicago 14, Ill.  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis.  
 Modern Industries Inc., 2601 Colorado Ave., Santa Monica, Calif.  
 Mystic Transformers, Inc., 63 Swanton St., Winchester, Mass.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676.  
 New York Coil Co., Phoenixville 12, Pa.  
 Oaktron Electric Co., Tinley Park, Ill.  
**POLYPHASE INSTRUMENT CO.**, East Fourth St., Bridgeport, Penna. ADV. PG. 697.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Randall Inc., Douglas, 6 Pawcatuck Ave., Westerly, R. I.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill.  
**SIGNAL TRANSFORMER CO.**, 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667.  
**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y.  
 Transformer Specialty Co., Inc., Bala Cynwyd, Pa.  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.

## TRANSFORMERS

### Audio

1. Input, Output or Interstage
2. Modulator
3. Very Low Frequency

### Power

4. Current Limiting
5. 400 Cycle
6. Isolation
7. Plate, Filament or Bias—Under 500 Watts
8. Plate, Filament or Bias—Over 500 Watts
9. Saturable
10. Variable
11. Vibrator
12. Voltage Regulating
13. Welding
14. X-Ray

A.C. Transformer Corp., 89 Madison St., Newark, N. J. 4-5-6-7-8-13.  
**ACME ELECTRIC CORP.**, 31 Water St., Cuba, N. Y. 5-6-7-8-9-10-12-13-14. ADV. PG. 378.  
 Acro Products Co., 369 Shurs Lane, Philadelphia 28, Pa. 11.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass. 1-3-4-5-6-7-8-9-10.  
 Aerovox Corp., Pacific Coast Div., 2724 So. Peck Rd., Monrovia, Calif. 4-5-7.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J. 1-2-3-4-7-9-10.  
 Airdesign, Inc., 241 Fairfield Ave., Upper Darby, Pa. 1-2-5-6-7-8-9-11.  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. 1-2-3-5-6-7-9-11. ADV. PG. 297-300.  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. 1-2-3-5-6-7-8-9. ADV. PG. 442.  
**ANDREW CORP.**, 363 E. 75th St., Chicago 19, Ill. 6. ADV. PG. 112.  
 Arco Transformer & Electric Co., 1602 S. Hanna St., Fort Wayne, Ind. 1-3-4-5-6-7-11-12-13-14.  
**ARNOLD MAGNETICS CORP.**, 4613 W. Jefferson Blvd., Los Angeles 16, Calif. 4-5-7-9-10-12. ADV. PG. 553.  
**ASSOCIATED RESEARCH, INC.**, 3788 W. Belmont Ave., Chicago 18, Ill. 4-5. ADV. PG. 570.  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn. 1-5-9-10-12-14.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. 1-2-3-4-5-6-7-8-9-10-11-12-13-14. ADV. PG. 600.  
 Audio Development Co., 2833 13th Ave. S. Minneapolis 7, Minn. 1-2-3-4-5-6-7-8-9-12.  
 Automation Instruments, Inc., Aluminum Foil Transformer Div., 401 E. Green St., Pasadena, Calif. 5-6-8.  
 Avion Division, ACF Industries, Inc., 11 Park Place, Paramus, N. J. 9.  
 Ballastan Corp., Fort Wayne, Ind. 1-2-3-4-5-6-7-8-9.  
 Barwood Electronics, Inc., 921 E. Broadway, Glendale 5, Calif. 1-5-6-7-8.

Basler Electric Co., 605 Fifth St., Highland, Ill. 1-2-3-4-5-6-7-8-9-10-11-12-13-14.  
 Best Mfg Co., Inc., 1200 Grove St., Irvington 11, N. J. 1.  
 Birdsell Mfg. Co., Inc., 750 San Antonio Rd., Palo Alto, Calif. 6-13.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J. 1-7-11.  
**BRACKE-SEIB X-RAY CO., INC.**, 16 Palham Bay Parkway, Pelham Manor, N. Y. 14. ADV. PG. 590.  
**CBC Electronics Co., Inc.**, 2601 N. Howard St., Philadelphia 33, Pa.  
**CALEDONIA ELECTRONICS & TRANSFORMER CO.**, Caledonia, N. Y. 5-6-7-8. ADV. PG. 50.  
 California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. 1-2-3-4-5-6-7-8-9-11.  
 Campbell Co., Inc., Colin, Westville Ave., Danbury, Conn. 1-5-6-7-9-12  
 Carlson & Nicholson, Inc., 497 Maynard Drive, Buffalo 21, N. Y. 5-7-9.  
 Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va. 1-2-5-6-9-11.  
**CELCO**, Island Ave., Mahwah, N. J. 1-2-3-5-6-7-9-10-11-12. ADV. PG. 138, 139.  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind. 1-2-4-5-6-7-9-12.  
 Central Transformer Corp., 910 W. Jackson Blvd., Chicago, Ill. 1-2-3-4-5-6-7-8-9-10-11-12-13-14.  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. 1-2-3-4-5-6-7-8-9-11-13. ADV. PG. 470.  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. 1-2-3-4-5-6-7-8-9-11-13. ADV. PG. 572.  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521 Addison St., Chicago, Ill. 1-2-5-6-7-8-9-10-11-12. ADV. PG. 466, 467.  
 Chicago Telephone of California, Inc., 105 Pasadena Ave., South Pasadena, Calif. 12.  
 Clifton Mfg. Co., Inc., 20 N. Springfield Rd., Clifton Heights, Pa. 1-2-3-4-5-6-7-9-11-12.  
 Coil Co. of America, Inc., 207 Washington St., Northvale, N. J. 1-2-3-4-5-6-7-8-9-11-13-14.  
 Coilcraft, Inc., Cary, Ill. 1.  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. 1-2-5-6-7-9-11. ADV. PG. 113-118.  
 Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill. 1-2-3-4-5-6-7-8-9-10-11-12.  
 Crest Transformer Corp., 1834-36 W. North Ave., Chicago 22, Ill. 1-2-3-4-5-6-7-8-11-12.  
 Crittenden Transformer Co., 1220 Nadeau St. Los Angeles, Calif. 5-6-8.  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J. 1-2-3-5-6-7-8-11-12-13.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill. 1-7-9  
**DANO ELECTRIC CO.**, Main St., Winsted, Conn. 12. ADV. PG. 584.  
**DEL ELECTRONICS CORP.**, 521 Homestead Ave., Mt. Vernon, N. Y. 1-2-3-4-5-6-7-8-9-11-12-13-14. ADV. PG. 678.  
**DIETZ DESIGN MFG. CO.**, Grandview 6, Mo. 1-2-3-5-7-9-11. ADV. PG. 595.  
 Dinion Coil Co., Inc., Caledonia, N. Y. 1-2-3-5-6-7-9-11.  
 Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill. (h)  
 Dormitzer Electric & Mfg. Co., Inc., 5 Hadley St., Cambridge, Mass. 1-5-6-7-8.  
**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. 4-5-6-8. ADV. PG. 660.  
 Electron Mfg. Co., 1901 N. Clybourn, Chicago, Ill. 1-2-4-5-6-7-8-11-13.  
 Electrical Windings, Inc., 2015 N. Kolmar St., Chicago 39, Ill. 1-2-3-5-6-7-8-11.  
**ELECTRO ENGINEERING WORKS**, 401 Preda St., San Leandro, Calif. 1-2-3-4-5-6-7-8-9-11-12-13-14. ADV. PG. 512.  
 Electro-Tech Pacific, Santa Barbara Airport, P. D. Box 455, Goleta, Calif. 1-3-5-7.  
 Electronic Transformer Co., 70 Washington St., Brooklyn 1, N. Y. 1-2-3-4-5-6-7-8-9-11-13-14.  
 Ensign Coil Co., 2516 S. Pulaski Rd. Chicago, Ill. 1-2-3.  
**EPCO PRODUCTS, INC.**, 2500 Atlantic Ave., Brooklyn 17, N. Y. 1-2-3-4-5-6-7-8-9-10-11-13. ADV. PG. 674.  
**ERA ELECTRIC CORP.**, 314 Valley Brook Ave., Lyndhurst, N. J. 1-2-4-5-6-7-8-9-11-12-13. ADV. PG. 665.  
 Ewald Instruments, 99 Nassau St., New York 38, N. Y. 13.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. 14. ADV. PG. 195-198.  
 Fairchild Engineering Corp., 934 Hope St., Springdale, Conn. 5-7-9.  
**FERRANTI ELECTRIC, INC.**, 30 Rockefeller Plaza, New York 20, N. Y. 1-2-3-4-5-6-7-8-11. ADV. PG. 620.  
 Fisher Engineering, Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind. 1-5-6-7-8-9.  
 Forest Electric Co., 7216 Circle Road, Forest Park, Ill. 1-2-3-5-7-11.  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio. 1-2-3-4-5-6-7-8-9-11.  
 Fox Products Co., 4720 N. 18th St., Philadelphia 41, Pa. 13.

**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. 1-2-3-4-5-6-7-8-9-11. ADV. PG. 460.  
**GENERAL CONTROLS CO.**, Glendale 1, Calif. 4-7. ADV. PG. 546.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. 1-2-4-5-6-7-8-9-11-12-13-14. ADV. PG. 1-12.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y. 1.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. 1-2-3-5-10. ADV. PG. 316, 317.  
 General Transformer Co., 18240 Harwood Ave., Homewood, Ill. 1-2-5-6-7-8-11.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif. 1-2-3-4-5-6-7-8-9-11-12.  
 Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. 1-2-3-4-5-6-7-8-9-10-11-12.  
 Grand Ra-Tronics, Inc., Hey St., Grand Haven, Mich. 1-2-3-6-7-8-11-13.  
 Grand Transformers, Inc., Hey St., Grand Haven, Mich. 1-2-5-6-7-8-11.  
 Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J. 7-8-9-12.  
 Hadley Co., Inc., Robert M. 5112 S. Hoover St., Los Angeles 37, Calif. 1-2-3-5-6-7-9-11.  
**HERMETIC SEAL TRANSFORMER CO.**, 555 N. Fifth St., Grand Texas. 1-2-3-4-5-6-7-8-9-10-11-12-13-14. ADV. PG. 410.  
**HIGHLAND ENGINEERING CO.**, 91 Magnolia St., Westbury, N. Y. 1-2-3-5-6-7-8-10-11. ADV. PG. 698.  
 Hindle Transformer Co., Inc., Wads Church Rd., Flemington, N. J. 4-5-6-7-8-9-13-14.  
 Holl Audio Inc., 5014 N. Encinita Ave., Temple City, Calif. 1.  
**HYCOR DIV. OF INTERNATIONAL RESISTANCE CO.**, 12970 Bradley Ave., Sylmar, Calif. 1-5. ADV. PG. 188.  
**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. 1-2-3-4-5-6-7-8-9-10-11-13-14. ADV. PG. 454, 455.  
 Industron Corp., 55 Needham St., Newton Highlands, Mass. 8.  
 Islip Transformer & Metal Co., Inc., Beech St., Islip, N. Y. 1-2-3-5-6-7-8-11.  
 Jack & Heintz, Inc., Cleveland 1, Ohio. 5.  
**JAMES VIBRAPOWR CO.**, 4050 N. Rockwell St., Chicago 18, Ill. 1-5-7. ADV. PG. 542.  
 K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn. 1-2-4-5-6-7-8-9-11.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y. 1-2-3-4-5-6-7-8-9-11.  
**KESSLER CO., FRANK**, 41-45 47th St., Long Island City 4, N. Y. 5-6. ADV. PG. 653.  
 Keystone Products Co., 904-6 23rd St., Union City, N. J. 1-3-4-5-6-7.  
 Knopp Inc., 4224 Holden St., Oakland 8, Calif. 5-6-7-8.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. 1-2-5-7-9-12. ADV. PG. 358.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. 1-2-3-4-5-6-7-8-9-10-11-12-13-14.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. 2-3-5-7-9-12. ADV. PG. 485.  
 Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill. 7-8.  
 Litton Industries, Beverly Hills, Calif. 1-2-4-5-6-7-10-11-12.  
 McGregor Electronic Industries, McGregor, Iowa. 1-3-4-5-6.  
**MACARR, INC.**, 2543 Boston Rd., Bronx 67, N. Y. ADV. PG. 640.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif. 1-2-3-4-5-6-7-8-9-10-11-12-13-14.  
**MAGNATRAN, INC.**, P. O. Box 211, Kearny, N. J. 1-2-7-8-12. ADV. PG. 383.  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind. 1-2-3-5-6-7.  
**MAGNETIC AMPLIFIERS, INC.**, 632 Tinton Ave., New York 55, N. Y. 5-6-9. ADV. PG. 389.  
**MAGNETIC RESEARCH CORP.**, 3160 W. El Segundo Blvd., Hawthorne, Calif. 9. ADV. PG. 292, 293.  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa. 1-2-3-4-5-6-7-8-9-11-14.  
**MAGNETIC, INC.**, 18 Scudder Ave., Northport, N. Y. 7-9. ADV. PG. 617.  
 Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y. 1-5-6-7-9.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill. 1-2-6-7-8-10-11.  
 Metal & Thermit Corp., Rahway, N. J. 13.  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. 1-2-3-5-6-7-11. ADV. PG. 646.  
 Mid-West Coil & Transformer Co., 1642 N. Halstead St., Chicago 14, Ill. 1-3-4-7-9-11.  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis. 1-2-3-4-5-6-7-8-9-10-11-12-13-14.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windmill Aves., Philadelphia 44, Pa. 3. ADV. PG. 447.  
 Modern Industries Inc., 2601 Colorado Ave., Santa Monica, Calif. 4-5-6-7-8-9.  
**MOLONEY ELECTRIC CO.**, 5590 Birchler Blvd., St. Louis 20, Mo. 2-5-8. ADV. PG. 527.

- Moran Electronic Components, Inc., 7660 Woodbury Drive, Silver Spring, Md. 1-5. (h)
- Mt. Vernon Precision Transformer Co., 201 S. Third Ave., Mt. Vernon, N. Y. 1-3-4-5-6-7-8-9-10-11-12-14.
- Mystic Transformers, Inc., 63 Swanton St., Winchester, Mass. 1-5-6-7-8. (h)
- NJE CORPORATION, 345 Carnegie Ave., Kenilworth, N. J. 5-6-7-8-9-12. ADV. PG. 369, 370. (h)
- NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. 1-2-3-4-5-6-7-8-9-11. (h)
- National Aircraft Corp., 3411 Tulare St., Burbank, Calif. National Co., Inc., 61 Sherman St., Malden 48, Mass. 3-4-5-6-7-8-9-11-12.
- NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. 1-2-6-7-8-11. ADV. PG. 676.
- New York Coil Co., Phoenixville 12, Pa. 1-4-5-6-7-8-10-11. (h)
- New York Transformer Co., Inc., Third Ave., Alpha, N. J. 2-7-9-11. (h)
- Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y. 7.
- Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J. 4-5-6-7-8-9-10-12-14.
- Oaktron Electric Co., Tinley Park, Ill. 1-2-3-5-6.
- OHMITE MFG. CO., 3601 Howard St., Skokie, Ill. 9. ADV. PG. 282, 283.
- Omega Electronics Co., 355 Atlantic Ave., Brooklyn 17, N. Y. 1-6-7-8-9-11.
- ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. 1-2-3-4-5-6-7-8-9. ADV. PG. 648.
- Oxford Electric Corp., 3911 S. Michigan Ave., Chicago 15, Ill. 1-2-3-4-6-7-11.
- Pacific Transducer EBG Corp., 11836 W. Pico Blvd., Los Angeles 64, Calif. 1.
- Partridge Transformers, Ltd., Roebuck Rd., Tolworth, Surrey, England. 1-2-3-4-5-6-7-8.
- Peerless Electrical Products Div., Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. 1-2-3-4-5-6-7-8-9-10-11. (h)
- PHYSICS RESEARCH LABS., INC., P. O. Box 555, Hempstead, N. Y. 4. ADV. PG. 682.
- Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y. 14.
- POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. 1-2-3-5-6-7-9. ADV. PG. 697.
- Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J. 1-2-3-4-5-6-7-8-9-10-11-12-13-14.
- PRECISE MEASUREMENTS CO., R. D. #1, Millbrooks Rd., Flemington, N. J. 11. ADV. PG. 399.
- Quam Nichols Co., Marquette Rd. & Prairie Ave., Chicago 37, Ill. 1.
- RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. 6. ADV. PG. 453, Third & Fourth Covers.
- Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J. 1. (h)
- Raypar, Inc., 7800 W. Addison St., Chicago, Ill. 1-2-6-7-8. (h)
- RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. 1-4-6-8-9-12-13. ADV. PG. 250, 251.
- Railway Communications, Inc., 9351 E. 59th St., Raytown, Mo. 9.
- Richmond Engineering Co., Inc., 19 Concord St., South Norwalk, Conn. 1-2-3-5-6-7-8-11. (h)
- Rola Co., Inc., 2530 Superior Ave., Cleveland 14, Ohio. 1-2-3-5-6-7-11.
- Rye Sound Corp., 21 Rye Rd., Rye, N. Y. 1.
- S N C Mfg. Co., Inc., Box 277, Oshkosh, Wis. 1-6-7-8-9-10-11-12. (h)
- Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. 1-2-3-5-6-7-9-14. (h)
- Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill. 13.
- Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif. 1-2-10.
- SIGNAL TRANSFORMER CO., 902 Coney Island Ave., Brooklyn 18, N. Y. 1-2-3-5-6-7-8-9-11. ADV. PG. 667.
- Skysweeper, Inc., McHenry, Ill. 1-4-5-6-7-8-11. (h)
- SLAUGHTER COMPANY, Piqua 9, Ohio. 10. ADV. PG. 494.
- SOLA ELECTRIC CO., 4633 W. 16th St., Chicago 50, Ill. 12. ADV. PG. 269-272. (h)
- SORENSEN & CO., INC., Richards Ave., Norwalk, Conn. 12. ADV. PG. 151-154.
- Sorgel Electric Co., 838 W. National Ave., Milwaukee 4, Wis. 6-7-8-9-10-13.
- SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. 1-3-5-7-8-9-11. ADV. PG. 294, 295. (h)
- Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill. 11-12.
- Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y. 1-2-3-4-5-6-7-8-9-11-12-13-14. (h)
- Stator Electric Corp., 46-25 58th St., Woodside, N. Y. 9-12.
- STERLING TRANSFORMER CORP., 297 N. Seventh St., Brooklyn 11, N. Y. 1-2-4-5-6-7-8-9-11. ADV. PG. 644. (h)
- Stromberg-Carlson Co. Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y. 1.
- SUPERIOR ELECTRIC CO., THE, 5000 Bradley Ave., Bristol, Conn. 5-10-12. ADV. PG. 96-99.
- SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. 4. ADV. PG. 733-739.
- TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. 5-6-7-8-9-10-12. ADV. PG. 549. (h)
- Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y. 1-2-5-7. (h)
- Telex, Inc., Telex Park, St. Paul 1, Minn. 1-3 (h)
- Television Laboratories, Inc., Mill St., Wauconda, Ill. 1-7-11.
- Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. 1-2-3-4-5-6-7-8-9-10-11-12-13-14.
- TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. 1-2-3-5-6-7-8-9-11. ADV. PG. 280, 281. (h)
- Ther Electric & Machine Works, 17 S. Jefferson St., Chicago 6, Ill. 6-9-13.
- Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif. 1-2-3-4-5-6-7-8-9-11-12. (h)
- Thor Transformer & Electronics Co., 750 San Antonio Rd., Palo Alto, Calif. 4-6-7-8-9-10.
- Thordarson Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. 1-2-3-4-5-6-7-8-9-10-11-12-13-14. (h)
- Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y. 1-2-3-5-6-7-8-9-11. (h)
- TOROTEL, INC., 11505 Bellmont Ave., Hickman Mills, Mo. 1-2. ADV. PG. 539. (h)
- TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. 1-5-6-7. ADV. PG. 405. (h)
- Transformer Specialty Co., Inc., Bala-Cynwyd, Pa. 1-2-3-4-5-6-7-8-11-13-14. (h)
- TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. 1-2-3-5-6-7-8-9-11. ADV. PG. 21-24. (h)
- Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif. 1-2-3-4-5-6-7-8-9-11. (h)
- Trenton Transformer Corp., Box 568B, Trenton, N. J. 1-4-5-6-7-8-9-10-11-13-14. (h)
- TRESCO, INC., 3824 Terrace St., Philadelphia, 28, Pa. 1-2-3-5-6-7-9-11. ADV. PG. 687. (h)
- TRIAD TRANSFORMER CORP., SUB. OF LITTON INDUSTRIES, 4055 Redwood Ave., Venice, Calif. 1-2-5-6-7-11. ADV. PG. 242. (h)
- Triplet & Barton, Inc., 831 N. Lake St., P. O. Box 3128, Burbank, Calif. 14.
- Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn. 1-4-5-6-7-8-9-10-12. (h)
- Union Electric & Mfg. Corp., 1057 Summit Ave., Jersey City, N. J. 1-4-5-6-7. (h)
- U. S. ELECTRONICS CORP., 276 Warren St., Lyndhurst, N. J. 1-2-7-8-9-11. ADV. PG. 220. (h)
- UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. 1-2-3-4-5-6-7-8-9-10-11-12. ADV. PG. Second Cover. (h)
- Utrad, Inc., 305 N. Briant, Huntington, Ind. 1-2-5-6-7-8-11. (h)
- VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. 1-2-3-4-5-6-7-8-9-12. ADV. PG. 564.
- VIBRATION RESEARCH LABS., INC., 97 Lake Ave., Tuckahoe, N. Y. 5-7-9-11-12. ADV. PG. 621. (h)
- Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. 1-2-3-4-5-6-7-8-9-11-12-14. (h)
- Webster Electric Co., 1900 Clark St., Racine, Wis. 1.
- WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. 1-2-3-5. ADV. PG. 205-216. (h)
- Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn. 1-5-6-7-9-11. (h)
- X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis. 14.
- TRANSFORMERS—Fly Back**
- Admiral Corp., 3800 Cortland St., Chicago 47, Ill.
- ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442. (h)
- ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)
- CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)
- CHICAGO STANDARD TRANSFORMER CORP., 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467. (h)
- DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill. (h)
- DANO ELECTRIC CO., Main St., Winsted, Conn. ADV. PG. 584.
- Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill. (h)
- DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.
- Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)
- Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.
- Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y.
- Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.
- Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y. (h)
- Litton Industries, Beverly Hills, Calif.
- McGregor Electronic Industries, McGregor, Iowa.
- Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif. (h)
- Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill. (h)
- NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)
- NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)
- Oaktron Electric Co., Tinley Park, Ill.
- Peerless Electrical Products Div., Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. (h)
- Penn Tran Corp., Bellefonte, Pa.
- POLYPHASE INSTRUMENT CO., East Fourth St., Bridgeport, Penna. ADV. PG. 697. (h)
- RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.
- Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J. (h)
- Raypar, Inc., 7800 W. Addison St., Chicago, Ill. (h)
- Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.
- Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
- SIoux RADIO PRODUCTS, 100 Douglas Ave., Yankton, S. D. ADV. PG. 538.
- Standard Winding Corp., 44-62 Johnes St., Newburgh, N. Y.
- Stewart Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.
- SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.
- TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.
- Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.
- Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y. (h)
- Transformer Engineers, 161 E. California St., Pasadena 1, Calif.
- TRIAD TRANSFORMER CORP., SUB. OF LITTON INDUSTRIES, 4055 Redwood Ave., Venice, Calif. ADV. PG. 242. (h)
- U. S. ELECTRONICS CORP., 276 Warren St., Lyndhurst, N. J. ADV. PG. 220. (h)
- TRANSFORMERS—Foil Wound**
- Automation Instruments, Inc., Aluminum Foil Transformer Div., 401 E. Green St., Pasadena, Calif.
- GOOD-ALL ELECTRIC MFG. CO., 112 W. First St., Ogallala, Neb. ADV. PG. 124.
- SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway New York 19, N. Y. ADV. PG. 733-739.
- TRANSFORMERS—High Voltage Power Supply**
- A. C. Transformer Corp., 89 Madison St., Newark, N. J.
- Ace Coil & Electronics Co., 912 Lincoln Highway, Metuchen, N. J.
- ACME ELECTRIC CORP., 31 Water St., Cuba, N. Y. ADV. PG. 378.
- Airdesign, Inc., 241 Fairfield Ave., Upper Darby, Pa. (h)
- AIRPAX PRODUCTS CO., Middle River, Baltimore 20, Md. ADV. PG. 297-300. (h)
- AMP INC., CHEMICALS & DIELECTRICS DIV., 155 Park St., Elizabethtown, Pa. ADV. PG. 255.
- Atlas Coil, Inc., 63 Main St., Ansonia, Conn.
- ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)
- Audio Development Co., 2833 13th Ave., South, Minneapolis 7, Minn. (h)
- Automation Instruments, Inc., Aluminum Foil Transformer Div., 401 E. Green St., Pasadena, Calif.
- Barwood Electronics, Inc., 921 E. Broadway, Glendale 5, Calif. (h)
- Bastler Electric Co., 605 Fifth St., Highland, Ill.
- BRACKE-SEIB X-RAY CO., INC., 16 Pelham Bay Parkway, Pelham Manor, N. Y. ADV. PG. 590.
- CALEDONIA ELECTRONICS & TRANSFORMER CO., Caledonia, N. Y. ADV. PG. 50. (h)
- California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. (h)
- CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)
- Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill. (h)
- CHICAGO ELECTRONIC ENGINEERING CO., 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.
- CHICAGO MAGNETIC CONTROL CO., 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.
- Chicago Telephone of California, Inc., 105 Pasadena Ave., South Pasadena, Calif.
- Coil Co. of America, Inc., 207 Washington St., Northvale, N. J. (h)
- Crest Transformer Corp., 1834-36 W. North Ave., Chicago 22, Ill. (h)
- DEL ELECTRONICS CORP., 521 Homestead Ave., Mt. Vernon, N. Y. ADV. PG. 678. (h)
- Dinion Coil Co., Inc., Caledonia, N. Y.
- Dormitzer Electric & Mfg. Co., Inc., 5 Hadley St., Cambridge, Mass. (h)
- EISLER ENGINEERING CO., INC., 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.
- Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill. (h)
- ELECTRO ENGINEERING WORKS, 401 Preda St., San Leandro, Calif. ADV. PG. 512.
- Electronic Transformer Corp., 70 Washington St., Brooklyn 1, N. Y.
- Embassy Engineering Corp., 673 Elton Ave., New York 51, N. Y.
- EPCO PRODUCTS, INC., 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674. (h)
- ERA ELECTRIC CORP., 314 Valley Brook Ave., Lyndhurst, N. J. ADV. PG. 665. (h)
- Fisher Engineering, Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind. (h)
- Forest Electric Co., 7216 Circle Rd., Forest Park, Ill. (h)
- Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.
- GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.
- Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif. (h)
- Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)
- Grand Ra-Tronics, Inc., Hey St., Grand Haven, Mich. (h)

Grand Transformers, Inc., Hey St., Gand Haven, Mich. (h)  
 Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y. (h)  
**HIGHLAND ENGINEERING CO.**, 91 Magnolia St., Westbury, N. Y. ADV. PG. 698. (h)  
 Hindle Transformer Co., Inc., Woods Church Rd., Flemington, N. J.  
**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. ADV. PG. 454, 455. (h)  
 Islip Transformer & Metal Co., Inc., Beech St., Islip, N. Y. (h)  
 K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn. (h)  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y. (h)  
 Keystone Products Co., 904-6 23rd St., Union City, N. J. (h)  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358. (h)  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Litton Industries, Beverly Hills, Calif.  
 Magnadyne Co., 84 S. Water St., Port Chester, N. Y. (h)  
**MAGNATRAN, INC.**, P. O. Box 211, Kearny, N. J. ADV. PG. 383.  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa. (h)  
 McGregor Electronic Industries, Inc., McGregor, Iowa.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill. (h)  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646. (h)  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
 Modern Industries Inc., 2601 Colorado Ave., Santa Monica, Calif. (h)  
**MOLONEY ELECTRIC CO.**, 5590 Bircher Blvd., St. Louis 20, Mo. ADV. PG. 527. (h)  
 Mystic Transformers, Inc., 63 Swanton St., Winchester, Mass. (h)  
**NJE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370. (h)  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif. (h)  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J. (h)  
 Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.  
 Omega Electronics Co., 355 Atlantic Ave., Brooklyn 17, N. Y.  
 Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore. (h)  
 Partridge Transformers, Ltd., Roebuck Rd., Tolworth, Surrey, England. (h)  
 Peerless Electrical Div. of Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. (h)  
**ESCHEL ELECTRONICS, INC.**, 13 Garden St., New Rochelle, N. Y. ADV. PG. 500.  
 Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.  
**PRECISE MEASUREMENTS CO.**, R. D. #1, Millbrook Rd., Flemington, N. J. ADV. PG. 399.  
 Protatron Transformer Corp., 525 Broadway, New York 12, N. Y. (h)  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J. (h)  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thompsonville, Conn. ADV. PG. 522.  
 Richmond Engineering Co., Inc., 19 Concord St., South Norwalk, Conn. (h)  
 S N C Mfg. Co., Inc., Box 277, Oshkosh, Wis. (h)  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. (h)  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
**SIGNAL TRANSFORMER CO.**, 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667. (h)  
 Skysweeper Inc., McHenry, Ill. (h)  
**SPELLMAN TELEVISION CO., INC.**, 3029 Webster Ave., New York 67, N. Y. ADV. PG. 230, 231.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y. (h)  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
**STERLING TRANSFORMER CORP.**, 297 N. Seventh St., Brooklyn 11, N. Y. ADV. PG. 644. (h)  
 Summit Coil Co., 4 Claremont Rd., Bernardsville, N. J.  
**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549. (h)  
**ELECTROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y. (h)  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. (h)

**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemon Ave., Dallas 9, Texas. ADV. PG. 280, 281 (h)  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.  
 Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y. (h)  
 Todd-Tran Corp., 156 Gramatan Ave., Mt. Vernon, N. Y.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Transformer Specialty Co., Inc., Bala-Cynwyd Pa. (h)  
 Trenton Transformer Corp., Box 568, Trenton, N. J. (h)  
**TRESCO, INC.**, 3824 Terrace St., Philadelphia 28, Pa. ADV. PG. 687.  
 Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn. (h)  
 Union Electric & Mfg. Corp., 1057 Summit Ave., Jersey City, N. J. (h)  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. Y. ADV. PG. 220. (h)  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover. (h)  
**UNIVERSAL ATOMICS, A DIV. OF UNIVERSAL TRANSISTOR PRODUCTS CORP.**, 143 E. 49th St., New York 17, N. Y. ADV. PG. 548.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
**VIBRATION RESEARCH LABS., INC.**, 97 Lake Ave., Tuckaheo, N. Y. ADV. PG. 621. (h)  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. (h)

### TRANSFORMERS—Instrument

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J. (h)  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Annis Co., R. B., 1101 N. Delaware St., Indianapolis, Ind.  
 Arco Transformer & Electric Co., 1602 S. Hanna St., Fort Wayne, Ind.  
**ASSOCIATED RESEARCH, INC.**, 3788 W. Belmont Ave., Chicago 18, Ill. ADV. PG. 570  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)  
 Audio Development Co., 2833 13th Ave., South Minneapolis 7, Minn. (h)  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn. (h)  
 California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. (h)  
 Campbell Co., Inc., Colin, Westville Ave., Danbury, Conn. (h)  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. ADV. PG. 572.  
 Clifton Mfg. Co., Inc., 20 N. Springfield Rd., Clifton Heights, Pa.  
 Crest Transformer Corp., 1834-36 W. North Ave., Chicago 22, Ill. (h)  
 Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill. (h)  
 Dormitzer Electric & Mfg. Co., Inc., 5 Hadley St., Cambridge, Mass. (h)  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Electron Mfg. Co., 1901 N. Clybourn, Chicago, Ill. (h)  
 Electrical Windings, Inc., 2015 N. Kolmar St., Chicago 29, Ill.  
**ELECTRO ENGINEERING WORKS**, 401 Preda St., San Leandro, Calif. ADV. PG. 512.  
 Electro-Tech Pacific, Santa Barbara Airport, P. O. Box 455, Goleta, Calif. (h)  
 Electronic Transformer Corp., 70 Washington St., Brooklyn 1, N. Y.  
 Estorline-Angus Co., Inc., P. O. Box 596, Indianapolis 6, Ind.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, I River Rd., Schenectady 5, N. Y. ADV. PG. 1-12 (h)  
 General Transformer Co., 18240 Harwood Ave., Homewood, Ill. (h)  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684.  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif. (h)  
 Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)  
 Grand Ra-Tronics, Inc., Hey St., Grand Haven, Mich. (h)  
 Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif. (h)  
 Hindle Transformer Co., Inc., Woods Church Rd., Flemington, N. J.  
**INDUSTRIAL TRANSFORMER CO.**, Gouldsboro, Pa. ADV. PG. 454, 455. (h)  
**JAMES VIBRAPOW CO.**, 4050 N. Rockwell St., Chicago 18, Ill. ADV. PG. 542.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y. (h)

Keystone Products Co., 904-6 23rd St., Union City, N. J. (h)  
 Knopp Inc., 4224 Holden St., Oakland 8, Calif.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Litton Industries, Beverly Hills, Calif.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif. (h)  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa. (h)  
 Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y. (h)  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646. (h)  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis. (h)  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J. (h)  
 Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648.  
 Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore. (h)  
 Oxford Electric Corp., 3911 S. Michigan Ave., Chicago 15, Ill.  
 Peerless Electrical Products Div., Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. (h)  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682.  
 Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. (h)  
 S N C Mfg. Co., Inc., Box 277, Oshkosh, Wis. (h)  
 Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.  
 Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
**SIGNAL TRANSFORMER CO.**, 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667. (h)  
 Skysweeper Inc., McHenry, Ill. (h)  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y. (h)  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. (h)  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemon Ave., Dallas 9, Texas. ADV. PG. 280, 281. (h)  
 Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)  
**TOROTEL, INC.**, 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539. (h)  
**TORWIC ELECTRONICS, INC.**, 1090 Morris Ave., Union, N. J. ADV. PG. 405. (h)  
 Transformer Engineers, 161 E. California St., Pasadena 1, Calif. (h)  
 Transformer Specialty Co., Inc., Bala-Cynwyd, Pa. (h)  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24. (h)  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif. (h)  
 Trenton Transformer Corp., Box 468B, Trenton, N. J. (h)  
**TRESCO, INC.**, 3824 Terrace St., Philadelphia 28, Pa. ADV. PG. 687. (h)  
 Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn. (h)  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover (h)  
 Utrad, Inc., 305 N. Briant, Huntington, Ind. (h)  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. (h)  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216. (h)  
 Weston Electrical Instrument Corp., Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

### TRANSFORMERS—Microwave See MICROWAVE ACCESSORIES

**TRANSFORMERS—Miniature**  
**ACME ELECTRIC CORP.**, 31 Water St., Cuba, N. Y. ADV. PG. 378.  
 A.P.V. Co., 72 W. Main St., Rockaway, N. J.  
 Acro Transformer & Electric Co., 1602 S. Hanna St., Fort Wayne, Ind.  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J. (h)  
 Airdesign, Inc., 241 Fairfield Ave., Upper Darby, Pa. (h)  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300. (h)  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442. (h)

ARNOLD MAGNETICS CORP., 4613 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 553. (h)

Atlas Coil, Inc., 63 Main St., Ansonia, Conn. (h)

ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)

Audio Development Co., 2833 13th Ave. S., Minneapolis 7, Minn. (h)

Ballastran Corp., Fort Wayne, Ind. (h)

Barwood Electronics Inc., 921 E. Broadway, Glendale 5, Calif. (h)

Basler Electric Co., 605 Fifth St., Highland, Ill. (h)

CALEDONIA ELECTRONICS & TRANSFORMER CO., Caledonia, N. Y. ADV. PG. 50. (h)

California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. (h)

CAMBRIDGE THERMIONIC CORP., 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150. (h)

Campbell Co., Inc., Colin, Westville Ave., Danbury, Conn. (h)

Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va. (h)

CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)

Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind. (h)

Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill. (h)

CHICAGO ELECTRONIC ENGINEERING CO., 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470. (h)

CHICAGO MAGNETIC CONTROL CO., 1616 Damon Ave., Chicago, Ill. ADV. PG. 572. (h)

CHICAGO STANDARD TRANSFORMER CORP., 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467. (h)

Clifton Mfg. Co., Inc., 20 N. Springfield Rd., Clifton Heights, Pa. (h)

Coilcraft, Inc., Cary, Ill. (h)

COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118. (h)

Crest Transformer Corp., 1834-36 W. North Ave., Chicago 22, Ill. (h)

DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill. (h)

DEL ELECTRONICS CORP., 521 Homestead Ave., Mt. Vernon, N. Y. ADV. PG. 678. (h)

DIETZ DESIGN & MFG. CO., Grandview 6, Mo. ADV. PG. 595. (h)

Dinion Coil Co., Inc., Caledonia, N. Y. (h)

Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill. (h)

DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J. (h)

Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill. (h)

ELECTRO ENGINEERING WORKS, 401 Preda St., San Leandro, Calif. ADV. PG. 512. (h)

Electro-Tech Pacific, Santa Barbara Airport, P. O. Box 455, Goleta, Calif. (h)

Electronic Transformer Corp., 70 Washington St., Brooklyn 1, N. Y. (h)

Ensign Coil Co., 2516 S. Pulaski Rd., Chicago, Ill. (h)

EPCO PRODUCTS, INC., 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674. (h)

ESC CORP., 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63. (h)

FERRANTI ELECTRIC, INC., 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620. (h)

Fisher Engineering, Inc., 2060 U. S. East, P.O. Box 327, Huntington, Ind. (h)

Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio. (h)

FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460. (h)

GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12. (h)

General Transformer Co., 18240 Harwood Ave., Homewood, Ill. (h)

Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif. (h)

Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)

Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif. (h)

HIGHLAND ENGINEERING CO., 91 Magnolia St., Westbury, N. Y. ADV. PG. 698. (h)

INDUSTRIAL TRANSFORMER CO., Gouldsboro, Pa. ADV. PG. 454, 455. (h)

Islip Transformer & Metal Co., Inc., Beech St., Islip, N. Y. (h)

K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn. (h)

Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y. (h)

KESSLER CO., FRANK, 41-45 47th St., Long Island City 4, N. Y. ADV. PG. 653. (h)

Keystone Products Co., 904-6 23rd St., Union City, N. J. (h)

LABORATORY FOR ELECTRONICS, INC., 75 Pitts St., Boston 14, Mass. ADV. PG. 358. (h)

Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. (h)

LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485. (h)

Litton Industries, Beverly Hills, Calif. (h)

McGregor Electronic Industries, McGregor, Iowa. (h)

Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif. (h)

Magnadyne Co., 84 S. Water St., Port Chester, N. Y. (h)

Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind. (h)

Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa. (h)

MAGNETICO, INC., 18 Scudder Ave., Northport, N. Y. ADV. PG. 617. (h)

Mectronics, 1372-74 E. Walnut St., Pasadena, Calif. (h)

Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill. (h)

MICO INSTRUMENT CO., 77 Trowbridge St., Cambridge 38, Mass. ADV. PG. 522. (h)

MICROTRAN CO., INC., 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646. (h)

Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif. (h)

Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis. (h)

Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J. (h)

Mystic Transformers, Inc., 63 Swanton St., Winchester, Mass. (h)

NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)

National Coil Co., P. O. Box 1237, Sheridan, Wyo. (h)

NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)

New York Coil Co., Phoenixville 12, Pa. (h)

New York Transformer Co., Inc., Third Ave., Alpha, N. Y. (h)

Oaktron Electric Co., Tinley Park, Ill. (h)

Omega Electronics Co., 355 Atlantic Ave., Brooklyn 17, N. Y. (h)

Osborne Electric Co., 712 S.E. Hawthorne, Portland 14, Ore. (h)

Oxford Electric Corp., 3911 S. Michigan Ave., Chicago 15, Ill. (h)

Partridge Transformers, Ltd., Roebuck Rd., Tolworth, Surrey, England. (h)

Peerless Electrical Div. of Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. (h)

POLYPHASE INSTRUMENT CORP., East Fourth St., Bridgeport, Pa. ADV. PG. 697. (h)

PULSE ENGINEERING, INC., 2657 Spring St., Redwood City, Calif. ADV. PG. 607. (h)

Qutronic Transformer Corp., 525 Broadway, New York 12, N. Y. (h)

Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J. (h)

Ransom Research, Box 382, San Pedro, Calif. (h)

RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251. (h)

Richmond Engineering Co., Inc., 19 Concord St., South Norwalk, Conn. (h)

Rye Sound Corp., 21 Rye Rd., Rye, N. Y. (h)

Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. (h)

Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill. (h)

Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif. (h)

SIGNAL TRANSFORMER CO., 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667. (h)

Skysweeper, Inc., McHenry, Ill. (h)

SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295. (h)

STERLING TRANSFORMER CORP., 297 N. Seventh St., Brooklyn 11, N. Y. ADV. PG. 644. (h)

SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York, N. Y. ADV. PG. 733-739. (h)

Telex, Inc., Telex Park, St. Paul 1, Minn. (h)

Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. (h)

TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281. (h)

Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif. (h)

Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)

Todd Products, 156 Gramatan Ave., Mt. Vernon, N. Y. (h)

TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405. (h)

Transformer Engineers, 161 E. California, Pasadena 1, Calif. (h)

TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24. (h)

Tranonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif. (h)

TRESCO, INC., 3824 Terrace St., Philadelphia 28, Pa. ADV. PG. 687. (h)

TRIAD TRANSFORMER CORP., SUB. OF LITTON INDUSTRIES, 4055 Redwood Ave., Venice Calif. ADV. PG. 242. (h)

Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn. (h)

Tur-Bo Jet Products, Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif. (h)

Union Electric & Mfg. Corp., 1057 Summit Ave., Jersey City, N. J. (h)

U. S. ELECTRONICS CORP., 276 Warren St., Lyndhurst, N. Y. ADV. PG. 220. (h)

UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover. (h)

Utrad, Inc., 305 N. Briant, Huntington, Ind. (h)

Valor Electronic Components Co., 5808 Marilyn Ave., Culver City, Calif. (h)

VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. ADV. PG. 564. (h)

Waco, Inc., 2032 Broadway, Santa Monica, Calif. (h)

Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. (h)

Wheeler Insulated Wire Co., Inc., The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn. (h)

**TRANSFORMERS—Precision Matched**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass. (h)

AIRPAX PRODUCTS CO., Middle River, Baltimore 20, Md. ADV. PG. 297-300. (h)

ARNOLD MAGNETICS CORP., 4613 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 553. (h)

Atlas Coil, Inc., 63 Main St., Ansonia, Conn. (h)

ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)

Audio Development Co., 2833 13th Ave. S., Minneapolis 7, Minn. (h)

Ballastran Corp., Fort Wayne, Ind. (h)

Basler Electric Co., 605 Fifth St., Highland, Ill. (h)

CALEDONIA ELECTRONICS & TRANSFORMER CO., Caledonia, N. Y. ADV. PG. 50. (h)

California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. (h)

Campbell Co., Inc., Colin, Westville Ave., Danbury, Conn. (h)

CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)

Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind. (h)

CHICAGO ELECTRONIC ENGINEERING CO., 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470. (h)

CHICAGO MAGNETIC CONTROL CO., 1616 Damon Ave., Chicago, Ill. ADV. PG. 572. (h)

Coast Coil Co., 5333 W. Washington Blvd., Los Angeles 16, Calif. (h)

COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118. (h)

DEL ELECTRONICS CORP., 521 Homestead Ave., Mt. Vernon, N. Y. ADV. PG. 678. (h)

Dinion Coil Co., Inc., Caledonia, N. Y. (h)

Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill. (h)

Electro-Tech Pacific, Santa Barbara Airport, P. O. Box 455, Goleta, Calif. (h)

FREED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460. (h)

Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)

Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif. (h)

INDUSTRIAL TRANSFORMER CO., Gouldsboro, Pa. ADV. PG. 454, 455. (h)

K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn. (h)

Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y. (h)

Keystone Products Co., 904-6 23rd St., Union City, N. J. (h)

Knopp Inc., 4224 Holden St., Oakland 8, Calif. (h)

Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. (h)

LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485. (h)

Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif. (h)

Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind. (h)

Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa. (h)

MICROTRAN CO., INC., 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646. (h)

Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis. (h)

NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)

NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)

ORTHO FILTER CORP., 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648. (h)

Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore. (h)

Partridge Transformers, Ltd., Roebuck Rd., Tolworth, Surrey, England. (h)

Peerless Electrical Div. of Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. (h)

POLYPHASE INSTRUMENT CORP., East Fourth St., Bridgeport, Pa. ADV. PG. 697. (h)

PULSE ENGINEERING, INC., 2657 Spring St., Redwood City, Calif. ADV. PG. 607. (h)

Qutronic Transformer Corp., 525 Broadway, New York 12, N. Y. (h)

Richmond Engineering Co., Inc., 19 Concord St., South Norwalk, Conn. (h)

Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. (h)

Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif. (h)

SIGNAL TRANSFORMER CO., 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667. (h)

SOUTHWESTERN INDUSTRIAL ELECTRONICS CO., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295. (h)

SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739. (h)

Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. (h)

TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281. (h)

Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif. (h)

Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)

Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y. (h)

TOROTEL, INC., 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539. (h)

TORWICO ELECTRONICS, INC., 1090 Morris Ave., Union, N. J. ADV. PG. 405. (h)

Transformer Engineers, 161 E. California St., Pasadena 1, Calif. (h)  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24. (h)  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif. (h)  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover. (h)  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. (h)

## TRANSFORMERS—Precision Voltage Dividing

**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300. (h)  
**ARNOLD MAGNETICS CORP.**, 4613 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 553. (h)  
**Atlas Coil, Inc.**, 63 Main St., Ansonia, Conn. (h)  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)  
 Basler Electric Co., 605 Fifth St., Highland, Ill. (h)  
**CALEDONIA ELECTRONICS & TRANSFORMER CO.**, Caledonia, N. Y. ADV. PG. 50. (h)  
 California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. (h)  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470. (h)  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. ADV. PG. 572. (h)  
**Coast Coil Co.**, 5333 W. Washington Blvd., Los Angeles 16, Calif. (h)  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118. (h)  
**DEL ELECTRONICS CORP.**, 521 Homestead Ave., Mt. Vernon, N. Y. ADV. PG. 678. (h)  
 Electro-Tech Pacific, Santa Barbara Airport, P. O. Box 455, Goleta, Calif. (h)  
 Fisher Engineering, Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind. (h)  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460. (h)  
**GERTSCH PRODUCTS, INC.**, 3211 S. La Cienega Blvd., Los Angeles 16, Calif. ADV. PG. 684. (h)  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif. (h)  
 Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)  
 Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif. (h)  
**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. ADV. PG. 454, 455. (h)  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. (h)  
 Litton Industries, Beverly Hills, Calif. (h)  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646. (h)  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa. (h)  
**MAGNETICO, INC.**, 18 Scudder Ave., Northport, N. Y. ADV. PG. 617. (h)  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J. (h)  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648. (h)  
 Peerless Electrical Products Div., Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. (h)  
**PHYSICS RESEARCH LABS., INC.**, P. O. Box 555, Hempstead, N. Y. ADV. PG. 682. (h)  
**POLYPHASE INSTRUMENT CORP.**, East Fourth St., Bridgeport, Pa. ADV. PG. 697. (h)  
**PULSE ENGINEERING, INC.**, 2657 Spring St., Redwood City, Calif. ADV. PG. 607. (h)  
 Qutronic Transformer Corp., 525 Broadway, New York 12, N. Y. (h)  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. (h)  
**SIGNAL TRANSFORMER CO.**, 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667. (h)  
**SOUTHWESTERN INDUSTRIAL ELECTRONICS CO.**, 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas. ADV. PG. 294, 295. (h)  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y. (h)  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739. (h)  
**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549. (h)  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. (h)  
 Thermador Electric Mfg. Co., 521 S. Boyle Ave., Los Angeles 58, Calif. (h)  
 Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)  
**TORWICO ELECTRONICS, INC.**, 1090 Morris Ave., Union, N. J. ADV. PG. 405. (h)  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24. (h)  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif. (h)  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover. (h)  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif. (h)  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. (h)

## TRANSFORMERS—Printed Circuit

**ACF Electronics**, 800 N. Pitt St., Alexandria, Va. (h)  
**ACME ELECTRIC CORP.**, 31 Water St., Cuba, N. Y. ADV. PG. 378. (h)  
**Acro Transformer & Electric Co.**, 1602 S. Hanna St., Fort Wayne, Ind. (h)  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300. (h)  
**ARNOLD MAGNETICS CORP.**, 4613 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 553. (h)  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)  
 Audio Development Co., 2833 13th Ave., S., Minneapolis 7, Minn. (h)  
**Barwood Electronics, Inc.**, 921 E. Broadway, Glendale 5, Calif. (h)  
 Basler Electric Co., 605 Fifth St., Highland, Ill. (h)  
 California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. (h)  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150. (h)  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind. (h)  
 Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill. (h)  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470. (h)  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. ADV. PG. 572. (h)  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467. (h)  
 Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio. (h)  
 Clifton Mfg. Co., Inc., 20 N. Springfield Rd., Clifton Heights, Pa. (h)  
 Coilcraft, Inc., Cary, Ill. (h)  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118. (h)  
 Crest Transformer Corp., 1834-36 W. North Ave., Chicago 22, Ill. (h)  
**DEL ELECTRONICS CORP.**, 521 Homestead Ave., Mt. Vernon, N. Y. ADV. PG. 678. (h)  
 Dinion Coil Co., Inc., Caledonia, N. Y. (h)  
 Electrical Windings, Inc., 2015 N. Kolnar St., Chicago 29, Ill. (h)  
 Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif. (h)  
 Ensign Coil Co., 2561 S. Pulaski Rd., Chicago, Ill. (h)  
**FERRANTI ELECTRIC, INC.**, 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620. (h)  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio. (h)  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460. (h)  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y. (h)  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12. (h)  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif. (h)  
 Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)  
 Grand Ra-Tronics, Inc., Hey St., Grand Haven, Mich. (h)  
 Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif. (h)  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. (h)  
 Litton Industries, Beverly Hills, Calif. (h)  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa. (h)  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill. (h)  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646. (h)  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif. (h)  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)  
 New York Coil Co., Phoenixville 12, Pa. (h)  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J. (h)  
**NORTH HILLS ELECTRIC CO., INC.**, 402 Sagamore Ave., Mineola, N. Y. ADV. PG. 428. (h)  
 Oakton Electric Co., Tinley Park, Ill. (h)  
 Oxford Electric Corp., 3911 S. Michigan Ave., Chicago 15, Ill. (h)  
 Partridge Transformers, Ltd., Roebuck Rd., Tolworth, Surrey, England. (h)  
 Peerless Electrical Div. of Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif. (h)  
**POLYPHASE INSTRUMENT CORP.**, East Fourth St., Bridgeport, Pa. ADV. PG. 697. (h)  
**PULSE ENGINEERING, INC.**, 2657 Spring St., Redwood City, Calif. ADV. PG. 607. (h)  
 Qutronic Transformer Corp., 525 Broadway, New York 12, N. Y. (h)  
 Ransom Research, Box 382, San Pedro, Calif. (h)  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251. (h)  
 Skysweeper Inc., McHenry, Ill. (h)  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y. (h)  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739. (h)  
 Telex, Inc., Telex Park, St. Paul 1, Minn. (h)

Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. (h)  
**TEXAS INSTRUMENTS INCORPORATED**, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281. (h)  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y. (h)  
**TOROTEL, INC.**, 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539. (h)  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24. (h)  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif. (h)  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover. (h)  
 Valor Electronic Components Co., 5808 Marilyn Ave., Culver City, Calif. (h)  
 Vokar Corp., 7300 Huron River Drive, Dexter, Mich. (h)  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. (h)  
 Wheeler Insulated Wire Co., Inc., The Div. of the Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn. (h)

## TRANSFORMERS—Pulse

**ACME ELECTRIC CORP.**, 31 Water St., Cuba, N. Y. ADV. PG. 378. (h)  
 Acro Products Co., 369 Shurs Lane, Philadelphia 28, Pa. (h)  
 Acro Transformer & Electric Co., 1602 S. Hanna St., Fort Wayne, Ind. (h)  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass. (h)  
 Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J. (h)  
 Airdesign Inc., 241 Fairfield Ave., Upper Darby, Pa. (h)  
**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300. (h)  
 Aladdin Electronics, A Div. of Aladdin Industries, Inc., 711 Murrefreesboro Rd., Nashville 2, Tenn. (h)  
**ALTEC LANSING CORP.**, 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442. (h)  
 Alto Scientific Co., 855 Commercial St., Palo Alto, Calif. (h)  
**AMP INC., CHEMICALS & DIELECTRICS DIV.**, 155 Park St., Elizabethtown, Pa. ADV. PG. 255. (h)  
 Applied Radiation Corp., 1210 Spring Brook Rd., Walnut Creek, Calif. (h)  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn. (h)  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)  
 Audio Development Co., 2833 13th Ave. S., Minneapolis 7, Minn. (h)  
 Ballastran Corp., Fort Wayne, Ind. (h)  
 Basler Electric Co., 605 Fifth St., Highland, Ill. (h)  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H. (h)  
**BREW & CO., INC., RICHARD D.**, Concord, N. H. ADV. PG. 524. (h)  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif. (h)  
 Burroughs Corp., Electronic Instruments Div., 1209 Vine St., Philadelphia 23, Pa. (h)  
**C B C Electronics Co., Inc.**, 2601 N. Howard St., Philadelphia 33, Pa. (h)  
**CALEDONIA ELECTRONICS & TRANSFORMER CO.**, Caledonia, N. Y. ADV. PG. 50. (h)  
 California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif. (h)  
 Campbell Co., Inc., Colvin, Westville Ave., Danbury, Conn. (h)  
 Carad Corp., 2850 Bay Rd., Redwood City, Calif. (h)  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470. (h)  
**CHICAGO MAGNETIC CONTROL CO.**, 1616 Damon Ave., Chicago, Ill. ADV. PG. 572. (h)  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467. (h)  
 Clifton Mfg. Co., Inc., 20 N. Springfield Rd., Clifton Heights, Pa. (h)  
 Coilcraft, Inc., Cary, Ill. (h)  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118. (h)  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J. (h)  
 Dielectron Div., The Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif. (h)  
**DIETZ DESIGN MFG. CO.**, Grandview 6, Mo. ADV. PG. 595. (h)  
 Dinion Coil Co., Inc., Caledonia, N. Y. (h)  
 Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill. (h)  
 DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J. (h)  
**ESC CORP.**, 534 Bergen Blvd., Palisades Park, N. J. ADV. PG. 63. (h)  
 Electro Winders Co., Inc., 854 W. Front St., Covina, Calif. (h)  
 Electronic Transformer Corp., 70 Washington St., Brooklyn 1, N. Y. (h)  
**EPCO PRODUCTS, INC.**, 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674. (h)  
**EPSCO, INCORPORATED**, 588 Commonwealth Ave., Boston 15, Mass. ADV. PG. 233-235. (h)  
 Essex Electronics, Berkeley Heights, N. J. (h)  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433. (h)  
 Fisher Engineering, Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind. (h)

Foster Transformer Co., 3820 Colerian Ave., Cincinnati 23, Ohio. (h)  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460. (h)  
**GENERAL ELECTRIC CO., APPARATUS SALES DIV.**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12 (h)  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif. (h)  
 Gramer-Haldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)  
 Gudeman Co., 340 W. Huron St., Chicago 10, Ill. (h)  
 Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif. (h)  
 Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y. (h)  
 Hindle Transformer Co., Inc., Woods Church Rd., Flemington, N. J. (h)  
**INDUSTRIAL TRANSFORMER CO.**, Gouldsboro, Pa. ADV. PG. 454, 455. (h)  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md. (h)  
 K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn. (h)  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y. (h)  
 Keystone Products Co., 904-6 23rd St., Union City, N. J. (h)  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358. (h)  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. (h)  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485. (h)  
 Litton Industries, Beverly Hills, Calif. (h)  
 Luther Electronics Mfg. Co., 5728 W. Washington Blvd., Los Angeles 16, Calif. (h)  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif. (h)  
 Magnadyne Co., 84 S. Water St., Port Chester, N. Y. (h)  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind. (h)  
**MAGNETIC RESEARCH CORP.**, 3160 W. El Segundo Blvd., Hawthorne, Calif. ADV. PG. 292-293. (h)  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. & Hobson Blvd., Easton, Pa. (h)  
 Magnetics Research Co., Cor. Grove St., & E. Post Rd., White Plains, N. Y. (h)  
 Melectronics, 1372-74 E. Walnut St., Pasadena, Calif. (h)  
**MICROTRAN CO., INC.**, 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646. (h)  
 Mid-West Coil & Transformer Co., 1642 N. Halstead St., Chicago 14, Ill. (h)  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis. (h)  
 Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N. Hopkins, Minn. (h)  
 Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J. (h)  
**MOLONEY ELECTRIC CO.**, 5590 Bircher Blvd., St. Louis 20, Mo. ADV. PG. 527. (h)  
 Mystic Transformers, Inc., 63 Swanton St., Winchester, Mass. (h)  
**NUE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370. (h)  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif. (h)  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)  
 New York Coil Co., Phoenixville 12, N. Y. (h)  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J. (h)  
 Nothelfer Winding Labs, Inc., P. O. Box 455, Trenton, N. J. (h)  
**ORTHO FILTER CORP.**, 198 Albion Ave., Paterson 2, N. J. ADV. PG. 648. (h)  
 Osborne Electric Co., 712 S. E. Hawthorne, Portland 14, Ore. (h)  
**PACKARD-BELL CO.**, 12333 W. Olympic Blvd., Los Angeles 64, Calif. ADV. PG. 268. (h)  
 Patridge Transformers, Ltd., Roebuck Rd., Tolworth, Surrey, England. (h)  
 Pearson Electronics, 1200 Bryant St., Palo Alto, Calif. (h)  
**POLYPHASE INSTRUMENT CORP.**, East Fourth St., Bridgeport, Pa. ADV. PG. 697. (h)  
 Power Industries Co., 2611 Indiana Ave., Chicago 16, Ill. (h)  
**PULSE ENGINEERING, INC.**, 2657 Spring St., Redwood City, Calif. ADV. PG. 607. (h)  
 Radio Industries, Inc., 5225 Ravenswood Ave., Chicago 40, Ill. (h)  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J. (h)  
 Ransom Research, Box 382, San Pedro, Calif. (h)  
**RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251. (h)  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thompsonville, Conn. ADV. PG. 522. (h)  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill. (h)  
 Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill. (h)  
**SIGNAL TRANSFORMER CO.**, 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667. (h)  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass. (h)  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill. (h)  
 Standard Winding Corp., 44-62 Johnes St., Newburgh, N. Y. (h)  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y. (h)

**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York. ADV. PG. 733-739. (h)  
**TECHNITROL ENGINEERING CO.**, 1952 E. Allegheny Ave., Philadelphia 34, Pa. ADV. PG. 509. (h)  
 Telex, Inc., Telex Park, St. Paul 1, Minn. (h)  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y. (h)  
 Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif. (h)  
 Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y. (h)  
**TOROTEL, INC.**, 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539. (h)  
 Transformer Engineers, 161 E. California St., Pasadena 1, Calif. (h)  
**TRANSFORMERS, INC.**, 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24. (h)  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif. (h)  
 Trenton Transformer Corp., Box 568B, Trenton, N. J. (h)  
**TRESCO, INC.**, 3824 Terrace St., Philadelphia 28, Pa. ADV. PG. 687. (h)  
**TRIAD TRANSFORMER CORP., SUB. OF LITTON INDUSTRIES**, 4055 Redwood Ave., Venice, Calif. ADV. PG. 242. (h)  
**UNITED TRANSFORMER CORP.**, 150 Varick St., New York 13, N. Y. ADV. PG. Second cover. (h)  
 Utrad, Inc., 305 N. Briant, Huntington, Ind. (h)  
 Valor Electronic Components Co., 5808 Marilyn Ave., Culver City, Calif. (h)  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif. (h)  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa. (h)  
**WESTINGHOUSE ELECTRIC CORP.**, P. O. Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216. (h)  
 Wheeler Insulated Wire Co., Inc., The Div. of the Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn. (h)

**TRANSFORMERS—r-f and i-f**

Ace Coil & Electronics Co., 912 Lincoln Highway, Metuchen, N. J. (h)  
 Aerovox Corp., 740 Belleville Ave., New Bedford, Mass. (h)  
 Aerovox Corp., Pacific Coast Div., 2724 So. Peck Rd., Monrovia, Calif. (h)  
 Aladdin Electronics, A Div. of Alladdin Industries, Inc., 711 Murfreesboro Rd., Nashville 2, Tenn. (h)  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn. (h)  
**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)  
**AUTOMATIC COIL CO.**, 415 Bedford Ave., Brooklyn, N. Y. ADV. PG. 675. (h)  
 Automatic Mfg. Div. of General Instrument Corp., 65 Gouverneur St., Newark, N. J. (h)  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa. (h)  
 Caddell-Burns Mfg. Co., 40 E. Second St., Mineola, N. Y. (h)  
 Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif. (h)  
**CAMBRIDGE THERMIONIC CORP.**, 445 Concord Ave., Cambridge 38, Mass. ADV. PG. 150. (h)  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind. (h)  
 Coilcraft, Inc., Cary, Ill. (h)  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y. (h)  
**COILS-ELECTRONICS CO.**, 2939-49 N. 2nd St., Philadelphia 33, Pa. ADV. PG. 589. (h)  
 Colman Tool & Machine Co., P. O. Box 7026, Amarillo, Texas. (h)  
**COMMUNICATION ACCESSORIES CO.**, Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118. (h)  
 Condor Radio Mfg. Co., 4068 E. Paseo Grande, Tucson 12, Ariz. (h)  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill. (h)  
 Delevan Electronics Corp., Reycroft Campus, East Aurora, N. Y. (h)  
**DIETZ DESIGN & MFG. CO.**, Grandview 6, Mo. ADV. PG. 595. (h)  
 Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif. (h)  
 Ensign Coil Co., 2561 S. Pulaski Rd., Chicago, Ill. (h)  
 Essex Electronics, Berkeley Heights, N. J. (h)  
**FILTRON CO., INC.**, 131-05 Fowler Ave., Flushing, N. Y. ADV. PG. 433. (h)  
 Fugle-Miller Laboratories, Inc., 301 Central Ave., Clark, N. J. (h)  
 General Coil Products Corp., 43 Roselle St., Mineota, N. Y. (h)  
 Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif. (h)  
 Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y. (h)  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill. (h)  
 Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y. (h)  
**HOUZHAN CO., T. J.**, 2508-14 W. Lawrence Ave., Chicago 25, Ill. ADV. PG. 590. (h)  
**INDUSTRIAL TRANSFORMER CORP.**, Gouldsboro, Pa. ADV. PG. 454, 455. (h)  
 Islip Transformer & Metal Co., Inc., Beech St., Islip, N. Y. (h)  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14 Mass. ADV. PG. 358. (h)

Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. (h)  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485. (h)  
 Leonard Electric Products Co., Inc., 67 Thirty-Fourth St., Brooklyn 32, N. Y. (h)  
 Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa. (h)  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif. (h)  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind. (h)  
 Marine View Electronics, Inc., 28 Main St., White Plains, N. Y. (h)  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill. (h)  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass. (h)  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif. (h)  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis. (h)  
 Moran Electronic Components, Inc., 7660 Woodbury Dr., Silver Spring, Md. (h)  
 Muter Co., 1255 S. Michigan Ave., Chicago 5, Ill. (h)  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. (h)  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif. (h)  
**NATIONAL COIL CO.**, P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647. (h)  
 National Co., Inc., 61 Sherman St., Malden 48, Mass. (h)  
**NEW ENGLAND TRANSFORMER CO.**, 47 McGrath Highway, Somerville, Mass. ADV. PG. 676. (h)  
 New York Coil Co., Phoenixville 12, Pa. (h)  
**NORTH HILLS ELECTRIC CO., INC.**, 402 Sagamore Ave., Mineola, N. Y. ADV. PG. 428. (h)  
 Nothelfer Winding Labs, Inc., P. O. Box 455, Trenton, N. J. (h)  
 Oaktron Electric Co., Tinley Park, Ill. (h)  
**POLYPHASE INSTRUMENT CORP.**, East Fourth St., Bridgeport, Pa. ADV. PG. 697. (h)  
 Radio Industries, Inc., 5225 Ravenswood Ave., Chicago 40, Ill. (h)  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J. (h)  
 Ratigan Electronics Inc., 3614 Maple Ave., Los Angeles 11, Calif. (h)  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill. (h)  
**REDMAN ELECTRONICS CORP.**, P. O. Box 72, Thompsonville, Conn. ADV. PG. 522. (h)  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill. (h)  
 Sage-Craft, Inc., Norwich, N. Y. (h)  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass. (h)  
**SIOUX RADIO PRODUCTS**, 100 Douglas Ave., Yankton, S. D. ADV. PG. 538. (h)  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill. (h)  
 Standard Winding Corp., 44-62 Johnes St., Newburgh, N. Y. (h)  
 Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y. (h)  
 Summit Coil Co., 4 Claremont Rd., Bernardsville, N. J. (h)  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739. (h)  
 Tele Coil Co., Inc., 2733 Saunders St., Camden 5, N. J. (h)  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill. (h)  
**TOROTEL, INC.**, 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539. (h)  
**U. S. ELECTRONICS CORP.**, 276 Warren St., Lyndhurst, N. J. ADV. PG. 220. (h)  
 Valor Electronic Components Co., 5808 Marilyn Ave., Culver City, Calif. (h)  
 Vanguard Electronics Co., 3384 Motgr Ave., Los Angeles 34, Calif. (h)  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564. (h)  
 Vokar Corp., 7300 Huron River Dr., Dexter, Mich. (h)  
 Warsaw Coil Co., Warsaw, Ind. (h)  
 Western Coil Products Co., 969 Commercial St., Palo Alto, Calif. (h)  
 Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City 6, Mo. (h)

**TRANSFORMERS—Subsonic**  
 See TRANSFORMERS—Audio (3)

**TRANSFORMERS—TV Deflection**

**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600. (h)  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139. (h)  
**CHICAGO ELECTRONIC ENGINEERING CO.**, 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470. (h)  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521 Addison St., Chicago, Ill. ADV. PG. 466, 467. (h)  
 Cinema-Television Ltd., Worsley Bridge Rd., London S. E. 26, England. (h)  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill. (h)  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio. (h)  
 Gramer-Haldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill. (h)  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill. (h)  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y. (h)

Leonard Electric Products Co., Inc., 67 Thirty Fourth St., Brooklyn 32, N. Y.  
 Litton Industries, Beverly Hills, Calif.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 (h)  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa.  
 (h)  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
 (h)  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis.  
 (h)  
 NATIONAL COIL CO., P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 (h)  
 NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. ADV. PG. 676.  
 (h)  
 Penn Tran Corp., Bellefonte, Pa.  
 RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 (h)  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
 Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Television Laboratories, Inc., Mill St., Wauconda, Ill.  
 Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
 (h)  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y.  
 (h)  
 Todd-Tran Corp., 156 Gramatan Ave., Mt. Vernon, N. Y. Transformer Engineers, 161 E. California St., Pasadena 1, Calif.  
 TRIAD TRANSFORMER CORP., SUB. OF LITTON INDUSTRIES, 4055 Redwood Ave., Venice, Calif. ADV. PG. 242.  
 (h)

### TRANSFORMERS—TV Impedance Matching

ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 (h)  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 Blonder-Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J.  
 CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 (h)  
 Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.  
 (h)  
 CHICAGO ELECTRONIC ENGINEERING CO., 3223 W. Armitage Ave., Chicago 47, Ill. ADV. PG. 470.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London S.E. 26, England.  
 Coilcraft, Inc., Cary, Ill.  
 Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 Dane Electronic Labs., Inc., P. O. Box #209, Salem, Mass.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
 Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago 41, Ill.  
 (h)  
 Ensign Coil Co., 2561 S. Pulaski Rd., Chicago, Ill.  
 Entron Inc., 4902 Lawrence St., Bladenburg, Md.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Lyman Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
 Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.  
 (h)  
 Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa.  
 (h)  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
 (h)  
 MICROTRAN CO., INC., 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 (h)  
 Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis.  
 (h)  
 Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis 14, Mo.  
 NATIONAL COIL CO., P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 (h)  
 NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. ADV. PG. 676.  
 (h)  
 mega Electronics Co., 355 Atlantic Ave., Brooklyn 17, N. Y.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 (h)  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
 Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 Sage-Craft, Inc., Norwich, N. Y.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Standard Winding Corp., 44-62 Johns St., Newburgh, N. Y.  
 TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 (h)  
 Thordarson Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
 (h)

Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y.  
 (h)  
 Utrad, Inc., 305 N. Briant, Huntington, Ind.  
 (h)

### TRANSFORMERS—Toroidal See TOROIDS

### TRANSFORMERS—Ultrasonic

Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J.  
 (h)  
 AIRPAX PRODUCTS CO., Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
 (h)  
 ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
 ATLAS ENGINEERING CO., 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
 (h)  
 Audio Development Co., 2833 13th Ave., S. Minneapolis 7, Minn.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 CELCO, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
 (h)  
 Central Transformer Co., 919 W. Jackson Blvd., Chicago, Ill.  
 (h)  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.  
 (h)  
 Dinion Coil Co., Inc., Caledonia, N. Y.  
 ELECTRO ENGINEERING WORKS, 401 Preda St., San Leandro, Calif. ADV. PG. 512.  
 EPCO PRODUCTS, INC., 2500 Atlantic Ave., Brooklyn 17, N. Y. ADV. PG. 674.  
 (h)  
 FERRANTI ELECTRIC, INC., 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
 (h)  
 FRED TRANSFORMER CO., INC., 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
 (h)  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 Grand Ra-Tronics, Inc., Hey St., Grand Haven, Mich.  
 (h)  
 Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif.  
 (h)  
 INDUSTRIAL TRANSFORMER CORP., Gouldsboro, Pa. ADV. PG. 454, 455.  
 (h)  
 INTERELECTRONICS CORP., 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
 Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.  
 (h)  
 Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Mag-Electric Products, Inc. 12822 Yukon Ave., Hawthorne, Calif.  
 (h)  
 McKenna Laboratories, Santa Monica 6, Calif.  
 MICROTRAN CO., INC., 145 E. Mineola Ave., Valley Stream, N. Y. ADV. PG. 646.  
 (h)  
 Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis.  
 (h)  
 Mystic Transformers, Inc., 63 Swanton St., Winchester, Mass.  
 (h)  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 (h)  
 NATIONAL COIL CO., P. O. Box 1237, Sheridan, Wyo. ADV. PG. 647.  
 (h)  
 NEW ENGLAND TRANSFORMER CO., 47 McGrath Highway, Somerville, Mass. ADV. PG. 676.  
 (h)  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J.  
 Partridge Transformers, Ltd., Roebuck Rd., Tolworth, Surrey, England.  
 (h)  
 Peerless Electric Products Div., Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif.  
 Qutronic Transformer Corp., 525 Broadway, New York 12, N. Y.  
 RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250-251.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
 (h)  
 SIGNAL TRANSFORMER CO., 902 Coney Island Ave., Brooklyn 18, N. Y. ADV. PG. 667.  
 (h)  
 SPELLMAN TELEVISION CO., INC., 3029 Webster Ave., New York 67, N. Y. ADV. PG. 230, 231.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City 1, N. Y.  
 (h)  
 SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 (h)  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
 (h)  
 Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
 (h)  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y.  
 (h)  
 TOROTEL, INC., 11505 Belmont Ave., Hickman Mills, Mo. ADV. PG. 539.  
 (h)  
 TRANSFORMERS, INC., 200 Stage Rd., Vestal, N. Y. ADV. PG. 21-24.  
 (h)  
 Transonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
 (h)  
 UNITED TRANSFORMER CORP., 150 Varick St., New York 13, N. Y. ADV. PG. Second Cover.  
 (h)  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.  
 (h)

### TRANSISTORS

1. Germanium  
 2. Germanium, Power  
 3. Silicon  
 4. Silicon, Power  
 AMPEREX ELECTRONIC CORP., 230 Duffy Ave., Hicksville, N. Y. 1-2. ADV. PG. 290, 291.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J. 3-4.  
 CBS-Hytron Div., Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass. 1-2.

CENTRALAB DIV., GLOBE-UNION, INC., 914Y E Keefe Ave., Milwaukee 1, Wis. 1. ADV. PG. 419.  
 Clevite Transistor Products Div. of Clevite Corp., 241-257 Crescent St., Waltham 54, Mass. 1-2.  
 Delco Radio Division, GM Corp., 700 E. Firmin St., Kokomo, Ind. 2.  
 Fretco, Inc., 406 N. Craig St., Pittsburgh 13, Pa. 1.  
 GENERAL ELECTRIC CO., SEMI-CONDUCTOR PRODUCTS DEPT., Electronics Park, 1224 W. Genessee St., Syracuse, N. Y. 1-3. ADV. PG. 19.  
 General Electric Co., Ltd. of England, 80 Shore Rd., Port Washington, N. Y. 1-2.  
 GENERAL TRANSISTOR CORP., 130-11 90th Ave., Richmond Hill 18, N. Y. 1-2. ADV. PG. 243.  
 HOFFMAN SEMICONDUCTOR DIV. OF HOFFMAN ELECTRONICS CORP., 930 Pitner Ave., Evanston, Ill. 4. ADV. PG. 443.  
 HUGHES PRODUCTS DIV. OF HUGHES AIRCRAFT CO., Los Angeles 45, Calif. 1. 340-343  
 LANSDALE TUBE CO. DIV. OF PHILCO CORP., Church Rd., Lansdale, Pa. 1-2-3. ADV. PG. 51.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind. 2.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn. 1.  
 Minneapolis-Honeywell Regulator Co., Semiconductor Div., 2753 Fourth Ave. S., Minneapolis 8, Minn. 2.  
 MOTOROLA, INC., SEMICONDUCTOR PRODUCTS DIV., 5005 E. McDowell Rd., Phoenix, Ariz. 1-2. ADV. PG. 639.  
 Nucleonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif. 1-2.  
 Qutronic Semi-Conductor Corp., 525 Broadway, New York 12, N. Y. 1-2-3-4.  
 RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. 1. ADV. PG. 453, Third & Fourth Covers.  
 RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. 1. ADV. PG. 453, Third & Fourth Covers.  
 Radio Development & Research Corp., 100 Pennsylvania Ave., Paterson 3, N. J. 1-3-4.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass. 1-2-3-4.  
 RED BANK DIVISION, BENDIX AVIATION CORP., Eatontown, N. J. 2. ADV. PG. 332.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England. 1.  
 SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. 1. ADV. PG. 733-739.  
 TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. 2-4. ADV. PG. 549.  
 TEXAS INSTRUMENTS INCORPORATED, 6000 Lemmon Ave., Dallas 9, Texas. 1-2-3-4. ADV. PG. 280, 281.  
 TRANSITRON ELECTRONIC CORP., 168 Albion St., Wakefield, Mass. 1-2-3-4. ADV. PG. 176, 177.  
 TUNG-SOL ELECTRIC, INC., 95 Eighth Ave., Newark 4, N. J. 1-2. ADV. PG. 361.  
 United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass. 3-4.  
 WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh 30, Pa. 1-2. ADV. PG. 205-216.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira, N. Y. 1-2.

### TRANSMISSION LINES

See CABLE—Coaxial or MICROWAVE ACCESSORIES—Waveguides

### TRANSmitters—Aircraft

Aeronautical Communications Equipment, Inc., S. W. 37th Ave., Miami 33, Fla.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
 AIRCRAFT RADIO CORP., Boonton, N. J. ADV. PG. 495.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Bendix Radio Division, Bendix Aviation Corp., Baltimore, 4, Md.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 FEDERAL TELEPHONE & RADIO CO., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Gosnet Co., 801 S. Main St., Burbank, Calif.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
 Kahn Research Labs., Elizabeth Bldg., 22 Pine St., Freeport, N. Y.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Mitchell Industries, Inc., P. O. Box 17, Mineral Wells, Texas.  
 National Aeronautical Corp., Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.  
 Navigation Electronics Corp., 11616 Hart St., North Hollywood, Calif.  
 Parsons Co., Ralph M., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.  
 Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
 SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York, N. Y. ADV. PG. 733-739.



Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

### TRANSMITTERS—Amateur

American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.  
 Gosnet Co., 801 S. Main St., Burbank, Calif.  
 Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
 Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.  
**HEATH CO., A SUB. OF DAYSTROM, INC.**, Benton Harbor 14, Mich. ADV. PG. 575.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Johnson Co., E. F., Waseca, Minn.  
 Lettine Radio Mfg. Co., 62 Berkeley St., Valley Stream, N. Y.  
 Lymnar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
 Mohawk Electronic Research Labs, Inc., Box 126-A, RD 4, Amsterdam, N. Y.  
 Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.  
 Multi-Products Co., 21470 Coolidge Hwy., Oak Park, Mich.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
 Technical Materiel Corp., P.O. Box 142, Mamaroneck, N. Y.  
 Valley Engineering Co., P.O. Box 2, Los Alamos, N. M.  
 World Radio Laboratories, 3415 W. Broadway, Council Bluffs, Iowa.

### TRANSMITTERS—Broadcast

Collins Radio Co., Cedar Rapids, Iowa.  
 Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas 27, Texas.  
 Gates Radio Co., Quincy, Ill.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 Kahn Research Labs., Elizabeth Bldg., 22 Pine St., Freeport, N. Y.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Q. R. K. Electronic Products, 445 N. Circle Drive, Fresno 4, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**SARKES TARZIAN, INC., RECTIFIER DIV.**, 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.

### TRANSMITTERS—Color Television

Adler Electronics, Inc., 1 Lefevre Lane, New Rochelle, N. Y.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 Philco Corp., Government & Industrial Div., 4700 Wissahickon Ave., Philadelphia 44, Pa.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**SARKES TARZIAN, INC., RECTIFIER DIV.**, 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

### TRANSMITTERS—Direction Finding

Aeronautical Communications Equipment, Inc., S. W. 37th Ave., Miami 33, Fla.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Collins Radio Co., Cedar Rapids, Iowa.  
**FEDERAL TELEPHONE & RADIO CO.**, 68 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.

**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.

### TRANSMITTERS—f-m

Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
**CUBIC CORP.**, 5575 Kearney Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
 Gates Radio Co., Quincy, Ill.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Marconi's Wireless Telegraph Co., Ltd., 13/26 Beaver St., New York 4, N. Y.  
 National Electronics Laboratories, Inc., 1713 Kalorama Rd., N. W., Washington 9, D. C.  
 Parsons Co., Ralph M., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.  
 Pye Telecommunications, Ltd., Newmarket Rd., Cambridge, England.  
 Q. R. K. Electronic Products, 445 N. Circle Drive, Fresno 4, Calif.  
 Radiation Inc., Melbourne, Fla.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO ENGINEERING LABS., INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.  
 Telemetering Associates, 6419 Indigo St., Houston, Texas.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

### TRANSMITTERS—Facsimile

Acme Electronix Div. of NEA Service, Inc., West Third & Lakeside, Cleveland 13, Ohio.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**ALDEN ELECTRONIC & IMPULSE RECORDING EQUIPMENT CO.**, Box 125, Westboro, Mass. ADV. PG. 566.  
 Alden Systems, Inc., Alden-Research Center, Westboro, Mass.  
 Canadian Marconi Co., 2442 Trenton Aves., Montreal 16, Quebec.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 L & O Research & Development Corp., 134 N. Wayne Ave., Wayne, Pa.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
**TIMES FACSIMILE CORP.**, 540 W. 58th St., New York 19, N. Y. ADV. PG. 468.

### TRANSMITTERS—Fixed Frequency

Aeronautical Communications Equipment, Inc., S. W. 37th Ave., Miami 33, Fla.  
 Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Babcock Radio Engineering Co., P. O. Box 3097, Van Nuys, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Ill.  
 Dollar Co., Robert, Communications Equipment Div., 50 Drumm St., San Francisco 11, Calif.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Gates Radio Co., Quincy, Ill.  
 Gyro Electronics Co., 325 Canal St., New York, N. Y.  
 Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.

Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Lymnar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.  
 Motorola Communications & Electronics, Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
 Parsons Co., Ralph M., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.  
 Pye Telecommunications, Ltd., Newmarket Rd., Cambridge, England.  
**RADIO ENGINEERING LABS., INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
 Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.  
 Stromberg-Carlson Co. Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
 Telectron Co., The, Bldg. #9, Broward County International Airport, Fort Lauderdale, Fla.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.  
 West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

### TRANSMITTERS—Fixed Station Communication

Aeronautical Communications Equipment, Inc., S. W. 37th Ave., Miami 33, Fla.  
 Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
 Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Rosedale Aves., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.  
 Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Ill.  
 Dollar Co., Robert, Communications Equipment Div., 50 Drumm St., San Francisco 11, Calif.  
 Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
 Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
 Gates Radio Co., Quincy, Ill.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
 Kahn Research Labs., Elizabeth Bldg., 22 Pine St., Freeport, N. Y.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Lettine Radio Mfg. Co., 62 Berkeley St., Valley Stream, N. Y.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Motorola Communications & Electronics, Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
**MULLARD OVERSEAS, LTD., EQUIPMENT DIV.**, Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.  
 Multi-Products Co., 21470 Coolidge Highway, Oak Park, Mich.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO ENGINEERING LABS., INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C. 2, England.  
 Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.  
 Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

## TRANSMITTERS—Loran

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
FEDERAL TELEPHONE & RADIO CO., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Sperry Gyroscope Co., Div of Sperry Rand Corp., Great Neck, N. Y.

## TRANSMITTERS—Marine

Applied Electronics Co., Inc., 213 E. Grand Ave., South San Francisco, Calif.  
Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
Collins Radio Co., Cedar Rapids, Iowa.  
Gray Radio Co., Inc., 501 Forest Hill Blvd., West Palm Beach, Fla.  
Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7, Calif.  
Hudson American Corp., 25 W. 43rd St., New York 36, N. Y.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
Jefferson, Inc., Ray, 40 E. Merrick Rd., Freeport, N. Y.  
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
Navigation Electronics Corp., 11616 Hart St., North Hollywood, Calif.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
Pearce-Simpson, Inc., 3023 Coral Way, Miami 34, Fla.  
Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
Sonar Radio Corp., 3050 W. 21st St., Brooklyn 24, N. Y.  
Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.

## TRANSMITTERS—Microwave

See MICROWAVE ACCESSORIES

## TRANSMITTERS—Multiplex

BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
Collins Radio Co., Cedar Rapids, Iowa.  
Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
Sates Radio Co., Quincy, Ill.  
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
National Electronics Laboratories, Inc., 1713 Kalorama Rd., N.W., Washington 9, D. C.  
Standard Telephones & Cables, Ltd. Connaught House, 63 Aldwych, London, W.C. 2, England.

## TRANSMITTERS—Portable and Mobile Radio-Telephone

Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
AIRCRAFT RADIO CORP., Boonton, N. J. ADV. PG. 495.  
Applied Electronics Co., Inc., 213 E. Grand Ave., South San Francisco, Calif.  
Avia Products Co., 7266 Beverly Rd., Los Angeles 36, Calif.  
Avionex Electronics Corp., 19855 Vanowen, North Hollywood, Calif.  
Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.  
Collins Radio Co., Cedar Rapids, Iowa.  
Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.  
Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.  
Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.

Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.  
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.  
Motorola Communications & Electronics, Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
MULLARD OVERSEAS LTD., EQUIPMENT DIV., Century House, Shaftesbury Ave., London, W. C. 2, England. ADV. PG. 560.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
VARO MFG. CO., INC., 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

## TRANSMITTERS—Pulse Time Modulation

AIRCORP INC., 354 Main St., Winthrop 52, Mass. ADV. PG. 652.  
Bristol Co., The, P. O. Box 1790 FBG, Waterbury 20, Conn.  
Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
Parsons Co., Ralph M., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.  
Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

## TRANSMITTERS—Radar

AIRBORNE INSTRUMENTS LABS., INC., 160 Old Country Rd., Mineola, N. Y. ADV. PG. 253.  
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
CUBIC CORP., 5575 Kearny Villa Rd., San Diego 11, Calif. ADV. PG. 380, 381.  
Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio.  
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
Kelvin & Hughes Ltd., New North Rd., Barkingside, Essex, England.  
LABORATORY FOR ELECTRONICS, INC., 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
LAVOIE LABORATORIES, INC., Morganville, N. J. ADV. PG. 485.  
Levinthal Electronic Products, Inc., 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.  
Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
RAYTHEON MFG. CO., EQUIPMENT MARKETING DEPT., 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
Standard Telephones & Cables, Ltd., Connaught House 63 Aldwych, London, W.C.2, England.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Telephonics Corp., Park Ave., Huntington, N. Y.

TEXAS INSTRUMENTS INCORPORATED., 6000 Lemmon Ave., Dallas 9, Texas. ADV. PG. 280, 281.  
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

## TRANSMITTERS—Radio Range

Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.  
Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
FEDERAL TELEPHONE & RADIO CO., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
Maryland Electronic Mfg. Corp., College Park, Md.  
Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
Stromberg-Carlson Co. Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

## TRANSMITTERS—Railroad

Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md.  
Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
INTERNATIONAL TELEPHONE & TELEGRAPH CORP., INDUSTRIAL PRODUCTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
Motorola Communications & Electronics, Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

## TRANSMITTERS—Single Side Band

Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
CLEGG LABORATORIES DIV. OF CLEGG, INC., Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
Collins Radio Co., Cedar Rapids, Iowa.  
Crosby Labs., Inc., Box 233, Robbins Lane, Hicksville, N. Y.  
Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.  
FEDERAL TELEPHONE & RADIO CO., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
General Electric Co., Technical Products, Electronics Park, Syracuse, N. Y.  
Hallicrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.  
Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
INSTANT CIRCUITS DIV. OF ALFRED W. BARBER LABS., 32-44 Francis Lewis Blvd., Flushing, N. Y. ADV. PG. 660.  
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
Johnson Co., E. F. Waseca, Minn.  
Kahn Research Labs., Elizabeth Bldg., 22 Pine St., Freeport, N. Y.  
Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.  
Marconi's Wireless Telegraph Co., Ltd., 23-25 Beaver St., New York 4, N. Y.  
Mohawk Electronic Research Labs., Inc., Box 126-A RD 4, Amsterdam, N. Y.  
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
Sorensen Industrial Electronic Co., Route 10, Dover, N. J.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
Technical Materiel Corp., P. O. Box 142, Mamaroneck, N. Y.  
TELECHROME MFG. CORP., 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
Telephonics Corp., Park Ave., Huntington, N. Y.  
Westrex Corp., 111 Eighth Ave., New York 11, N. Y.  
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

## TRANSMITTERS—Television

Adler Electronics, Inc., 1 Lefevre Lane, New Rochelle, N. Y.  
DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
Electronics Development Co., Inc., 3743 N. Cahuenga Blvd., North Hollywood, Calif.  
Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
Gates Radio Co., Quincy, Ill.  
General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.

Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 Marconi's Wireless Telegraph Co., Ltd., 23-25 Beaver St., New York 4, N. Y.  
 Philco Corp., Government & Industrial Div., 4700 Wissahickon Ave., Philadelphia 44, Pa.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**SARKES TARZIAN, INC., RECTIFIER DIV.**, 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.

**TRANSMITTERS—uhf**

Adler Electronics, Inc., 1 Lefevre Lane, New Rochelle, N. Y.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
 Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.  
 Babcock Radio Engineering Co., P. O. Box 3097, Van Nuys, Calif.  
 Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.  
 Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas 27, Texas.  
 Erco Radio Labs, Inc., 637 Stewart Ave., Garden City, N. Y.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Gonset Co., 801 S. Main St., Burbank, Calif.  
 Gyro Electronics Co., 325 Canal St., New York, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 Levintal Electronic Products, Inc., 3180 Hanover St., Stamford Industrial Park, Palo Alto, Calif.  
 Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Motorola Communications & Electronics Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO ENGINEERING LABS., INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
**SARKES TARZIAN, INC., RECTIFIER DIV.**, 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
**SIERRA ELECTRONIC CORP.**, 3885 Bohannon Drive, Menlo Park, Calif. ADV. PG. 56, 57.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**TRANSMITTERS—vhf**

Adler Electronics, Inc., 1 Lefevre Lane, New Rochelle, N. Y.  
 Aeronautical Communications Equipment, Inc., S. W. 37th Ave., Miami 33, Fla.  
 Aeronautical Electronics, Inc., Raleigh-Durham Airport, P. O. Box 6527, Raleigh, N. C.  
 Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.  
**AIRCRAFT RADIO CORP.**, Boonton, N. J. ADV. PG. 495.  
 Avia Products Co., 7266 Beverly Rd., Los Angeles 36, Calif.  
 Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md.  
 Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.

Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.  
 Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
 Collins Radio Co., Cedar Rapids, Iowa.  
 Communications Co., 300 Greco Ave., Coral Gables 34, Fla.  
 Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.  
 Cossor (Canada), Ltd., 301-303 Windsor St., Halifax, N. S., Canada.  
 Dollar Co., Robert, Communications Equipment Div., 50 Drumm St., San Francisco 11, Calif.  
 Erco Radio Labs, Inc., 637 Stewart Ave., Garden City, N. Y.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Gates Radio Co., Quincy, Ill.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 Gonset Co., 801 S. Main St., Burbank, Calif.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Johnson Co., E. F., Waseca, Minn.  
 Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Lettine Radio Mfg. Co., 62 Berkley St., Valley Stream, N. Y.  
 Mack Electronics, A Div. of Mack Trucks, Inc., Plainfield, N. J.  
 Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
 Mitchell Industries, Inc., P. O. Box 17, Mineral Wells, Texas.  
 Molhawk Electronic Research Labs., Inc., Box 126-A, RD 4, Amsterdam, N. Y.  
 Motorola Communications & Electronics, Inc., 4501 W. Augusta Blvd., Chicago 51, Ill.  
 National Aeronautical Corp., Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.  
 National Electronics Laboratories, Inc., 1713 Kalorama Rd., N. W., Washington 9, D. C.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO ENGINEERING LABS., INC.**, 36-40 37th St., Long Island City 1, N. Y. ADV. PG. 107.  
**SARKES TARZIAN, INC., RECTIFIER DIV.**, 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W.C.2, England.  
 Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York N. Y. ADV. PG. 733-739.  
**TELECHROME MFG. CORP.**, 28 Ranick Drive, Amityville, N. Y. ADV. PG. 417.  
 Telectron Co., The, Bldg. #9, Broward County International Airport, Fort Lauderdale, Fla.  
 Telemetering Associates, 6419 Indigo St., Houston, Texas.  
 Telephonics Corp., Park Ave., Huntington, N. Y.  
**VARO MFG. CO., INC.**, 2201 Walnut St., Garland, Texas. ADV. PG. 564.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Missouri.  
 Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.

**TRANSMITTERS—vhf Omni Range**

Collins Radio Co., Cedar Rapids, Iowa.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
**LAVOIE LABORATORIES, INC.**, Morganville, N. J. ADV. PG. 485.  
 Maryland Electronics Mfg. Corp., College Park, Md.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

**TRAPS—Wave**

Admittance-Namco Corp., Farmingdale, N. Y.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
**CLEGG LABORATORIES DIV. OF CLEGG, INC.**, Hanover & Ridgedale Aves., Morristown, N. J. ADV. PG. 632.  
**JERROLD ELECTRONICS CORP.**, 23rd & Chestnut Sts., Philadelphia 3, Pa. ADV. PG. 574.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
 Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.

Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
 Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis 14, Mo.  
 Sage-Craft, Inc., Norwich, N. Y.  
**SPENCER-KENNEDY LABS., INC.**, 1318 Soldiers Field Rd., Boston 35, Mass. ADV. PG. 304.  
 Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.

**TREATING—Fungus & Moisture Proof**

Electronic Service Corp., 2904 Birch St., Franklin Park, Ill.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.  
**ZOPHAR MILLS, INC.**, 115 26th St., Brooklyn 32, N. Y. ADV. PG. 614.

**TRIMMERS—Capacitors  
See CAPACITORS**

**TUBE COOLING UNITS  
See also BLOWERS**

**AMERICAN BLOWER DIV. OF AMERICAN STANDARD**, Detroit 32, Mich. ADV. PG. 352, 353.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
**DYNAMIC AIR ENGINEERING, INC.**, 7412 Maie Ave., Los Angeles 1, Calif. ADV. PG. 686.  
**EASTERN INDUSTRIES, INC.**, 100 Skiff St., Hampden, Conn. ADV. PG. 612.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.

**TUBE PARTS**

**Anodes, Carbon**  
 Helwig Co., 2544 N. 30th St., Milwaukee 10, Wis.  
 National Carbon Co., Division of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

**Anodes, Gold**  
 American Platinum Works, N.J.R.R. Ave. at Oliver St., Newark 5, N. J.  
 Bishop & Co., J., Platinum Works, Malvern, Pa.  
 Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
**GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV.**, Attleboro, Mass. ADV. PG. 327.  
 Goldsmith Bros. Smelting & Refining Co., 111 N. Wash Ave., Chicago 2, Ill.  
**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
**LACEY BROTHERS ETCHED CIRCUITS**, 117 S. Lombard, Oak Park, Ill. ADV. PG. 588.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

**Anodes, Graphite**

National Carbon Co., Division of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

**Anodes, Metal**

**ART WIRE & STAMPING CO.**, 227 High St., Newark 2, N. J. ADV. PG. 62.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
 Goat Co., Inc., Fred 308 Dean St., Brooklyn 17, N. Y.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP.**, Components Div., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**JOHNSON & HOFFMAN MFG. CORP.**, 31 E. Second St., Mineola, N. J. ADV. PG. 86, 87.  
**PIX MFG. CO., INC.**, 81A Hudson St., Newark, N. J. ADV. PG. 670.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
**SUPERIOR TUBE CO.**, 2504 Germantown Pike, Norristown, Pa. ADV. PG. 84, 85.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
**VOLKERT STAMPINGS, INC.**, 222-34 96th Ave., Queens Village 8, N. Y. ADV. PG. 103.

**Anodes, Silver**

American Platinum Works, N.J.R.R. Ave. at Oliver St., Newark 5, N. J.  
 Bishop & Co., J., Platinum Works, Malvern, Pa.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.

Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.  
**GENERAL FINDINGS & SUPPLY CO., INDUSTRIAL DIV.**, Attleboro, Mass. ADV. PG. 327.  
 Goldsmith Bros. Smelting & Refining Co., 111 N. Wash Ave., Chicago 2, Ill.  
**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
 Standard Metals Corp., Broad & Whiting Sts., North Attleboro, Mass.  
 Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.

### Base Pins

American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
**ART WIRE & STAMPING CO.**, 227 High St., Newark 2, N. J. ADV. PG. 62.  
**BEAD CHAIN MFG. CO.**, 110 Mountain Grove St., Bridgeport 5, Conn. ADV. PG. 615.  
**ENGINEERING CO.**, 27 Wright St., Newark, N. J. ADV. PG. 609.  
 Stone City Machine & Tool Co., Inc., P.O. Box 351, 1206 Seventh St., Bedford, Ind.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**VOLKERT STAMPINGS, INC.**, 222-34 96th Ave., Queens Village, N. Y. ADV. PG. 103.

### Bases

**ALDEN PRODUCTS CO.**, 112 N. Main St., Brockton 64, Mass. ADV. PG. 567.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
 British Electronics Sales Co., Inc., Oakland Garden Station, Flushing 64, N. Y.  
**CENTRALAB DIV., GLOBE-UNION INC.**, 914Y E. Keefe Ave., Milwaukee 1, Wis. ADV. PG. 419.  
**CINCH MFG. CORP.**, 1026 S. Homan Ave., Chicago 24, Ill. ADV. PG. 131-133.  
 Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N. W., Canton, Ohio.  
**Enfo Corp.**, Route 38 at Airport Circle, Pensauken, N. J.  
**ENGINEERING CO.**, 27 Wright St., Newark, N. J. ADV. PG. 609.  
 Faber Mfg. Co., Merle, 35 Stillman St., San Francisco 7, Calif.  
 Isolantite Manufacturing Corp., Stirling, N. J.  
**MYCALEX CORP. OF AMERICA**, 125 Clifton Blvd., Clifton, N. J. ADV. PG. 140, 141.  
 Owens-Illinois, Closure & Plastics Div., P. O. Box 1035, Toledo 1, Ohio.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**ROSS METALS CO., MILTON**, 505 Davisville Rd., Davisville, Pa. ADV. PG. 643.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Thomas & Sons, Inc., William, Slocum Ave., Ridgefield, N. J.

### Bulbs & Envelopes

**AMERICAN FELDMUEHLE CORP.**, 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Ceramaseal Co., The, Box 25, New Lebanon Center, N. Y.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
 Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N. W., Canton, Ohio.  
**HAMILTON ELECTRONICS CORP.**, Box 100, Bath, N. Y. ADV. PG. 507.  
 Lancaster Glass Corp., Lancaster, Ohio.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
**SCIENTIFIC ELECTRONIC LABS, INC.**, 866 Bergen St., Newark 8, N. J. ADV. PG. 670.  
 U. S. Stoneware Co., Akron 9, Ohio.  
**WESTERN GOLD & PLATINUM CO.**, 525 Harbor Blvd., Belmont, Calif. ADV. PG. 593.

### Button Stems

Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N. W., Canton, Ohio.  
 Faber Mfg. Co., Merle, 35 Stillman St., San Francisco 7, Calif.  
**SCIENTIFIC ELECTRONIC LABS, INC.**, 866 Bergen St., Newark 8, N. J. ADV. PG. 670.

### Caps

Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N. W., Canton, Ohio.  
**ENGINEERING CO.**, 27 Wright St., Newark, N. J. ADV. PG. 609.  
 Faber Mfg. Co., Merle, 35 Stillman St., San Francisco 7, Calif.  
 Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.

**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**VOLKERT STAMPINGS, INC.**, 222-34 96th Ave., Queens Village 8, N. Y. ADV. PG. 103.  
 Warren Plastics Corp., Warren, Pa.

### Cathode Ray Tube Powders

Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
 General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
 Jonas Co., F., 55 W. 42nd St., New York 36, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**U. S. RADIUM CORP.**, Hanover & Horse Hill Rd., Morristown, N. J. ADV. PG. 639.

### Cathode Ray Tube Side Contacts

Braun Tool & Instrument Co., Inc., H., 140 Fifth Ave., Hawthorne, N. J.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
**VOLKERT STAMPINGS, INC.**, 222-34 96th Ave., Queens Village 8, N. Y. ADV. PG. 103.

### Cathodes, Sleeves, Discs and Tubes

**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Dianonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N.W., Canton, Ohio.  
 Faber Mfg. Co., Merle, 35 Stillman St., San Francisco 7, Calif.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
**GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT.**, W. Genesee St., Auburn, N. Y. ADV. PG. 18.  
**JOHNSON & HOFFMAN MFG. CORP.**, 31 W. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
 Kleiner Metal Specialties, Inc., P. O. Box K, Dunellen, N. J.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
**SUPERIOR TUBE CO.**, 2504 Germantown Pike, Norristown, Pa. ADV. PG. 84, 85.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

### Conductive Paints

See **PAINTS—Conductive**

### Filament Wire

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**ENGINEERING CO.**, 27 Wright St., Newark, N. J. ADV. PG. 609.  
 General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
 Micro-Wire Stranding Co., 252 Chestnut St., P. O. Box 514, Passaic, N. J.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
 Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Techalloy Co., Inc., Rahns, Pa.

### Getters

**BRIGGS ASSOCIATES, INC.**, 10 Dekalb St., Norristown, Pa. ADV. PG. 286.  
 Faber Mfg. Co., Merle, 35 Stillman St., San Francisco 7, Calif.  
 Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
 King Laboratories Inc., 127 Solar St., Syracuse 3, N. Y.  
**NEW HERMES ENGRAVING MACHINE CO.**, 13-19 University Place, New York 3, N. Y. ADV. PG. 687.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
**VOLKERT STAMPINGS, INC.**, 222-34 96th Ave., Queens Village, N. Y. ADV. PG. 103.

### Grids and Supports

**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.

**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**ENGINEERING CO.**, 27 Wright St., Newark, N. J. ADV. PG. 609.  
 Faber Mfg. Co., Merle, 35 Stillman St., San Francisco 7, Calif.  
**GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT.**, W. Genesee St., Auburn, N. Y. ADV. PG. 18.  
 Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
 Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.  
**JOHNSON & HOFFMAN MFG. CORP.**, 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
**METAL TEXTILE CORP.**, 647 E. First Ave., Roselle, N. J. ADV. PG. 450.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
**VOLKERT STAMPINGS, INC.**, 222-34 96th Ave., Queens Village 8, N. Y. ADV. PG. 103.

### Grid Wire

Alloy Metal Wire Div. of H. K. Porter Co., Prospect Park, Pa.  
 Buckbee Mears Co., Toni Bldg., St. Paul 1, Minn.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
**EITEL-McCULLOUGH, INC.**, San Bruno, Calif. ADV. PG. 128, 129.  
 General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
 Murex Ltd., Rainham, Essex, England.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
 Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Techalloy Co., Inc., Rahns, Pa.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

### Heat Radiators

Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Faber Mfg. Co., Merle, 35 Stillman St., San Francisco 7, Calif.  
**GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT.**, W. Genesee St., Auburn, N. Y. ADV. PG. 18.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

### Metal Supports

**ART WIRE & STAMPING CO.**, 227 High St., Newark 2, N. J. ADV. PG. 62.  
 Bigelow Mfg. Corp., 225 W. Bigelow St., Newark 8, N. J.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
**ENGINEERING CO.**, 27 Wright St., Newark, N. J. ADV. PG. 609.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
**GENERAL ELECTRIC CO., SPECIALTY ELECTRONIC COMPONENTS DEPT.**, W. Genesee St., Auburn, N. Y. ADV. PG. 18.  
 Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
**JOHNSON & HOFFMAN MFG. CORP.**, 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
 King Laboratories, Inc., 127 Solar St., Syracuse 3, N. Y.  
 Haydu Electronics Products, Inc., 1426 W. Front St., Plainfield, N. J.  
**PIX MFG. CO., INC.**, 81A Hudson St., Newark, N. J. ADV. PG. 670.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bayshore, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Thomas & Sons, Inc., William, Slocum Ave., Ridgefield, N. J.  
 Titchener & Co., E. H., 67 Clinton St., Binghamton, N. Y.  
**VOLKERT STAMPINGS, INC.**, 222-34 96th Ave., Queens Village 8, N. Y. ADV. PG. 103.

### Mica Supports

Asheville-Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Ford Radio & Mica Corp., 538 63rd St., Brooklyn 20, N. Y.  
 Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.  
 Micacraft Products Inc., 703 McCarter Highway, Newark 5, N. J.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.

**Tube Seal Leads**

ART WIRE & STAMPING CO., 227 High St., Newark 2, N. J. ADV. PG. 62.  
Associated Engineering & Mfg. Corp., Glen Ridge, N. J. Bigelow Mfg. Corp., 225 W. Bigelow St., Newark 8, N. J.  
Ceramaeal, Inc., Box 25, New Lebanon Center, N. Y.  
ELECTRONIC PARTS MFG. CO., INC., 508 25th St., Union City, N. Y. ADV. PG. 536.  
ENGINEERING CO., 27 Wright St., Newark, N. J. ADV. PG. 609.  
Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
General Electric Co., Lamp Div., Lamp Leads & Bases Dept., 17825 St. Clair Ave., Cleveland 12, Ohio.  
HAMILTON ELECTRONICS CORP., Box 100, Bath, N. Y. ADV. PG. 507.  
Quality Products Co., 387 Charles St., Providence, R. I.  
Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
SCIENTIFIC ELECTRONIC LABS, INC., 866 Bergen St., Newark 8, N. J. ADV. PG. 670.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

**Water Jackets**

INTERNATIONAL TELEPHONE & TELEGRAPH CORP., COMPONENTS DIV., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
MACHLETT LABORATORIES, INC., Springdale, Conn. ADV. PG. 469.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.

**Wire Parts**

Alloy Metal Wire Div. of H. K. Porter Co., Prospect Park, Pa.  
ART WIRE STAMPING CO., 227 High St., Newark 2, N. J. ADV. PG. 62.  
Bigelow Mfg. Corp., 225 W. Bigelow St., Newark 8, N. J.  
Haydu Electronic Products, Inc., 46 W. Front St., Plainfield, N. J.  
JOHNSON & HOFFMAN MFG. CORP., 31 E. Second St., Mineola, N. Y. ADV. PG. 86, 87.  
King Laboratories, Inc., 127 Solar St., Syracuse 3, N. Y.  
Newcomb Spring Corp., The, 177 E. Hawthorne Ave., Valley Stream, N. Y.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. Y. ADV. PG. 453, Third & Fourth Covers.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

**TUBES—Backward Wave**

Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.  
GEISLER LABORATORIES, P. O. Box 252, Menlo Park, Calif. ADV. PG. 591.  
HUGGINS LABORATORIES, 711 Hamilton Ave., Menlo Park, Calif. ADV. PG. 320, 321.  
RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS, Waltham 54, Mass. ADV. PG. 249.  
Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
STEWART ENGINEERING CO., Box 277, Soquel, Calif. ADV. PG. 668, 669.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway 19, N. Y. ADV. PG. 733-739.  
VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.

**TUBES—Ballast**

AMPERITE CO., INC., 561 Broadway, New York 12, N. Y. ADV. PG. 229.  
CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC., 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
CLAROSTAT MFG. CO., INC., Dover, N. H. ADV. PG. 288, 289.  
ELECTRONIC ENTERPRISES, INC., 65 Seventh Ave., Newark 4, N. J. ADV. PG. 613.  
GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
JFD MFG. CO., INC., 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
KIP ELECTRONICS CORP., 29 Holly Place, P. O. Box 526, Stamford Conn. ADV. PG. 666.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
VICTOREEN INSTRUMENT CO., COMPONENTS DIV., 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.

**TUBES—Battery Charger**

CONTINENTAL ELECTRIC CO., 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
GENERAL ELECTRIC CO., APPARATUS SALES DIV., 1 River Rd., Schenectady 5, N. Y. ADV. PG. 1-12.  
Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J.  
TAYLOR TUBES, INC., 6 N. Michigan Ave., Chicago 12, Ill. ADV. PG. 496.  
TECHNICAL APPARATUS BUILDERS, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.

**TUBES—Beam Deflection**

See TUBES—Counter Beam

**TUBES—Bolometer**

F-R MACHINE WORKS, INC., 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
KIP ELECTRONICS CORP., 29 Holly Place, P. O. Box 526, Stamford, Conn. ADV. PG. 666.  
NARDA CORP., 160 Herricks Rd., Mineola N. Y. ADV. PG. 184.  
Nuclear Corp. of America, 350 Fifth Ave., New York 1, N. Y.  
Nucleonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
VICTOREEN INSTRUMENT CO., COMPONENTS DIV., 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.

**TUBES—Cathode Ray, Instrument Use**

Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
CBS-Hytron, A Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
DuMont Laboratories, Inc., Allen B. 760 Bloomfield Ave., Clifton, N. J.  
Edgerton, Gernshausen & Grier, Inc., 160 Brookline Ave., Boston, Mass.  
Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
FERRANTI ELECTRIC, INC., 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
HUGHES PRODUCTS DIVISION, HUGHES AIRCRAFT CO., Los Angeles 45, Calif. ADV. PG. 340-343.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
Litton Industries, Beverly Hills, Calif.  
RADIO CORPORATION OF AMERICA, ENGINEERING PRODUCTS DIV., Camden N. J. ADV. PG. 453, Third & Fourth Covers.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
Stromberg-Carlson Co., Div of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Twentieth Century Electronics, Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
Vacuum Tube Products, 506 S. Cleveland St., Oceanside, Calif.  
WATERMAN PRODUCTS CO., INC., 2445-63 Emerald St., Philadelphia 25, Pa. ADV. PG. 172, 173.  
Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUBES—Cathode Ray, Multiple Gun**

Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
DuMont Laboratories, Inc., Allen B., 760 Bloomfield Ave., Clifton, N. J.  
Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
LANSDALE TUBE CO. DIV. OF PHILCO CORP., Church Rd. Lansdale, Pa. ADV. PG. 51.  
MacKay Research Labs., R.R. #2, P. O. Box 401, McHenry, Ill.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden N. J. ADV. PG. 453, Third & Fourth Covers.  
Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
Twentieth Century Electronics, Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
Vacuum Tube Products, 506 S. Cleveland St., Oceanside, Calif.  
Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUBES—Cathode Ray, Studio or Theatre**

Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
MacKay Research Lab., R. R. #2, P. O. Box 401, McHenry, Ill.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.

RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
SYLVANIA ELECTRIC PRODUCTS INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Twentieth Century Electronics Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
Westinghouse Electric Corp., Electronic Tube Div., P. O. 284, Elmira 1, N. Y.

**TUBES—Cathode Ray, Television Picture**

CBS-Hytron, a Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
LANSDALE TUBE CO., DIV. OF PHILCO CORP., Church Rd., Lansdale, Pa. ADV. PG. 51.  
Litton Industries, Beverly Hills, Calif.  
National Television Tube, Inc., Route 46, Saddle Brook, N. J.  
National Video Corp., 4300 W. 47th St., Chicago 32, Ill.  
Pioneer Electronics Corp., 2235 South Carmelina, West Los Angeles 65, Calif.  
RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV., 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
Rauland Corp., The, 4245 N. Knox Ave., Chicago 41, Ill.  
Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
SYLVANIA ELECTRIC PRODUCTS, INC., 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
Thomas Electronics, Inc., 118 Ninth St., Passaic, N. J.  
TUNG-SOL ELECTRIC INC., 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.  
Vega Electronics Corp., 1921 Pontius Ave., Los Angeles 25, Calif.  
Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUBES—Counter Beam**

BURROUGHS CORP., ELECTRONIC TUBE DIV., P.O. Box 1226, Plainfield, N. J. ADV. PG. 379.  
DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.

**TUBES—Electrometer**

Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
FERRANTI ELECTRIC, INC., 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
GENERAL ELECTRIC CO., TUBE SALES, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
VICTOREEN INSTRUMENT CO., COMPONENTS DIV., 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.

**TUBES—Geiger Mueller**

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
AMERICAN TRADAIR CORP., SUB. OF EKCO ELECTRONICS, LTD., 34-01 30th St., Long Island City 6, N. Y. ADV. PG. 693.  
AMPEREX ELECTRONIC CORP., 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
ANTON ELECTRONIC LABS, INC., 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
BAIRD-ATOMIC, INC., 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
Diamond Power Specialty Corp., Electronics Dept., Lancaster, Ohio.  
Cyclotron Specialties Co., Moraga 8, Calif.  
Electronic Products Co., 111 E. 3rd St., Mt. Vernon, N. Y.  
Glass Engineering Laboratories, 601 O'Neil Ave., Belmont, Calif.  
International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
Landsverk Electrometer Co., 550 W. Garfield Ave., Glendale 4, Calif.  
Nuclear-Chicago Corp., 223 W. Erie St., Chicago 10, Ill.  
Nuclear Development Lab., Box 7034, Kansas City, Mo.  
Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
Nucleonic Company of America, 196 DeGraw St., Brooklyn 31, N. Y.  
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.  
Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.  
Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.

Twentieth Century Electronics, Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.  
 Western Radiation Lab., 1107 W. 24th St., Los Angeles 7, Calif.  
 Wood Counter Laboratory, N., 5491 Blackstone, Chicago 37, Ill.

### TUBES—Glow or Discharge

**AEROLUX LIGHTS CORP.**, 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
**Amglo Corp.**, 4333 N. Ravenswood Ave., Chicago 13, Ill.  
**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**BAIRD-ATOMIC, INC.**, 33 University Rd., Cambridge 38, Mass. ADV. PG. 537.  
**British Electronics Sales Co., Inc.**, Oakland Garden Station, Flushing 64, N. Y.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
**DuMont Laboratories, Inc.**, Allen B., 760 Bloomfield Ave., Clifton, N. J.  
**Electronic Products Co.**, 11 E. Third St., Mt. Vernon, N. Y.  
**Elesta Ltd.**, Bad Ragaz, Switzerland.  
**FERRANTI ELECTRIC, INC.**, 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**Industrial Electronic Controls Co.**, 2271 E. 14th St., Brooklyn 29, N. Y.  
**International Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**Kemlite Laboratories**, 1819 W. Grand Ave., Chicago 22, Ill.  
**KIP ELECTRONICS CORP.**, 29 Holly Place, P. O. Box 526, Stamford, Conn. ADV. PG. 666.  
**National Union Electric Corp.**, Electronics Div., Bloomington, Ill.  
**Nuclear Corp. of America**, 350 Fifth Ave., New York 1, N. Y.  
**Raytheon Mfg. Co.**, Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
**Resistor Laboratories, Inc.**, 2908 Nebraska Ave., Santa Monica, Calif.  
**Standard Telephones & Cables, Ltd.**, Connaught House, 63 Aldwych, London, W.C. 2, England.  
**VICTOREEN INSTRUMENT CO., COMPONENTS DIV.**, 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.  
**Westinghouse Electric Corp.**, Electronic Tube Div., P. O. Box 284, Elmira, N. Y.  
**White Electron Devices, Inc.**, Roger, Fourth Ave., Haskell, N. J.

### TUBES—Hearing Aid

**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**International Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**Raytheon Mfg. Co.**, Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
**Rye Sound Corp.**, 21 Rye Rd., Rye, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TUNG-SOL ELECTRIC INC.**, 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.

### TUBES—Ignitron

**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**International Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**International Electronics, Inc.**, Geneva, Ill.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**vacuum Tube Products Co., Inc.**, 506 S. Cleveland St., Oceanside, Calif.  
**Westinghouse Electric Corp.**, Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

### TUBES—Ionization

**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**Central Electronic Manufacturers Inc.**, 2 Richwood Place, Denville, N. J.  
**Consolidated Electrodynamics Corp.**, Rochester Div., Rochester 3, N. Y.  
**International Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**Nuclear Corp. of America, Inc.**, 350 Fifth Ave., New York 1, N. Y.  
**Resistor Laboratories, Inc.**, 2908 Nebraska Ave., Santa Monica, Calif.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Twentieth Century Electronics Ltd.**, Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.  
**Westinghouse Electric Corp.**, Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

### TUBES—Klystron

**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**Applied Radiation Corp.**, 1210 Spring Brook Rd., Walnut Creek, Calif.  
**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
**EITEL-McCULLOUGH, INC.**, San Bruno, Calif. ADV. PG. 128-129.  
**GEISLER LABORATORIES, P. O. Box 252**, Menlo Park, Calif. ADV. PG. 591.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**International Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**Litton Industries, Beverly Hills, Calif.**  
**POLARAD ELECTRONICS CORP.**, 43-20 34th St., Long Island City 1, N. Y. ADV. PG. 403, 404.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
**RED BANK DIV., BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
**Sperry Gyroscope Co. Div. of Sperry Rand Corp.**, Great Neck, N. Y.  
**State Labs., Inc.**, 649 Broadway, New York 12, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**VARIAN ASSOCIATES**, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.

### TUBES—Magnetron

**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**General Electric Co. Ltd. of England**, 80 Shore Rd., Port Washington, N. Y.  
**International Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., COMPONENTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**Litton Industries, Beverly Hills, Calif.**  
**MacKay Research Labs., R. R. #2**, P. O. Box 401, McHenry, Ill.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Westinghouse Electric Corp.**, Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

### TUBES—Microwave

**TUBES—Microwave Receiving**  
 See MICROWAVE ACCESSORIES

### TUBES—Miniature

**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**CBS-Hytron**, a Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
**General Electric Co. Ltd. of England**, 80 Shore Rd., Port Washington, N. Y.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**International Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**KIP ELECTRONICS CORP.**, 29 Holly Place, P. O. Box 526, Stamford, Conn. ADV. PG. 666.  
**LANSDALE TUBE CO., DIV. OF PHILCO CORP.**, Church Rd., Lansdale, Pa. ADV. PG. 51.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**Raytheon Mfg. Co.**, Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
**RED BANK DIV., BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
**Resistor Laboratories, Inc.**, 2908 Nebraska Ave., Santa Monica, Calif.  
**Rye Sound Corp.**, 21 Rye Rd., Rye, N. Y.  
**SONOTONE CORP.**, Saw Mill River Rd., P. O. Box 200, Elmsford, N. Y. ADV. PG. 674.  
**Standard Telephones & Cables, Ltd.**, Connaught House, 63 Aldwych, London, W.C. 2, England.  
**State Labs., Inc.**, 649 Broadway, New York 12, N. Y.

**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Thermoson, Inc.**, 361 W. Main St., Stamford, Conn.  
**TUNG-SOL ELECTRIC INC.**, 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.  
**Wells Co., Gary**, 361 Rockaway Ave., Valley Stream, N. Y.  
**Westinghouse Electric Corp.**, Electronics Tube Div., P. O. Box 284, Elmira, N. Y.

### TUBES—Noise Source

**New London Instrument Co.**, P. O. Box 189, New London, Conn.  
**Philco Corp. C & Tioga Sts.**, Philadelphia 34, Pa.  
**RED BANK DIVISION, BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**White Electron Devices, Inc.**, Roger, Fourth Ave., Haskell, N. J.

### TUBES—Phototubes

**Central Electronic Manufacturers Inc.**, 2 Richwood Place, Denville, N. J.  
**Cinema-Television, Ltd.**, Worsley Bridge Rd., London, S. E. 26, England.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
**Electron-Radar Products, P. O. Box 50**, Route #30, North Aurora, Ill.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**Gordos Corp.**, 250 Glenwood Ave., Bloomfield, N. J.  
**Hupp Electronics Co.**, A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
**International Electronics Corp.**, (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**MacKay Research Labs., R. R. #2**, P. O. Box 401, McHenry, Ill.  
**Nuclear Corp. of America**, 350 Fifth Ave., New York 1, N. Y.  
**Photobell Co., Inc.**, 43 Vesey St., New York 7, N. Y.  
**Photo Crystals, Inc.**, 15 S. First St., Geneva, Ill.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**TUNG-SOL ELECTRIC INC.**, 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.  
**Twentieth Century Electronics Ltd.**, Centronics Works, King Henry's Drive, New Addington, Surrey, England.  
**Western Radiation Lab.**, 1107 W. 24th St., Los Angeles 7, Calif.

### TUBES—Phototubes, Multipler

**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**Cinema-Television, Ltd.**, Worsley Bridge Rd., London, S. E. 26, England.  
**DuMont Laboratories, Inc.**, Allen B., 760 Bloomfield Ave., Clifton, N. J.  
**Farnsworth Electronics Co. Div. of IT&T**, 3700 E. Pontiac St., Fort Wayne 1, Ind.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**International Electronics Corp.**, (Mullard Equipment) 81 Spring St., New York 12, N. Y.  
**MacKay Research Labs., R. R. #2**, P. O. Box 401, McHenry, Ill.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**TUNG-SOL ELECTRIC INC.**, 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.  
**Twentieth Century Electronics Ltd.**, Centronics Works, King Henry's Drive, New Addington, Surrey, England.

### TUBES—Photovoltaic

See CELLS—Photovoltaic

### TUBES—Pirani

**Consolidated Electrodynamics Corp.**, Rochester Div., Rochester 3, N. Y.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
**Nuclear Corp. of America**, 350 Fifth Ave., New York 1, N. Y.  
**Resistor Laboratories, Inc.**, 2908 Nebraska Ave., Santa Monica, Calif.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Vacuum Tube Products**, 506 S. Cleveland St., Oceanside, Calif.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.

### TUBES—Power Amplifier

**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**British Industries Corp.**, 80 Shore Rd., Port Washington, N. Y.

CBS-Hytron, a Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
 Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
**EITEL-McCULLOUGH, INC.**, San Bruno, Calif. ADV. PG. 128, 129.  
 Electronic Enterprises, Inc., 65 7th Ave., Newark 4, N. J.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., COMPONENTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Lewis & Kaufman, Ltd., P. O. Box 337, Los Gatos, Calif.  
**MACHLETT LABORATORIES, INC.**, Springdale, Conn. ADV. PG. 469.  
 Nuclear Corp of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Penta Laboratories, Inc., 312 N. Nopal St., Santa Barbara, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
**RED BANK DIV., BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
 State Labs., Inc., 649 Broadway, New York 12, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TAYLOR TUBES, INC.**, 2312 W. Wabansia Ave., Chicago 47, Ill. ADV. PG. 496.  
**TUNG-SOL ELECTRIC INC.**, 95 Eighth Ave., Newark 5, N. J. ADV. PG. 361.  
 United Electronics Co., 42 Spring St., Newark 2, N. J.  
**VARIAN ASSOCIATES**, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUBES—Radial Beam**See **TUBES—Counter Beam****TUBES—Receiving**

American Elite, Inc. (Telefunken) 7 Park Ave., New York 16, N. Y.  
**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
 British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
 CBS-Hytron, a Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
**EITEL-McCULLOUGH, INC.**, San Bruno, Calif. ADV. PG. 128, 129.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**LANSDALE TUBE CO., DIV. OF PHILCO CORP.**, Church Rd., Lansdale, Pa. ADV. PG. 51.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
**RED BANK DIV., BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TUNG-SOL ELECTRIC INC.**, 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.  
 Wells Co., Gary, 361 Rockaway Ave., Valley Stream, N. Y.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUBES—Rectifying, Gas Filled Type**

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.

**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
**EITEL-McCULLOUGH, INC.**, San Bruno, Calif. ADV. PG. 128, 129.  
**ELECTRONIC ENTERPRISES, INC.**, 65 Seventh Ave., Newark 4, N. J. ADV. PG. 613.  
 Electronic Products Co., 111 E. 3rd St., Mt. Vernon, N. Y.  
**ELECTRONS, INC.**, 127 Sussex Ave., Newark 3, N. J. ADV. PG. 318.  
 General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 Industrial Tubes, Inc., 321 Stevens St., Geneva, Ill.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., COMPONENTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 MacKay Research Lab., R. R. #2, P. O. Box 401, McHenry, Ill.  
 National Electronics, Inc., Geneva, Ill.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TAYLOR TUBES, INC.**, 2312 Wabansia Ave., Chicago 47, Ill. ADV. PG. 496.  
**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
**TRANSITRON, INC.**, 186 Granite St., Manchester, N. H. ADV. PG. 326.  
 United Electronics Co., 42 Spring St., Newark 2, N. J.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUBES—Rectifying, Vacuum Type**

**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
 CBS-Hytron, a Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
 Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
 Dunlee Corp., 4560 W. Congress St., Chicago 24, Ill.  
**EITEL-McCULLOUGH, INC.**, San Bruno, Calif. ADV. PG. 128-129.  
**ELECTRONIC ENTERPRISES, INC.**, 65 Seventh Ave., Newark 4, N. J. ADV. PG. 613.  
 General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J.  
 Industrial Tubes, Inc., 321 Stevens St., Geneva, Ill.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP., COMPONENTS DIV.**, 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
 Lewis & Kaufman, Ltd., P. O. Box 337, Los Gatos, Calif.  
**MACHLETT LABORATORIES, INC.**, Springdale, Conn. ADV. PG. 469.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 OK Electronics Corp., 7 Hunt Place, Nutley, N. J.  
 Penta Laboratories, Inc., 312 N. Nopal St., Santa Barbara, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
**RED BANK DIV., BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TAYLOR TUBES, INC.**, 2312 W. Wabansia Ave., Chicago 47, Ill. ADV. PG. 496.

**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
 Thermosen, Inc., 361 W. Main St., Stamford, Conn.  
**TUNG-SOL ELECTRIC INC.**, 95 Eighth Ave., Newark 4, N. J. ADV. PG. 361.  
 United Electronics Co., 42 Spring St., Newark 2, N. J.  
 United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
 Vacuum Tube Products, 506 S. Cleveland St., Oceanside, Calif.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUBES—Storage, Electrostatic**See **TUBES—Cathode Ray****TUBES—Television**See **TUBES—Cathode Ray, Television Picture****TUBES—Television Camera Pickup**

Diamond Power Specialty Corp., Electronics Dept., Lancaster, Ohio.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**MACHLETT LABORATORIES, INC.**, Springdale, Conn. ADV. PG. 469.  
 Nuclonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

**TUBES—Television Projection (for Home Entertainment)**

**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 E. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.

**TUBES—Thyratron**

AEROLUX LIGHTS CORP., 653 Eleventh Ave., New York 36, N. Y. ADV. PG. 673.  
**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Edgerton, Germeshausen & Grier, Inc., 160 Brookline Ave., Boston, Mass.  
**EITEL-McCULLOUGH, INC.**, San Bruno Calif. ADV. PG. 128, 129.  
**ELECTRONIC ENTERPRISES, INC.**, 65 Seventh Ave., Newark 4, N. J. ADV. PG. 613.  
**ELECTRONS, INC.**, 127 Sussex Ave., Newark 3, N. J. ADV. PG. 318.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 Industrial Electronics Controls Co., 2271 E. 14th St., Brooklyn 29, N. Y.  
 Industrial Tubes, Inc., 321 Stevens St., Geneva, Ill.  
 International Electronics Corp. (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**KIP ELECTRONICS CORP.**, 29 Holly Place, P. O. Box 526, Stamford, Conn. ADV. PG. 666.  
**KUTHE LABORATORIES, INC.**, 730 S. 13th St., Newark, 3, N. J. ADV. PG. 354.  
 MacKay Research Labs., R. R. #2, P. O. Box 401, McHenry, Ill.  
 National Electronics, Inc., Geneva, Ill.  
 Penta Laboratories, Inc., 312 N. Nopal St., Santa Barbara, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
**RED BANK DIV., BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
**TAYLOR TUBES, INC.**, 2312 Wabansia Ave., Chicago 47, Ill. ADV. PG. 496.  
 United Electronics Co., 42 Spring St., Newark 2, N. J.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

## TUBES—TR, Pre TR & Anti TR

**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
 Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 International Electronics Corp., (Mullard Equipment) 81 Spring St., New York 12, N. Y.  
**MICROWAVE ASSOCIATES, INC.**, Burlington, Mass. ADV. PG. 225-228.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.  
 White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.

## TUBES—Traveling Wave (Amplifying Type)

**ANTON ELECTRONIC LABS., INC.**, 1226 Flushing Ave., Brooklyn 37, N. Y. ADV. PG. 691.  
**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
 Edgerton, Germeshausen & Grier, Inc., 160 Brookline Ave., Boston, Mass.  
 Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
**GEISLER LABORATORIES**, P. O. Box 252, Menlo Park, Calif. ADV. PG. 591.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
**HUGGINS LABORATORIES**, 711 Hamilton Ave., Menlo Park, Calif. ADV. PG. 320, 321.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
**INTERNATIONAL TELEPHONE & TELEGRAPH CORP.**, Components Div., 88 Kingsland Rd., Clifton, N. J. ADV. PG. 355-357.  
**MARCONI INSTRUMENTS**, 44 New St., New York 4, N. Y. ADV. PG. 550.  
 Penta Laboratories, Inc., 312 N. Nopal St., Santa Barbara, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**VARIAN ASSOCIATES**, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.  
 White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.

## TUBES—Voltage Reference or Regulating

**AEROLUX LIGHTS CORP.**, 653 Eighth Ave., New York 36, N. Y. ADV. PG. 673.  
**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
 CBS-Hytron, a Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
**CHATHAM ELECTRONICS DIV. OF TUNG-SOL ELECTRIC, INC.**, 630 W. Mt. Pleasant Ave., Livingston, N. J. ADV. PG. 393.  
 Electronic Products Co., 111 E. Third St., Mt. Vernon, N. Y.  
 Elesta Ltd., Bad Ragaz, Switzerland.  
**GENERAL ELECTRIC CO., TUBE SALES**, 1 River Rd., Schenectady 5, N. Y. ADV. PG. 13-15.  
 General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
 Industrial Tubes, Inc., 321 Stevens St., Geneva, Ill.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 National Union Electric Corp., Electronics Div., Bloomington, Ill.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
**RED BANK DIV., BENDIX AVIATION CORP.**, Eatontown, N. J. ADV. PG. 332.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TECHNICAL APPARATUS BUILDERS**, 109 Liberty St., New York 6, N. Y. ADV. PG. 549.  
**VICTOREEN INSTRUMENT CO.**, Components Div., 5806 Hough Ave., Cleveland 3, Ohio. ADV. PG. 366.  
 Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.

## TUBES—X-Ray

**AMPEREX ELECTRONIC CORP.**, 230 Duffy Ave., Hicksville, N. Y. ADV. PG. 290, 291.  
**BRACKE-SEIB X-RAY CO., INC.**, 16 Pelham Bay Parkway, Pelham Manor, N. Y. ADV. PG. 590.  
 Dunlee Corp., 4560 W. Congress St., Chicago 24, Ill.  
**FERRANTI ELECTRIC, INC.**, 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
**MACHLETT LABORATORIES, INC.**, Springdale, Conn. ADV. PG. 469.  
 Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
 Twentieth Century Electronics, Ltd., Centronics Works, King Henry'd Drive, New Addington, Surrey, England.  
 X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

## TUBING—Aluminum

Aluminum Co. of America, 1911 Alcoa Bldg., Pittsburgh 19, Pa.  
 American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.  
 Channel Master Co., Ellenville, N. Y.  
 Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.  
 Paul & Stein Bros., Inc., F. H., 235 Fifth Ave., New York 16, N. Y.  
 Precision Tube Co., Inc., North Wales, Pa.  
 Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.  
 Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.  
 Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago 16, Ill.  
 South River Metal Products Co., 377-379 Turnpike, South River, N. J.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Stanley-Judd Div. of Stanley Works, Wallingford, Conn.  
 Uniform Tubes, Level Rd., Collegeville 2, Pa.  
 United Wire & Supply Corp., Providence 7, R. I.

## TUBES—Brass or Copper

American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
 Precision Tube Co., Inc., North Wales, Pa.  
 Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.  
 Schutter Co., Carl W., 80 E. Montauk Pkwy., Lindenhurst, N. Y.  
 Scovill Mfg. Co., Waterbury 20, Conn.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Stanley-Judd Div. of Stanley Works, Wallingford, Conn.  
 Uniform Tubes, Level Rd., Collegeville 2, Pa.  
 United Wire & Supply Corp., Providence 7, R. I.

## TUBING—Ceramic

**AMERICAN FELDMUEHLE CORP.**, 11 W. 42nd St., New York 36, N. Y. ADV. PG. 457.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N.W., Canton, Ohio.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 Electrical Refractories Co., 50 Clark St., East Palestine, Ohio.  
**ERIE RESISTOR CORP.**, Erie 6, Pa. ADV. PG. 170, 171.  
 Isolantite Manufacturing Corp., Stirling, N. J.  
 Kirchberger & Co., Inc., M., 250 Humphrey St., Englewood, N. J.  
**LAPP INSULATOR CO., INC., RADIO SPECIALTIES DIV.**, 31 Gilbert St., Le Roy, N. Y. ADV. PG. 276, 277.  
 Louthan Mfg. Co., East Liverpool, Ohio.  
 Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
 Mitronics, Inc., 1290 Central Ave., Hillside, N. J.  
 Porcelain Products, Inc., Findlay, Ohio.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
**RAYTHEON MFG. CO., MICROWAVE & POWER TUBE OPERATIONS**, Waltham 54, Mass. ADV. PG. 249.  
 Star Porcelain Co., The, 61 Muirhead Ave., Trenton 9, N. J.  
 Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
**STUPAKOFF DIV. OF THE CARBORUNDUM CO.**, Latrobe, Pa. ADV. PG. 108, 109.  
**SUPERIOR STEATITE & CERAMIC CORP.**, 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
 Taylor Fibre Co., Norristown, Pa.  
 Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park, Calif.  
**THOR CERAMICS INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.

## TUBING—Fabric

**ALPHA WIRE CORP.**, 200 Varlick St., New York 14, N. Y. ADV. PG. 224.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Flexaust Co., The, 100 Park Ave., New York 17, N. Y.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
 Mitchell-Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
 Stevens Products, Inc., 86-88 Main St., East Orange, N. J.

## TUBING—Fibre

**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 American Mica Insulation Co., Manasquan, N. J.  
 Arrowhead Products, 2300 Curry St., Long Beach 5, Calif.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
**CLEVELAND CONTAINER CO., THE**, 6201 Barberston Ave., Cleveland 2, Ohio. ADV. PG. 160.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
 Mitchell-Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
 National Vulcanized Fibre Co., Wilmington, Del.  
**NIEMAND BROTHERS, INC.**, 37-03 35th Ave., Long City 1, N. Y. ADV. PG. 286.  
**PARAMONT PAPER TUBE CORP.**, 614 Lafayette St., Fort Wayne, Ind. ADV. PG. 554.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
 Permonite Mfg. Co., 444 N. Lake Shore Dr., Chicago 11, Ill.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 Wilmington Fibre Specialty Co., New Castle, Del.

## TUBING—Flexible Metal

**AIRTRON, INC.**, 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
 American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
 Flexaust Co., The, 100 Park Ave., New York 17, N. Y.  
 Flexions Corp., 1315 S. Third Ave., Maywood, Ill.  
 Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
 Marco Industries Co., 207 S. Helena St., Anaheim, Calif.  
 Trent Tube Co., East Troy, Wis.

## TUBING—Fused Quartz

**SYNOCR PRODUCTS CO.**, 30 Eastern Ave., Malden, Mass. ADV. PG. 589.  
 Thermal American Fused Quartz Co., Inc., 18-20 Salem St., Dover, N. J.

## TUBING—Glass Fibre Insulation

**ACCURATE PAPER TUBE CO.**, 801 N. Peoria St., Chicago 22, Ill. ADV. PG. 416.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, West Canal St., Winooski, Vt. ADV. PG. 647.  
 Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.  
 B & C Insulation Products, Inc., Lincoln Highway, Iselin, N. J.  
**BENTLEY-HARRIS MFG. CO.**, Conshohocken 13, Pa. ADV. PG. 523.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
 General Plastics Corp., P. O. Box 1236, Paterson, N. J.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**LAMTEX INDUSTRIES, INC.**, 51 State St., Westbury, N. Y. ADV. PG. 596.



**MARKEL & SONS, L. FRANK**, School House, Norristown, Pa. ADV. PG. 204.  
**Mitchell-Rand Insulation Co., Inc.**, 51 Murray St., New York 7, N. Y.  
**Molded Insulation Co.**, 335 E. Price St., Philadelphia 44, Pa.  
**Murray Plastics Co.**, 26 Cottage St., Poughkeepsie, N. Y.  
**National Electric Coil Co.**, Columbus 16, Ohio.  
**National Vulcanized Fibre Co.**, Wilmington, Del.  
**NATVAR CORP.**, Woodbridge, N. J. ADV. PG. 568.  
**Silicone Insulation, Inc.**, 1385 Seabury Ave., Bronx 61, N. Y.  
**Stevens Products, Inc.**, 86-88 Main St., East Orange, N. J.  
**Synthane Corp.**, Oaks, Pa.  
**Taylor Fibre Co.**, Norristown, Pa.  
**Varflex Corp.**, 506 W. Court St., Rome, N. Y.

**TUBING—Glass, Precision**

**Bache & Co., Semon**, 636 Greenwich St., New York 14, N. Y.  
**CORNING GLASS WORKS**, Corning, N. Y. ADV. PG. 390.  
**Fischer & Porter Co.**, 476 Warminster Rd., Hatboro, Pa.  
**Glass Engineering Laboratories**, 601 O'Neil Ave., Belmont, Calif.  
**HAMILTON ELECTRONICS CORP.**, Box 100, Bath, N. Y. ADV. PG. 507.  
**MANSOL CERAMICS CO.**, 140 Little St., Belleville, N. J. ADV. PG. 697.  
**SCIENTIFIC ELECTRONIC LABS., INC.**, 866 Bergen St., Newark 8, N. J. ADV. PG. 670.  
**Torrance Glass & Color Works**, Torrance, Calif.  
**VOLTARC TUBES, INC.**, 44 Cross St., Norwalk, Conn. ADV. PG. 699.  
**Wilmaid Glass Co., Inc.**, Landisville, N. J.

**TUBING—Metal and Alloy**

**Alloy Tube Div. of The Carpenter Steel Co.**, Union, N. J.  
**Alpha Metals, Inc.**, 60 Water St., Jersey City, N. J.  
**American Brass Co.**, 414 Meadow St., Waterbury 20, Conn.  
**Arrowhead Products**, 2300 Curry St., Long Beach 5, Calif.  
**Beryllium Corp.**, Reading, Pa.  
**Bishop & Co., J.**, Platinum Works, Malvern, Pa.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**Bridgeport Brass Co.**, 30 Grand St., Bridgeport, Conn.  
**Chase Brass & Copper Co., Inc.**, 236 Grand St., Waterbury 20, Conn.  
**Flexaust Co., The.**, 100 Park Ave., New York 17, N. Y.  
**Haynes Stellite Co.**, A Div. of Union Carbide & Carbon Corp., 725 S. Lindsay St., Kokomo, Ind.  
**International Nickel Co., Inc.**, 67 Wall St., New York 5, N. Y.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**PIX MFG. CO., INC.**, 81 A Hudson St., Newark, N. J. ADV. PG. 670.  
**Precision Tube Co., Inc.**, North Wales, Pa.  
**Revere Copper & Brass, Inc.**, 230 Park Ave., New York 17, N. Y.  
**Ryerson & Son, Inc.**, J. T., 2558 W. 16th St., Chicago 16, Ill.  
**Scovill Manufacturing Co.**, Waterbury 20, Conn.  
**Standard Metals Corp.**, Broad & Whiting St., North Attleboro, Mass.  
**SUPERIOR TUBE CO.**, 2504 Germantown Pike, Norristown, Pa. ADV. PG. 84, 85.  
**Trent Tube Co.**, East Troy, Wis.  
**Uniform Tubes, Level Rd.**, Colledgeville 2, Pa.  
**United Wire & Supply Corp.**, Providence 7, R. I.

**TUBING—Mica**

**American Mica Insulation Co.**, Manasquan, N. J.  
**Asheville-Schoonmaker Mica Co.**, 900 Jefferson Ave., Newport News, Va.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
**Integrated Mica Corp.**, 202 Franklin Place, Woodmere, N. Y.  
**Mica Insulator Co.**, Schenectady 1, N. Y.  
**Mitchell-Rand Insulation Co., Inc.**, 51 Murray St., New York 7, N. Y.

**TUBING—Molybdenum**

**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**Fanstel Metallurgical Corp.**, 2200 Sheridan Rd., North Chicago, Ill.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**Murex, Ltd.**, Rainham, Essex, England.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.

**TUBING—Nickel**

**Bishop & Co., J.**, Platinum Works, Malvern, Pa.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
**Gar Precision Parts, Inc.**, 703 Pacific St., Stamford, Conn.  
**International Nickel Co., Inc.**, 67 Wall St., New York 5, N. Y.

**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**Precision Tube Co., Inc.**, North Wales, Pa.  
**Standard Metals Corp.**, Broad & Whiting St., North Attleboro, Mass.  
**SUPERIOR TUBE CO.**, 2504 Germantown Pike, Norristown, Pa. ADV. PG. 84, 85.

**TUBING—Paper**

**ACCURATE PAPER TUBE CO.**, 801 N. Peoria St., Chicago 22, Ill. ADV. PG. 416.  
**CLEVELAND CONTAINER CO., THE**, 6201 Barberton Ave., Cleveland 2, Ohio. ADV. PG. 160.  
**Laminated Sheet Products Corp.**, 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**Murray Plastics Co.**, 26 Cottage St., Poughkeepsie, N. Y.  
**NIEMAND BROS., INC.**, 37-03 35th Ave., Long Island City 1, N. Y. ADV. PG. 286.  
**PARAMOUNT PAPER TUBE CORP.**, 614 Lafayette St., Fort Wayne, Ind. ADV. PG. 554.  
**Penn Fibre & Specialty Co.**, 2020 E. Westmoreland St., Philadelphia 34, Pa.  
**PRECISION PAPER TUBE CO.**, 2041 W. Charleston St., Chicago 47, Ill. ADV. PG. 673.  
**Quality Components, Inc.**, St. Marys, Pa.  
**Stevens Products, Inc.**, 86-88 Main St., East Orange, N. J.  
**Stone Paper Tube Co., Inc.**, 900 Franklin St., N. E., Washington 17, D. C.  
**Taylor Fibre Co.**, Norristown, Pa.

**TUBING—Plastic**

**Ace Plastic Co.**, 91-54 Van Wyck Expressway, Jamaica 35, N. Y.  
**ALLIED PLASTICS SUPPLY CORP.**, 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**American Mica Insulation Co.**, Manasquan, N. J.  
**American Plastics Corp.**, 342 Madison Ave., New York, N. Y.  
**American Products Mfg. Co., Inc.**, 8127-33 Oleander St., New Orleans 18, La.  
**ANCHOR INDUSTRIAL CO., DIV. OF ANCHOR PLASTICS CO., INC.**, 36-36 36th St., Long Island City 6, N. Y. ADV. PG. 613.  
**Auburn Mfg. Co.**, The, Pease Ave. & Stack St., Middletown, Conn.  
**BENTLEY-HARRIS MFG. CO.**, Conshohocken 13, Pa. ADV. PG. 523.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BORDEN CO., RESINITE DEPT.**, Box 1589, Santa Barbara, Calif. ADV. PG. 604.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
**Chicago Die Mold Div. of U. S. Rubber Co.**, 4300 New Haven Ave., Fort Wayne 4, Ind.  
**CLEVELAND CONTAINER CO., THE**, 6201 Barberton Ave., Cleveland 2, Ohio. ADV. PG. 160.  
**CONTINENTAL-DIAMOND FIBRE CORP.**, Newark 100, Delaware. ADV. PG. 345-348.  
**Cortland Industries, Inc.**, 4545 Cortland St., Chicago 39, Ill.  
**CRYSTAL-X CORP.**, 403 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
**Deluxe Coils, Inc.**, Wabash, Ind.  
**Dielectric Materials Co.**, 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
**Dixon Corp.**, Bristol, R. I.  
**Dura Plastics of New York, Inc.**, 303 Fifth Ave., New York 16, N. Y.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
**Emeloid Co., Inc.**, 1239 Central Ave., Hillside 5, N. J.  
**Emerson Plastics Corp.**, 1383 Seabury Ave., Bronx 61, N. Y.  
**Enfo Corp.**, Route 38 at Airport Circle, Pennsauken, N. J.  
**Extruders, Inc.**, 3232 W. El Segundo Blvd., Hawthorne, Calif.  
**Flexaust Co., The.**, 100 Park Ave., New York 17, N. Y.  
**Franklin Fibre-Lamitex Corp.**, 411 E. Front St., Wilmington, Del.  
**Garlock Packing Co.**, The, Palmyra, N. Y.  
**General Electric Co., Laminated Products Dept.**, Coshoc-ton, Ohio.  
**General Electric Co., Plastics Dept.**, 132 S. Water St., Decatur, Ill.  
**General Tire & Rubber Co.**, Akron, Ohio.  
**Gering Products, Inc.**, N. 7th St. at Monroe Ave., Kenilworth, N. J.  
**Goodrich Aviation Products**, B. F., Div. of B. F. Goodrich Co., Akron, Ohio.  
**Goodrich Industrial Products Co.**, B. F. A Div. of The B. F. Goodrich Co., Plastic Products, Marietta, Ohio.  
**Halogen Insulator & Seal Corp.**, 10121 Franklin Ave., Franklin Park, Ill.  
**Havag Industries, Inc.**, 900 Greenbank Rd., Wilmington 8, Del.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**Houghton Laboratories, Inc.**, 322 Houghton Ave., Olean, N. Y.  
**Illumitronic Engineering**, 680 E. Taylor Ave., Sunnyvale, Calif.  
**Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co.**, 6 Argyle Terrace, Irvington 11, N. J.

**Laminated Sheet Products Corp.**, 449 Neponset St., P. O. Box 390, Norwood, Mass.  
**LAMTEX INDUSTRIES, INC.**, 51 State St., Westbury, N. Y. ADV. PG. 596.  
**Luzerne Rubber Co.**, Muirhead Ave., Trenton, N. J.  
**MARKEL & SONS, L. FRANK**, School House, Norristown, Pa. ADV. PG. 204.  
**Mica Insulator Co.**, Schenectady 1, N. Y.  
**Mitchell-Rand Insulation Co., Inc.**, 51 Murray St., New York 7, N. Y.  
**Murray Plastics Co.**, 26 Cottage St., Poughkeepsie, N. Y.  
**NATVAR CORP.**, Woodbridge, N. J. ADV. PG. 568.  
**New England Tape Co.**, Hudson, Mass.  
**New Jersey Wood Finishing Co.**, Amboy Ave., Woodbridge, N. J.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
**Olin Mathieson Chemical Corp.**, 460 Park Ave., New York 22, N. Y.  
**Olympic Plastics Co., Inc.**, 3471 S. LaCienega Blvd., Los Angeles 16, Calif.  
**Panelyte Div., St. Regis Paper Co.**, 261 Madison Ave., New York 16, N. Y.  
**Paul & Stein Bros., Inc.**, F. H., 235 Fifth Ave., New York 16, N. Y.  
**Penn Fibre & Specialty Co.**, 2020 E. Westmoreland St., Philadelphia 34, Pa.  
**POLYMER CORP., THE**, Reading, Pa. ADV. PG. 502.  
**PRECISION PAPER TUBE CO.**, 2041 W. Charleston St., Chicago 47, Ill. ADV. PG. 673.  
**Raybestos-Manhattan, Inc.**, 61 Willett St., Passaic, N. J.  
**Resin Industries, P. O. Box 1589**, Santa Barbara, Calif.  
**Resinite Corp. Sub. of Precision Paper Tube Co.**, 6981 N. Central Park Ave., Chicago 45, (Lincolnwood) Ill.  
**RESISTOFLEX CORP.**, Roseland, N. J. ADV. PG. 694.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**RICHARDSON CO., THE**, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
**Ryerson & Son, Inc.**, J. T., 2558 W. 16th St., Chicago 16, Ill.  
**Shamban & Co., W. S.**, 11617 W. Jefferson Blvd., Culver City, Calif.  
**Sparta Mfg. Co., Div. of U. S. Ceramic Tile Co.**, Dover, Ohio.  
**Spaulding Fibre Co., Inc.**, 310 Wheeler St., Tonawanda, N. Y.  
**SURPENANT MANUFACTURING CO.**, Clinton, Mass. ADV. PG. 449.  
**Synthane Corp.**, Oaks, Pa.  
**Taylor Fibre Co.**, Norristown, Pa.  
**Tecco Insulated Wire**, 108 Prospect Ave., Burbank, Calif.  
**THOR CERAMICS, INC.**, 225 Belleville Ave., Bloomfield, N. J. ADV. PG. 603.  
**U. S. GASKET CO.**, Camden, N. J. ADV. PG. 418, 635.  
**U. S. Stoneware Co., The.**, Akron 9, Ohio.  
**Varflex Corp.**, 506 W. Court St., Rome, N. Y.  
**Walsco Electronics Mfg. Co.**, 100 Green St., Rockford, Ill.  
**Walter Lee Chemical Co.**, 1381 Seabury Ave., Bronx 61, N. Y.  
**WESTLAKE PLASTICS CO.**, 133 W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.  
**Wilmington Fibre Specialty Co.**, New Castle, Del.

**TUBING—Precious Metal**

**American Platinum Works**, N. J. R. R. Ave. at Oliver St., Newark 5, N. J.  
**BAKER CO., INC.**, 113 Astor St., Newark 5, N. J. ADV. PG. 313.  
**Bishop & Co., J.**, Platinum Works, Malvern, Pa.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**Eastern Smelting & Refining Corp.**, 107-109 W. Brookline St., Boston 18, Mass.  
**HANDY & HARMAN**, 82 Fulton St., New York 38, N. Y. ADV. PG. 328.  
**Improved Seamless Wire Co.**, 775 Eddy St., Providence 5, R. I.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
**MAKEPEACE CO., D. E. DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**NEY CO., J. M.**, 179 Elm St., Hartford, Conn. ADV. PG. 558.  
**Standard Metals Corp.**, Broad & Whiting St., North Attleboro, Mass.  
**Uniform Tubes, Level Rd.**, Colledgeville 2, Pa.

**TUBING—Steel**

**Alloy Tube Div., The Carpenter Steel Co.**, Union, N. J.  
**Armco Steel Corp.**, 703 Curtis St., Middletown, Ohio.  
**Avon Tube Div., Higbie Mfg. Co.**, Wagner Rd., Rochester, Mich.  
**Bishop & Co., J.**, Platinum Works, Malvern, Pa.  
**Channel Master Co.**, Ellenville, N. Y.  
**Chase Brass & Copper Co., Inc.**, 236 Grand St., Waterbury 20, Conn.  
**Ohio Seamless Tube Div. of Copperweld Steel Co.**, Shelby, Ohio.  
**Republic Steel Corp.**, Republic Bldg., Cleveland 1, Ohio.  
**Revere Copper & Brass, Inc.**, 230 Park Avenue, New York 17, N. Y.  
**Ryerson & Son, Inc.**, J. T., 2558 W. 16th St., Chicago 16, Ill.  
**South River Metal Products Co.**, 377-379 Turnpike, South River, N. J.  
**SUPERIOR TUBE CO.**, 2504 Germantown Pike, Norristown, Pa. ADV. PG. 84, 85.

Trent Tube Co., East Troy, Wis.  
Uniform Tubes, Level Rd., Collegeville 2, Pa.

**TUBING—Synthetic Resin**  
See TUBING—Plastic

**TUBING—Tantalum**

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
Murex, Ltd., Rainham, Essex, England.  
Paul & Stein Bros., Inc., F. H., 235 Fifth Ave., New York 16, N. Y.  
REMBAR CO., INC., THE, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.

**TUBING—Titanium**

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
Rem-Cru Titanium, Inc., Midland, Pa.  
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
Steward Mfg. Co., D. M., 3600 Jerome Ave., Chattanooga 1, Tenn.  
SUPERIOR TUBE CO., 2504 Germantown Pike, Norristown, Pa. ADV. PG. 84, 85.  
Trent Tube Co., East Troy, Wis.

**TUBING—Tungsten**

Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
Murex, Ltd., Rainham, Essex, England.  
REMBAR CO., INC., THE, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.

**TUBING—Varnished or Lacquered**

ALLIED PLASTICS SUPPLY CORP., 75 Cliff St., New York 38, N. Y. ADV. PG. 247.  
ALPHA WIRE CORP., 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
B & C Insulation Products, Inc., Lincoln Highway, Iselin, N. J.  
BENTLEY-HARRIS MFG. CO., Conschocken 13, Pa. ADV. PG. 523.  
BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
BRAND & CO., INC., WILLIAM, 41 North St., Willimantic, Conn. ADV. PG. 199.  
CLEVELAND CONTAINER CO., THE, 6201 Barberton Ave., Cleveland 2, Ohio. ADV. PG. 160.  
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
MARKEL & SONS, L. FRANK, School House, Norristown, Pa. ADV. PG. 204.  
Mitchell-Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
National Electric Coil Co., Columbus, Ohio.  
NATVAR CORP., Woodbridge, N. J. ADV. PG. 568.  
Resinite Corp., Sub. of Precision Paper Tube Co., 6981 N. Central Park Ave., Chicago 45, (Lincolnwood) Ill.  
Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
Varflex Corp., 506 W. Court St., Rome, N. Y.

**TUBING—Varnished Cambric Insulation**

ALPHA WIRE CORP., 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
American Mica Insulation Co., Manasquan, N. J.  
BENTLEY-HARRIS MFG. CO., Conschocken 13, Pa. ADV. PG. 523.  
BIRNBACH RADIO CO., INC., 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
BRAND & CO., INC., WILLIAM, 41 North St., Willimantic, Conn. ADV. PG. 199.  
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
MARKEL & SONS, L. FRANK, School House, Norristown, Pa. ADV. PG. 204.  
Mitchell-Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.  
NATVAR CORP., Woodbridge, N. J. ADV. PG. 568.  
PRECISION PAPER TUBE CO., 2041 W. Charleston St., Chicago 47, Ill. ADV. PG. 673.  
Varflex Corp., 506 W. Court St., Rome, N. Y.

**TUBING—Wavguide**

AIRTRON, INC., 1101 W. Elizabeth Ave., Linden, N. J. ADV. PG. 532.  
American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.  
Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
DOUGLAS MICROWAVE CO., INC., 252 E. Third St., Mt. Vernon, N. Y. ADV. PG. 310.  
Gar Precision Parts, Inc., 703 Pacific St., Stamford, Conn.

J-V-M ENGINEERING CO., 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
LAMTEX INDUSTRIES, INC., 51 State St., Westbury, N. Y. ADV. PG. 596.  
LEACH & GARNER CO., Attleboro, Mass. ADV. PG. 327.  
MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO., Attleboro, Mass. ADV. PG. 392.  
MERIDIAN METALCRAFT, INC., 8739 S. Millergrove Drive, Whittier, Calif. ADV. PG. 540.  
METALS & CONTROLS CORP., GENERAL PLATE DIV., 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
TECHNICRAFT LABORATORIES, INC., Thomaston-Waterbury Rd., Thomaston, Conn. ADV. PG. 545.

**TUBING—Woven or Knitted Wire**

ALPHA WIRE CORP., 200 Varick St., New York 14, N. Y. ADV. PG. 224  
Factory Eentrprises, Inc., 3431 Butler St., Pittsburgh 1, Pa.  
Hallitt Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.  
METAL TEXTILE CORP., 647 E. First Ave., Roselle, N. J. ADV. PG. 450.  
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.

**TUNERS—a-m**

Allied Radio Corp., 100 N. Western Ave., Chicago 80, Ill.  
ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
Gonset Co., 801 S. Main St., Burbank, Calif.  
Fisher Radio Corp., 21-21 Forty-fourth Drive, Long Island City 1, N. Y.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV., Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
Radio Industries, Inc., 5225 Ravenswood Ave., Chicago 40, Ill.  
Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
Spivey, Inc., James S., 4908 Hampden Lane, Washington 14, D. C.  
Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.

**TUNERS—f-m**

Aermotive Equipment Corp., 1632-8 Central St., Kansas City 10, Mo.  
Allied Radio Corp., 100 N. Western Ave., Chicago 80, Ill.  
ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
BROWNING LABORATORIES, INC., Main St., Winchester, Mass. ADV. PG. 614.  
Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
Denson Electronics Corp., Ellington, Conn.  
Fisher Radio Corp., 21-21 Forty-fourth Drive, Long Island City 1, N. Y.  
Gonset Co., 801 S. Main St., Burbank, Calif.  
Granco Products, Inc., 36-17 20th Ave., Long Island City, N. Y.  
HEATH CO., A SUB. OF DAYSTROM, INC., Benton Harbor 14, Mich. ADV. PG. 575.  
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
National Co., Inc., 61 Sherman St., Malden 48, Mass.  
Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.  
Pedersen Electronics Co., Mt. Diablo Blvd., Lafayette, Calif.  
Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
Radio Craftsman Inc., The, 4223 W. Jefferson Blvd., Los Angeles 16, Calif.  
Scott, Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.

Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.  
Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

**TUNERS—f-m/a-m**

A.R.F. Products, Inc., 7627 Lake St., River Forest, Ill.  
ALTEC LANSING CORP., 1515 S. Manchester Ave., Anaheim, Calif. ADV. PG. 442.  
Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
Electro Voice Mfg. Co., Inc., Buchanan, Mich.  
Fisher Radio Corp., 21-21 Forty-fourth Drive, Long Island City 1, N. Y.  
Granco Products, Inc., 36-17 20th Ave., Long Island City, N. Y.  
McIntosh Laboratory Inc., 2 Chambers St., Binghamton, N. Y.  
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
Pedersen Electronics Co., Mt. Diablo Blvd., Lafayette, Calif.  
Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.  
Precision Development Corp., 2 Neil Court, Oceanside, N. Y.  
Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.  
Precision Radiation Instruments, Inc., 4223 W. Jefferson Blvd., Los Angeles 16, Calif.  
Radio Craftsman Inc., The, 4223 W. Jefferson Blvd., Los Angeles 16, Calif.  
Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
Sargent-Raymont Co., The, 4926-28 E. 12th St., Oakland 1, Ohio.  
Simpson Mfg. Co., Inc., Mark 32-28 49th St., Long Island City 3, N. Y.  
Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y.  
Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.  
Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.  
Weingarten Electronics Labs., Inc., 7556 Melrose Ave., Los Angeles 46, Calif.

**TUNERS—Klystron**

DIAMOND ANTENNA & MICROWAVE CORP., 7 North Ave., Wakefield, Mass. ADV. PG. 337.  
MICROLAB, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.  
Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
VARIAN ASSOCIATES, 611 Hansen Way, Palo Alto, Calif. ADV. PG. 174, 175, 411.  
VECTRON, INC., 1609 Trapelo Rd., Waltham 54, Mass. ADV. PG. 394.

**TUNERS—Microwave**  
See MICROWAVE ACCESSORIES

**TUNERS—Permeability**

Aermotive Equipment Corp., 1632-8 Central St., Kansas City 10, Mo.  
COMMUNICATION ACCESSORIES CO., Red Bridge Rd., Hickman Mills, Mo. ADV. PG. 113-118.  
RADIO CONDENSER CO., Camden, N. J. ADV. PG. 88.  
Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.

**TUNERS—Television**

Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
Automatic Mfg. Div. of General Instrument Corp., 65 Gouverneur St., Newark, N. J.  
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.  
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
OAK MFG. CO., 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
Pimex Inc., 18 E. 60th St., New York 22, N. Y.  
SARKES TARZIAN, INC., RECTIFIER DIV., 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
Sarkes Tarzian Inc., Tuner Div., East Hillside Dr., Bloomington, Ind.  
Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.

**TUNERS—Television rf**

DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.

**SARKES TARZIAN, INC., RECTIFIER DIV.**, 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
**Sarkes Tarzian Inc., Tuner Div.**, East Hillside Dr., Bloomington, Ind.  
**Sickles, F. W., Div.**, General Instrument Corp., 165 Front St., Chicopee, Mass.  
**Standard Coil Products Co.**, 2085 N. Hawthorne St., Melrose Park, Ill.  
**Television Utilities Corp.**, 112-23 Colonial Ave., Corona, N. Y.

**TUNERS—uhf**

**Admiral Corp.**, 3800 Cortland St., Chicago 47, Ill.  
**APPLIED RESEARCH INC.**, 163-07 Depot Rd., Flushing, N. Y. ADV. PG. 672.  
**DX Radio Products Co., Inc.**, 2300 Armitage Ave., Chicago 47, Ill.  
**Federal Telecommunication Labs.**, A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
**Granco Products, Inc.**, 36-17 20th Ave., Long Island City, N. Y.  
**Haller, Raymond & Brown, Inc.**, State College, Pa.  
**J-V-M ENGINEERING CO.**, 4633 S. Lawndale Ave., Lyons, Ill. ADV. PG. 640.  
**Mallory & Co., Inc., P. R.**, 34 S. Gray St., Indianapolis 6, Ind.  
**Microfect Co.**, 2300 S. 25th St., Salem, Ore.  
**MICROLAB**, 71 Okner Parkway, Livingston, N. J. ADV. PG. 284.  
**SARKES TARZIAN, INC., RECTIFIER DIV.**, 415 N. College Ave., Bloomington, Ind. ADV. PG. 434.  
**Sickles, F. W., Div.**, General Instrument Corp., 165 Front St., Chicopee, Mass.  
**Standard Coil Products Co.**, 2085 N. Hawthorne St., Melrose Park, Ill.  
**Tele-Matic Industries, Inc.**, 16 Howard Ave., Brooklyn 21, N. Y.

**TUNING DEVICES—Receiver Mechanical**

**Acme Tool & Specialties Co.**, 224 N. Loomis St., Chicago 7, Ill.  
**Atlas Precision Products Co.**, 3802 Castor Ave., Philadelphia 24, Pa.  
**Barker & Williamson**, 235 Fairfield Ave., Upper Darby, Pa.  
**BOWMAR INSTRUMENT CORP.**, 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**Croname, Inc.**, 1747 Grace St., Chicago 13, Ill.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
**Gombos Co., Inc.**, John, 103 Montgomery St., Irvington 11, N. J.  
**Grisby-Allison Co., Inc.**, 407 N. Salem Ave., Arlington Heights, Ill.  
**OAK MFG. CO.**, 1260 Clybourn Ave., Chicago 10, Ill. ADV. PG. 302, 303.  
**Sickles, F. W., Div.**, General Instrument Corp., 165 Front St., Chicopee, Mass.  
**Standard Coil Products Co.**, 2085 N. Hawthorne St., Melrose Park, Ill.

**TUNING DEVICES—Transmitter Mechanical**

**Atlas Precision Products Co.**, 3802 Castor Ave., Philadelphia 24, Pa.  
**Barker & Williamson**, 235 Fairfield Ave., Upper Darby, Pa.  
**BOWMAR INSTRUMENT CORP.**, 2415 Pennsylvania St., Fort Wayne, Ind. ADV. PG. 538, 539.  
**Collins Radio Co.**, Cedar Rapids, Iowa.  
**Croname, Inc.**, 1747 Grace St., Chicago 13, Ill.  
**FEDERAL MFG. & ENGINEERING CORP.**, 1055 Stewart Ave., Garden City, N. Y. ADV. PG. 594.  
**Gombos Co., Inc.**, John, 103 Montgomery St., Irvington 11, N. J.  
**Mallory & Co., Inc., P. R.**, 34 S. Gray St., Indianapolis 6, Ind.  
**National Co., Inc.**, 61 Sherman St., Malden 48, Mass.

**TURNABLES—Recording and Transcription**

**Allied Recording Products Co.**, 32-32 Greenpoint Ave., Long Island City 1, N. Y.  
**Birmingham Sound Reproducers, Ltd.**, Monarch Works, Old Hill, Powke Lane, Staffs, England.  
**Bruel & Kjaer**, Naerum, Denmark.  
**Collaro, Ltd.**, (Rockbar Corp.), 650 Halstead Ave., Mamaroneck, N. Y.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
**Fairchild Recording Equipment Co.**, 10-40 45th Ave., Long Island City 1, N. Y.  
**Garrard Sales Corp.**, 80 Shore Rd., Port Washington, N. Y.  
**INTERSEARCH, INC.**, 7 Arcadia Place, Cincinnati 8, Ohio. ADV. PG. 480.  
**Presto Recording Corp.**, P. O. Box 500, Paramus, N. J.  
**Q. R. K. Electronic Products**, 445 N. Circle Drive, Fresno 4, Calif.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**Rek-O-Kut Co., Inc.**, 38-01 Queens Blvd., Long Island City, N. Y.  
**Scott, Inc.**, Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
**Telectro Industries Corp.**, 35-16 37th St., Long Island City 1, N. Y.

**TWEETERS**See **SPEAKERS****TWISTS**See **MICROWAVE ACCESSORIES**  
**BENDS—Microwave****ULTRASONIC EQUIPMENT:**

See also:

**AMPLIFIERS—Ultrasonic**  
**ANALYZERS—Ultrasonic**  
**CLEANERS—Ultrasonic**  
**CONTROLS—Ultrasonic**  
**GAGES—Ultrasonic Thickness**  
**GENERATORS—Ultrasonic**  
**INSTRUMENTS—Ultrasonic**  
**TOOLS—Ultrasonic Soldering**  
**VIBRATORS—Ultrasonic**

**Acoustica Associates, Inc.**, Shore Rd., Glenwood Landing 2, N. Y.  
**Aeroprojects Incorporated**, 310 E. Rosedale Ave., West Chester, Pa.  
**Alcar Instruments, Inc.**, 17 Industrial Ave., Little Ferry, N. J.  
**American Diathermy Products, Inc.**, 11858 Mississippi Ave., Los Angeles 25, Calif.  
**ARENBERG ULTRASONIC LABORATORY, INC.**, 94 Green St., Jamaica Plain 30, Mass. ADV. PG. 672.  
**Bendix Aviation Corp.**, Pacific Div., 11600 Sherman Way, North Hollywood, Calif.  
**BIRTCHEP CORP.**, 4371 Valley Blvd., Los Angeles 32, Calif. ADV. PG. 636.  
**Blackstone Corp.**, 1111 Allen St., Jamestown, N. Y.  
**Bludworth Marine Div.**, Kearfoot Co., Inc., 92 Gold St., New York 38, N. Y.  
**Branson Instruments, Inc.**, 1 Brown House Rd., Stamford, Conn.  
**BRANSON ULTRASONIC CORP.**, 1 Brown House Rd., Stamford, Conn. ADV. PG. 605.  
**Cavitron Electron Oscillator Co. Div. of Short Wave Plastic Forming Co.**, 355 N. Newport Blvd., Newport Beach, Calif.  
**Chesapeake Instrument Corp.**, Shadyside, Md.  
**Corbett Science Labs.**, F. W., 3117 Venice Blvd., Los Angeles 19, Calif.  
**CURTISS-WRIGHT CORP., ELECTRONICS DIV.**, Plant #2, Central Ave., Carlstadt, N. J. ADV. PG. 110.  
**Curtiss-Wright Corp.**, Industrial Scientific Products Div., P. O. Box 270, Caldwell, N. J.  
**D & R, LTD.**, 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif. ADV. PG. 698.  
**Electro Craft Industries, Inc.**, 68 Jackson St., Stamford, Conn.  
**Fischer & Co., R. A.**, 517 Commercial St., Glendale 3, Calif.  
**FREED TRANSFORMER CO., INC.**, 1736 Weirfield St., Brooklyn 27, N. Y. ADV. PG. 460.  
**General Kinetics Inc.**, 555 23rd St., S., Arlington 2, Va.  
**General Nuclear Corp.**, 550 Fifth Ave., New York 28, N. Y.  
**Grand Ra-Tronics, Inc.**, Hey St., Grand Haven, Mich.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
**Harris Transducer Corp.**, Woodbury, Conn.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
**Kahn & Co., Inc.**, 541 Windsor St., Hartford 1, Conn.  
**Kelvin & Hughes Ltd.**, New North Rd., Barkingside, Essex, England.  
**Kidde & Co., Inc.**, Walter, 477 Main St., Belleville 9, N. J.  
**McDowell Electronics, Inc.**, P. O. Box 342, Metuchen, N. J.  
**Mack Electronics A Div. of Mack Trucks, Inc.**, Plainfield, N. J.  
**Massa Laboratories, Inc.**, 5 Fottler Rd., Hingham, Mass.  
**Maxson Instrument, Div. of The W. L. Maxson Corp.**, 47-37 Austell Place, Long Island City 1, N. Y.  
**McKenna Laboratories**, Santa Monica 6, Calif.  
**MICROSONICS, INC.**, Hingham Industrial Center, Route 3A, Hingham, Mass. ADV. PG. 458.  
**Minneapolis-Honeywell Regulator Co.**, Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
**Otis Elevator Co.**, Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
**Pioneer-Central Division**, Bendix Aviation Corp., Davenport, Iowa.  
**Power Supplies, Inc.**, 1007 Olive St., Highland, Ill.  
**RATHEON MFG. CO., EQUIPMENT MARKETING DEPT.**, 100 River St., Waltham 54, Mass. ADV. PG. 250, 251.  
**Scientific Electric Corp.**, 105-119 Monroe St., Garfield, N. J.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
**Sheffield Corp.**, The, Dayton 1, Ohio.  
**Summitt Electronics, Inc.**, 7 Industrial Place, Summit, N. J.  
**Sunshine Scientific Instrument**, 1810 Grant Ave., Philadelphia 15, Pa.  
**Teca Corp.**, 80 Main St., White Plains, N. Y.  
**Tesla Electric Co.**, 2871 N. Lincoln Ave., Chicago 13, Ill.  
**Telephonics Corp.**, Park Ave., Huntington, N. Y.  
**Ultrasonic Engineering Co.**, 2402 Second St., Peru, Ill.  
**Wells-Gardner & Co.**, 2701 N. Kildare Ave., Chicago 39, Ill.  
**Woodwelding, Inc.**, 3000 West Olive, Burbank, Calif.

**VACUUM ALUMINIZERS**

**Consolidated Electro-dynamics Corp.**, 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
**Consolidated Electro-dynamics Corp.**, Rochester Div., Rochester 3, N. Y.  
**Electrochemical Industries, Inc.**, 35 Armory St., Worcester, Mass.  
**Green Rectifier Co.**, 1-10 Thirtieth St., Fair Lawn, N. J.  
**Hull Corporation**, Abington, Pa.  
**International Pump & Machine Works, Inc.**, 81 Dorsa Ave., Livingston, N. J.  
**Kinney Mfg. Div. of The New York Air Brake Co.**, 3529 Washington St., Boston 30, Mass.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
**Stokes Co., F. J.**, 5500 Tabor Rd., Philadelphia 20, Pa.  
**Swedlow Plastics Co.**, 6986 Bandini Blvd., Los Angeles 22, Calif.  
**Vacuum Equipment Div. of The New York Air Brake Co.**, 1325 Admiral Wilson Blvd., Camden, N. J.  
**Vacuum Tube Products Co., Inc.**, 506 S. Cleveland St., Oceanside, Calif.  
**Zenith Optical Laboratory**, 1940 Great Neck Rd., Copiague, N. Y.

**VACUUM FORMING**See **PLASTICS—Vacuum Formed****VACUUM GAGES**See **GAGES—Vacuum or Pirani****VACUUM INDICATING, RECORDING AND CONTROL EQUIPMENT**

**Alfred Electronics**, 897 Commercial St., Palo Alto, Calif.  
**Bailey Meter Co.**, 1050 Ivanhoe Rd., Cleveland 10, Ohio.  
**Bristol Co., The**, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**Consolidated Electro-dynamics Corp.**, 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
**Consolidated Electro-dynamics Corp.**, Rochester Div., Rochester 3, N. Y.  
**CONTINENTAL ELECTRIC CO.**, 6 N. Michigan Ave., Chicago 2, Ill. ADV. PG. 496.  
**Electronic Research Labs.**, 85 Surrey St., Brighton 35, Mass.  
**Green Rectifier Co.**, 1-10 Thirtieth St., Fair Lawn, N. J.  
**Hastings-Raydist, Inc.**, Hampton 9, Va.  
**International Pump & Machine Works, Inc.**, 81 Dorsa Ave., Livingston, N. J.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
**Kinney Mfg. Div. of The New York Air Brake Co.**, 3529 Washington St., Boston, Mass.  
**Manning, Maxwell & Moores, Inc.**, Industrial Products Div., 250 E. Main St., Stratford, Conn.  
**Minneapolis-Honeywell Regulator Co.**, Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV.**, Wayne & Windrim Aves., Philadelphia 44, Pa. ADV. PG. 447.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
**Nuclear Corp. of America, Inc.**, 350 Fifth Ave., New York 1, N. Y.  
**Research Electronics Laboratories**, Roslyn, Pa.  
**U. S. Gauge Div.**, American Machine & Metals, Inc., Sellersville, Pa.  
**Vacuum Equipment Div. of The New York Air Brake Co.**, 1325 Admiral Wilson Blvd., Camden, N. J.  
**Vacuum Tube Products**, 506 S. Cleveland St., Oceanside, Calif.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.  
**Wallace & Tiernan Products, Inc.**, 25 Main St., Belleville 9, N. J.  
**Weston Electrical Instrument Corp.**, Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.

**VACUUM PUMPS**

**Beach-Russ Co.**, 50 Church St., New York 7, N. Y.  
**Central Scientific Co.**, 1700 Irving Park Road, Chicago 13, Ill.  
**Consolidated Electro-dynamics Corp.**, 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
**Consolidated Electro-dynamics Corp.**, Rochester Div., Rochester 3, N. Y.  
**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
**Green Rectifier Co.**, 1-10 Thirtieth St., Fair Lawn, N. J.  
**High Vacuum Equipment Corp.**, 2 Churchill Rd., Hingham, Mass.  
**International Pump & Machine Works, Inc.**, 81 Dorsa Ave., Livingston, N. J.  
**KAHLE ENGINEERING CO.**, 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
**King Electric Equipment Co.**, 9123 Inman Ave., Cleveland 5, Ohio.  
**Kinney Mfg. Div. of The New York Air Brake Co.**, 3529 Washington St., Boston 30, Mass.  
**Lear, Inc.**, 3171 S. Bundy Drive, Santa Monica, Calif.  
**Litton Engineering Laboratories**, P. O. Box 949, Grass Valley, Calif.  
**Nelson Vacuum Pump Co.**, George F., 2133 Fourth St., Berkeley 10, Calif.  
**New England Scientific Instrument Co.**, Box 408, Cambridge 39, Mass.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.

Red Point Corporation, 1907 Riverside Drive, Glendale 1, Calif.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
**STEWART ENGINEERING CO.**, Box 277, Soquel, Calif. ADV. PG. 668, 669.  
 Stokes Co., F. J. 5550 Tabor Rd., Philadelphia 20, Pa.  
 Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.  
 Whittington Pump & Engineering Corp., 1126 Prospect St., Indianapolis 3, Ind.

## VACUUM TUBE VOLTMETERS

See **VOLTMETERS—Electronic**

## VACUUM UNITS

Beach-Russ Co., 50 Church St., New York 7, N. Y.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Consolidated Electrodynamics Corp., Rochester Div., Rochester 3, N. Y.  
 Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.  
 Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.  
 International Pump & Machine Works, Inc., 81 Dorsa Ave., Livingston, N. J.  
**KAHLE ENGINEERING CO.**, 1307 Seventh St., North Bergen, N. J. ADV. PG. 349.  
 Kinney Mfg. Div. of The New York Air Brake Co., 3529 Washington St., Boston, 30, Mass.  
 Litton Engineering Laboratories, P. O. Box 949, Grass Valley, Calif.  
**NRC EQUIPMENT CORP.**, 160 Charlemont St., Newton 61, Mass. ADV. PG. 102.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Red Point Corporation, 1907 Riverside Drive, Glendale 1, Calif.  
**SCIENTIFIC ENGINEERING LABORATORIES**, 2229 McGee Ave., Berkeley, Calif. ADV. PG. 477.  
**STANDARD CABINET CO.**, 57 Washington Ave., Carlstadt, N. J. ADV. PG. 642.  
 Stokes Co., F. J. 5550 Tabor Rd., Philadelphia 20, Pa.  
**TENNEY ENGINEERING, INC.**, 1090 Springfield, Union, N. J. ADV. PG. 422.  
 Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.

## VALVES—Servo

Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.  
 Lear, Inc., 3171 S. Bundy Drive, Santa Monica, Calif.  
 Midwestern Instruments, 41 & Sheridan Rd., Tulsa, Okla.  
 Moog Valve Co., Inc., Proner Airport, East Aurora, N. Y.  
 Pegasus Laboratories, Inc., 3692 Eleven Mile Rd., Berkley, Mich.

## VALVES—Solenoid

Adel Precision Products Div. of General Metals Corp., 10777 Vanowen St., Burbank, Calif.  
 Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.  
 Caltron Products Co., 3518 W. Pico Blvd., Los Angeles 19, Calif.  
 Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.  
 Combustion Control Div., Electronics Corp. of America, 77 Broadway, Cambridge 42, Mass.  
 Darco Industries, Inc., Gyro Dynamics Div., 2151 E. Rosencrans Ave., El Segundo, Calif.  
 Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.  
 Hays Mfg. Co., 818 W. 12th St., Erie, Pa.  
**HILLBURN ELECTRONIC PRODUCTS CO.**, 55 Nassau Ave., Brooklyn 22, N. Y. ADV. PG. 653.  
 Hydraulic Press Mfg. Co., A Div. of Koehring Co., Mt. Gilead, Ohio.  
 Jackes-Evans Mfg. Co., 4427 Geraldine Ave., St. Louis 15, Mo.  
 McQuay-Norris Mfg. Co., 2320 Marconi Ave., St. Louis 10, Mo.  
 Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
 Skinner Electric Valve Div., The Skinner Chuck Co., Edgewood Ave., New Britain, Conn.  
**UNITED AIRCRAFT PRODUCTS, INC.**, 1116 Bolander Ave., Dayton 1, Ohio. ADV. PG. 148.  
**VEECO VACUUM CORP.**, 86 Denton Ave., New Hyde Park, N. Y. ADV. PG. 644.

## VARISTORS

See also **CRYSTAL MOUNTS & MIXERS**  
**GENERAL ELECTRIC CO., MAGNETIC MATERIALS SECTION**, 7780 Neff Rd., Edmore, Mich. ADV. PG. 16, 17.

**GLOBAL DIV. OF CARBORUNDUM CO.**, Niagara Falls, N. Y. ADV. PG. 217.  
**INTERNATIONAL RESISTANCE CO.**, 401 N. Broad St., Philadelphia 8, Pa. ADV. PG. 189-192.  
**UNION SWITCH & SIGNAL DIV. OF WESTINGHOUSE AIR BRAKE CO.**, Pittsburgh 18, Pa. ADV. PG. 384, 385.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J.

## VARNISH—Cambric Coatings

**VARNISH—Insulating**  
 See **INSULATING COMPOUNDS**

## VIBRATION ANALYSIS EQUIPMENT

AGF Electronics, 800 N. Pitt St., Alexandria, Va.  
 Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.  
**BARRY CONTROLS, INC.**, 711 Pleasant St., Watertown 72, Mass. ADV. PG. 49.  
 Bruel & Kjaer, Naerum, Denmark.  
**BRUSH ELECTRONICS CO.**, 3405 Perkins Ave., Cleveland 14, Ohio. ADV. PG. 478, 479.  
**CALIDYNE CO., THE**, 120 Cross St., Winchester, Mass. ADV. PG. 472.  
 Chesapeake Instrument Corp., Shadyside, Md.  
 Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
**DAVIES LABORATORIES, DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO.**, 10721 Hanna St., Beltsville, Md. ADV. PG. 446.  
 Dubrov Development Co., 2358 Penn St., Burlington, N. J.  
 Dynamics Instrumentation Co. Div. of Alberhill Corp., 1118 Mission St., South Pasadena, Calif.  
**EASTERN PRECISION RESISTOR CORP.**, 675 Barbey St., Brooklyn, N. Y. ADV. PG. 451.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 Endevo Corp., 161 E. California St., Pasadena, Calif.  
 Epic, Inc., 154 Nassau St., New York 38, N. Y.  
 Erwood Inc., 1770 Berceau Ave., Chicago 13, Ill.  
 Gaertner Scientific Corp., 1239 Wrightwood Ave., Chicago 14, Ill.  
**GENERAL RADIO CO.**, 275 Massachusetts Ave., Cambridge 39, Mass. ADV. PG. 316, 317.  
 Gotham Audio Development Corp., 2 W. 46th St., New York 36, N. Y.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
 Helland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.  
 Inso Co., Div. of Barry Controls, Inc., Hollis St., Groton, Mass.  
 International Research & Development Corp., 769 Thomas-Lane, P. O. Box 1707, Cleveland 16 Ohio.  
 Kahn & Co., Inc., 541 Windsor St., Hartford 1, Conn.  
**KAY ELECTRIC CO.**, 14 Maple Ave., Pine Brook, N. J. ADV. PG. 482, 483.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 Kybernetes Co., 9 E. 40th St., New York 16, N. Y.  
 Litton Industries, Beverly Hills, Calif.  
 Massa Laboratories, Inc., 5 Fattler Rd., Hingham, Mass.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Muirhead & Co., Ltd., Beckenham Kent, England.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 South Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.  
 Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.  
 Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas.  
 Videon Electronic Corp., 902 E. Michigan St., Indianapolis 2, Ind.  
**WINKLER LABORATORIES**, 5225 N. 20th St., Phoenix, Ariz. ADV. PG. 477.

## VIBRATION ANALYSIS EQUIPMENT—

### Electronic Balancing

International Research & Development Corp., 769 Thomas-Lane, P. O. Box 1707, Cleveland 16, Ohio.  
 Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
**PANORAMIC RADIO PRODUCTS, INC.**, 10 S. Second Ave., Mt. Vernon, N. Y. ADV. PG. 360.

## VIBRATION ANALYSIS EQUIPMENT—

### High Temperature Fatigue

Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.

## VIBRATION ANALYSIS EQUIPMENT—

### Vibration Fatigue

Epic, Inc., 154 Nassau St., New York 38, N. Y.  
**GULTON INDUSTRIES, INC.**, Metuchen, N. J. ADV. PG. 425.  
 L. A. B. Corp., Skaneateles, N. Y.

**LING ELECTRONICS, INC.**, 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Maxson Instruments, Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
 Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.  
 Sperry Gyroscope Co. Div. of Sperry Rand Corp., Great Neck, N. Y.

## VIBRATION EXCITING EQUIPMENT

**ASSOCIATED TESTING LABORATORIES, INC.**, 407 Clinton Rd., Caldwell, N. J. ADV. PG. 627.  
 Bruel & Kjaer, Naerum, Denmark.  
**ELECTRO PRODUCTS LABS.**, 4501 N. Ravenswood Ave., Chicago 40, Ill. ADV. PG. 629.  
 L. A. B. Corp., Skaneateles, N. Y.  
**LING ELECTRONICS, INC.**, 5120 W. Jefferson Blvd., Los Angeles 16, Calif. ADV. PG. 526.  
 Litton Industries of Maryland, Inc., 4910 Calvert Rd., College Park, Md.  
**MB MFG. CO., A DIV. OF TETRON AMERICAN, INC.**, 1060 State St., New Haven 11, Conn. ADV. PG. 552.  
 Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
 Miller Instruments, Inc., William 325 N. Halstead Ave., Pasadena 8, Calif.  
 Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.

## VIBRATORS

**AIRPAX PRODUCTS CO.**, Middle River, Baltimore 20, Md. ADV. PG. 297-300.  
**AMERICAN TELEVISION & RADIO CO.**, 300 E. Fourth St., St. Paul 1, Minn. ADV. PG. 222.  
**CORNELL-DUBILIER ELECTRIC CORP.**, South Plainfield, N. J. ADV. PG. 111.  
 Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.  
**JAMES VIBRAPOW CO.**, 4050 N. Rockwell St., Chicago 18, Ill. ADV. PG. 542.  
**KURMAN ELECTRIC CO., INC.**, 191-193 Newel St., Brooklyn 22, N. Y. ADV. PG. 669.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
 Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridgway Rd., Minneapolis 13, Minn.  
**PRECISE MEASUREMENTS CO.**, R. D. No. 1, Millbrook Rd., Flemington, N. J. ADV. PG. 399.  
 Radiart Co., The, 3455 Vega Ave., Cleveland 13, Ohio.  
**VIBRATION RESEARCH LABS., INC.**, 97 Lake Ave., Tuckahoe, N. Y. ADV. PG. 621.  
 Vokar Corp., 7300 Huron River Drive, Dexter, Mich.

## VIBRATORS—Multivibrators

General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
 Gyro Electronics Co., 325 Canal St., New York, N. Y.  
 Tripl-T Co., Electronics Box 5352, Pasadena, Calif.

## VIBRATORS—Ultrasonic

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.  
**BRANSON ULTRASONIC CORP.**, 1 Brown House Rd., Stamford, Conn. ADV. PG. 605.

## VISCOSIMETERS WITH ELECTRONIC RECORDERS

Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**FERRANTI ELECTRIC INC.**, 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
 Fischer & Porter Co., 476 Warminster Rd., Hatboro, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 Ultrasonic Engineering Co., 2402 Second St., Peru, Ill.

## VOLTAGE REGULATING

### See **CONTROLS**

## VOLTAGE REGULATORS & STABILIZERS

### See **REGULATORS—Voltage Regulators & Stabilizers**

## VOLTAGE SUPPLIES—Decade

**ATLAS ENGINEERING CO.**, 176 Blue Hill Ave., Roxbury, Mass. ADV. PG. 600.  
**ELECTRONIC MEASUREMENTS CO.**, Lewis St. & Maple Ave., Eatontown, N. J. ADV. PG. 556.  
**INTERELECTRONICS CORP.**, 2432 Grand Concourse, New York 58, N. Y. ADV. PG. 613.  
**KEITHLEY INSTRUMENTS, INC.**, Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
**KEPCO LABS., INC.**, 131-38 Sanford Ave., Flushing 55, N. Y. ADV. PG. 45-48.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
**NJE CORPORATION**, 345 Carnegie Ave., Kenilworth, N. J. ADV. PG. 369, 370.  
 Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

## VOLTMETERS

### See **INSTRUMENTS—Electrical Measuring**

**VOLTMETERS—Digital**

Delaware Products Co., 300 Broadway, Camden 3, N. J.  
 Electro Instruments, Inc., 3794 Rosecrans, San Diego 10, Calif.  
 Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
 Helipot Corp., Newport Beach, Calif.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Hycor Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
**KIN TEL (KAY LAB)**, P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif. ADV. PG. 121-123.  
**LABORATORY FOR ELECTRONICS, INC.**, 75 Pitts St., Boston 14, Mass. ADV. PG. 358.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 Performance Measurements Co., 15310 W. McNichols, Detroit 35, Mich.  
 Southern Instruments Ltd., Computer Div., Frimley Rd., Camberley, Surrey.  
 Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.

**VOLTMETERS—Electronic**  
 See **INSTRUMENTS—Electrical Measuring**

**VOLTMETERS—Electrostatic**

**FERRANTI ELECTRIC INC.**, 30 Rockefeller Plaza, New York 20, N. Y. ADV. PG. 620.  
 Helipot Corp., Newport Beach, Calif.  
**KEITHLEY INSTRUMENTS, INC.** Dept EB, 12415 Euclid Ave., Cleveland 6, Ohio. ADV. PG. 460.  
 New England Scientific Instrument Co., Box 408, Cambridge 39, Mass.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.  
**RAWSON ELECTRICAL INSTRUMENT CO.**, 111 Potter St., Cambridge 42, Mass. ADV. PG. 528.  
**SENSITIVE RESEARCH INSTRUMENT CORP.**, 310 Main St., New Rochelle, N. Y. ADV. PG. 618.  
 Servo-Recording Instruments, Inc., 1815 W. Van Buren, Phoenix, Ariz.  
 Specialties, Inc., Skunks Misery Rd., Syosset, N. Y.  
**STICHT CO., INC., HERMAN H.**, 27 Park Place, New York 7, N. Y. ADV. PG. 649.  
 WacLine, Inc., 35 S. St. Clair St., Dayton 2, Ohio.  
 Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.

**VOLTMETERS—Slideback**

California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif.  
**COLORTONE ELECTRONICS, INC.**, 200 Frank Rd., Hicksville, N. Y. ADV. PG. 532.  
**PHOTOGRAPHIC PRODUCTS INC.**, 1000 N. Olive St., Anaheim, Calif. ADV. PG. 486.

**VOLT-OHM-MILLIAMMETERS**  
 See **INSTRUMENTS—Electrical Measuring**

**WASHERS—Insulating**

Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.  
**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
**AMERICAN LAVA CORP.**, Cherokee Blvd. & Mfrs. Rd., Chattanooga 5, Tenn. ADV. PG. 279.  
 American Mica Insulation Co., Manassquan, N. J.  
 Anti-Corrosive Metal Products Co., Castleton-On-Hudson, N. Y.  
 Asheville-Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.  
 Auburn Mfg. Co., The Pease Ave. & Stack St., Middletown, Conn.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
**CIRCON COMPONENT CO.**, Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
 Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
**ELECTRICAL INSULATION CO., INC.**, 1245 Marconi Blvd., Copiague, N. Y. ADV. PG. 699.  
 Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.  
 Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.  
 Enflo Corp., Route 38 at Airport Circle, Pennsauken, N. J.  
**FEDERAL SCREW PRODUCTS, INC.**, 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 Ford Radio & Mica Corp., 538 63rd St., Brooklyn 20, N. Y.  
**GRAYHILL, INC.**, 537 Hillgrove Ave., La Grange, Ill. ADV. PG. 493.  
**GRIES REPRODUCER CORP.**, 151 Beechwood St., New Rochelle, N. Y. ADV. PG. 573.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Isolantite Mfg. Corp., Stirling, N. J.  
 Jodee Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
 Kirchner & Co., Inc., M., 250 Humphrey St., Englewood, N. J.

Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.  
 Luzerne Rubber Co., Muirhead Ave., Trenton, N. J.  
 Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
 National Felt Co., 76 Summer St., Boston 10, Mass.  
 National Vulcanized Fibre Co., Wilmington, Del.  
**NORRICH PLASTICS CORP.**, 35 E. 32nd St., New York, N. Y. ADV. PG. 244.  
 Peerless Products Industries, 812 N. Pulaski St., Chicago 51, Ill.  
 Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.  
 Permonite Mfg. Co., 444 N. Lake Shore Dr., Chicago 11, Ill.  
**POLYMER CORPORATION, THE**, Reading, Pa. ADV. PG. 502.  
 Printloid, Inc., 93 Mercer St., New York 12, N. Y.  
**RIGHTERSON CO., THE**, 2767 Lake St., Melrose Park, Ill. ADV. PG. 530.  
 Rogers Corporation, Goodyear, Conn.  
 Sheffco Mfg. Corp., Grand & Ruby Ave., Palisades Park, N. J.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 Spruce Pine Mica Co., Spruce Pine, N. C.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.  
 Sterling Belt Co., 363-405 W. Erie St., Chicago 10, Ill.  
 Steward Mfg. Co., D. M., 3600 Jerrome Ave, Chattanooga 1, Tenn.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
**SUPERIOR STEATITE & CERAMIC CORP.**, 83-91 W. Forest Ave., Englewood, N. J. ADV. PG. 588.  
 Taylor Fibre Co., Norristown, Pa.  
 Tri-Point Plastics, Inc., 177 I. U. Willets Rd., Albertson, N. Y.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
**WESTESSER CO.**, 5701 Northwest Highway, Chicago 50, Ill.  
**WESTLAKE PLASTICS CO.**, W. Lenni Rd., Lenni Mills, Pa. ADV. PG. 557.  
 Wilmington Fibre Specialty Co., New Castle, Del.  
 Wrought Washer Mfg. Co., 2264 S. Bay St., Milwaukee 7, Wis.

**WASHERS—Lock**

Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.  
 Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
 Anti-Corrosive Metal Products Co., Castleton-On-Hudson, N. Y.  
 Autoscrew Co., 216-222 W. 18th St., New York, N. Y.  
 Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
**CIRCON COMPONENT CO.**, Santa Barbara Municipal Airport, Goleta, Calif. ADV. PG. 638.  
 Eaton Mfg. Co., Reliance Div., 25 Charles Ave., S. E., Massillon, Ohio.  
**FEDERAL SCREW PRODUCTS, INC.**, 3917 N. Kedzie Ave., Chicago 18, Ill. ADV. PG. 558.  
 Harper Co., H. M., 8200 Lehigh Ave., Morton Grove, Ill.  
 Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
**KEYSTONE BOLT & NUT CORP.**, 127 Church St., New York 7, N. Y. ADV. PG. 683.  
 National Lock Washer Co., 40 Hermon St., Newark 5, N. J.  
 Positive Lock Washer Co., 181 Miller St., Newark 5, N. J.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Shakeproof Div. of Illinois Tool Works, St. Charles Rd., Elgin, Ill.  
 Sheffco Mfg. Corp., Grand & Ruby Ave., Palisades Park, N. J.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Standard Locknut & Lockwasher Inc., 2250 Valley Ave., Indianapolis 18, Ind.  
 Star Stainless Screw Co., 655 Union Blvd., Totwa, N. J.  
 Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill.  
 Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Wrought Washer Mfg. Co., 2264 S. Bay St., Milwaukee 7, Wis.

**WATTMETERS**  
 See **INSTRUMENTS—Electrical Measuring**

**WAVEGUIDE DISSIPATIVE STRIPS**  
**WAVEGUIDE TEST EQUIPMENT**  
**WAVEGUIDES—Combination, Flexible & Rigid**  
**WAVEMETERS—Microwave**  
 See **MICROWAVE ACCESSORIES**

**WAXES**

See **INSULATING COMPOUNDS**

**WEDGES—Wood Slot**

Mitchell-Rand Insulation Co., Inc., 51 Murray St., New York 7, N. Y.

**WELDERS—Spot**

Ewald Instruments, Route 7E, Kent, Conn.  
 Litton Engineering Laboratories, P. O. Box 949, Grass Valley, Calif.  
 Peer, Inc., Benton Harbor, Mich.  
 Scientific Electric Corp., 105-119 Monroe St., Garfield, N. J.  
**STEWART ENGINEERING CO.**, Box 277, Soquel, Calif. ADV. PG. 668, 669.  
 Taylor-Winfield Corp., 1056 Mahonig, N. W., Warraq, Ohio.  
 Weldmatic Div. of Unitek Corp., 380 N. Halstead Ave., Pasadena, Calif.

**WELDING**

See **CONTROLS**

**WINDOWS—Pressurizing**

**BOMAC LABORATORIES, INC.**, Salem Rd., Beverly, Mass. ADV. PG. 186, 187.  
 Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.

**WIRE CAT WHISKERS for TRANSISTORS**

**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.  
 Micro-Wire Stranding Co., 252 Chestnut St., P. O. Box 514, Passaic, N. J.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
 Secor Metals Corp., 7 Intervale St., White Plains, N. Y.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Techalloy Co., Inc., Rahns, Pa.

**WIRE—Aluminum**

All-State Welding Alloys Co., Inc., 249 Ferris Ave., White Plains, N. Y.  
 Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
**ANCHOR METAL CO.**, 966 Meeker Ave., Brooklyn 22, N. Y. ADV. PG. 692.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Essex Wire Corp., Magent Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 I. E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
 Okonite Co., Canal St., Passaic, N. J.  
 Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.  
 Plastoid Corp., 42-61 24th St., Long Island City, N. Y.  
 Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.  
 Rome Cable Corp., Ridge St., Rome, N. Y.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Secor Metals Corp., 7 Intervale St., White Plains, N. Y.  
 South River Metal Products Co., 377-379 Turnpike, South River, N. J.  
**SURPRENANT MANUFACTURING CO.**, Dintun, Mass. ADV. PG. 449.  
 United Wire & Supply Corp., Providence 7, R. I.

**WIRE—Annunciator**

American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Atlantic Wire & Cable Corp., 119-14 14th Rd., College Point, N. Y.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.

Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 Goodline Divn., Wire Co. of America, Inc., 309 Date Ave., Alhambra, Calif.  
 Holyoke Wire & Cable Corp., 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
 Royal Electric Corp., Pawtucket, R. I.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Superior Insulated Wire Co., Route 9W, Haverstraw, N. Y.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
 Union Plastics Corp., 1630 Paterson Rd., Secaucus, N. J.

## WIRE—Antenna

Alloy Metal Wire Div. of H. K. Porter Co., Inc., Prospect Park, Pa.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Atlantic Wire & Cable Corp., 119-14 14th Rd., College Point, N. Y.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1601 Wall St., Fort Wayne, Ind.  
 Flexo Wire Div. of Copperweld Steel Co., Oswego, N. Y.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 Goodline Divn., Wire Co. of America, Inc., 309 Date Ave., Alhambra, Calif.  
 Holyoke Wire & Cable Corp., 720 Main St., Holyoke, Mass.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Radix Wire Co., 26260 Lakeland Blvd., Cleveland 32, Ohio.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Superior Insulated Wire Co., Route 9W, Haverstraw, N. Y.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
 Techalloy Co., Inc., Rahns, Pa.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Titchener & Co., E. H., 67 Clinton St., Binghamton, N. Y.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
 Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.

## WIRE—Asbestos Insulated

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 Collyer Insulated Wire Co., 249 Roosevelt Ave., Pawtucket, R. I.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
 Jonite Co., The Canal St., Passaic, N. J.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Radix Wire Co., 26260 Lakeland Blvd., Cleveland 32, Ohio.  
**REVERE CORPORATION OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.

Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Royal Electric Corp., Pawtucket, R. I.  
 Western Insulated Wire Co., 2425 E. 30th St., Los Angeles 58, Calif.

## WIRE—Beryllium Copper

Beryllium Corp., Reading, Pa.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1601 Wall St., Fort Wayne, Ind.  
**INSTRUMENT SPECIALTIES CO., INC.**, 254 Bergen Blvd., Little Falls, N. J. ADV. PG. 240.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.  
 Magnet Wire Div., Essex Wire Corp., 1601 Wall St., Ft. Wayne, Ind.  
 Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.

## WIRE—Ceramic Insulated

Aero Research Instrument Co., 315 N. Aberdeen St., Chicago 7, Ill.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Sprague Electric Co., 125 Marshal St., North Adams, Mass.

## WIRE—Copper, Bare

**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 American Brass Co., 414 Meadow St., Waterbury 20, Conn.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
 Electric Auto-Lite Co., The Champlain St., Toledo 1, Ohio.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 Garfield Wire Div., The Overlakes Corp., 142 Monroe St., Garfield, N. J.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St., Fort Wayne, Ind.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
 Nonotuck Mfg. Co., Holyoke, Mass.  
**PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
 Roebing's Sons Corp., John A., 640 Broad St., Trenton 2, N. J.  
 Rome Cable Corp., Ridge St., Rome, N. Y.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave., Chicago 41, Ill.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Standard Telephones & Cables, Ltd., Connaught House, 63 Aldwych, London, W. C. 2, England.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
 United Wire & Supply Corp., Providence 7, R. I.  
 Utility Brass & Copper Corp., 255 Conover St., Brooklyn 31, N. Y.  
 Warren Wire Co., Pownal, Vt.  
 Whitaker Cable Corp., Kansas City 16, Mo.

## WIRE—Copper-Clad

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.

Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Cos., 1635 S. Clinton St., Chicago 16, Ill.  
 Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1601 Wall St., Fort Wayne, Ind.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Improved Seamless Wire Co., 775 Eddy St., Providence 5, R. I.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St., Ft. Wayne, Ind.  
**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.

## WIRE—Copper, Insulated

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 Aero Specialties, Pleasant Valley Rd., Sutton, Mass.  
 Alpha Wire Corp., 200 Varick St., New York 14, N. Y.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, West Canal St., Winooski, Vt. ADV. PG. 647.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
 Ansonia Wire & Cable Co., 111 Martin St., Ashton, R. I.  
 Apex Wire & Cable Corp., 237 37th St., Brooklyn 32, N. Y.  
 Asco Wire & Cable Co., 2 Burroughs St., Bridgeport 7, Conn.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Atlantic Wire & Cable Corp., 119-14 14th Rd., College Point, N. Y.  
 B & M Electric Co., 838 Fourth Ave., Brooklyn 32, N. Y.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Carol Cable Div., Crescent Co., Inc., 20 Central Ave., Pawtucket, R. I.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.  
 Collyer Insulated Wire Co., 249 Roosevelt Ave., Pawtucket, R. I.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
 Diamond Wire & Cable Co., Sycamore, Ill.  
 Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza, S., Long Island City, N. Y.  
 Electric Auto-Lite Co., The Champlain St., Toledo 1, Ohio.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York 69, N. Y.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 General Insulated Wire Works, Inc., 69 Gordon Ave., Providence 5, R. I.  
 Goodline Divn., Wire Co. of America, Inc., 309 Date Ave., Alhambra, Calif.  
 Haves Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
 Holyoke Wire & Cable Corp., 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St., Ft. Wayne, Ind.  
 Miller Electric Co., 120 Main St., Pawtucket, R. I.  
 Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.

New England Electrical Works, Inc., Lisbon, N. H.  
 Okonite Co., The Canal St., Passaic, N. J.  
 Organic Development Corp., Spectra-Strip Div., 10052  
 Larson Ave., Garden Grove, Calif.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8,  
 Mass. ADV. PG. 72.  
**PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG.**  
 DIV., Fort Wayne, Ind. ADV. PG. 54, 55.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
 Plastoid Corp., 42-61 24th St., Long Island City 1,  
 N. Y.  
 Radix Wire Co., 26260 Lakeland Blvd., Cleveland 32,  
 Ohio.  
**REVERE CORPORATION OF AMERICA, SUB. OF NEP-**  
**TUNE METER CO.**, Wallingford 2, Conn. ADV. PG.  
 516.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass.  
 ADV. PG. 551.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave.,  
 Cranston, R. I.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New  
 Haven 4, Conn.  
 Roebbing's Sons Corp., John A., 640 Broad St., Trenton  
 2, N. J.  
 Rome Cable Corp., Ridge St., Rome, N. Y.  
 Royal Electric Corp., Pawtucket, R. I.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave.,  
 Chicago 41, Ill.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60,  
 N. Y.  
 Slepian & Co., Arthur, 2 Burroughs St., Bridgeport 7,  
 Conn.  
 Superior Insulated Wire Co., Route 9W, Haverstraw,  
 N. Y.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**TENSOLITE INSULATED WIRE CO., INC.**, 190 Main St.,  
 Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank,  
 Calif.  
 Times Wire & Cable Co., Wallingford, Conn.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus,  
 N. J.  
 Victor Electric Wire & Cable Corp., 618 Main St.,  
 West Warwick, R. I.  
 Warren Wire Co., Pownal, Vt.  
 Western Insulated Wire Co., 2425 E. 30th St., Los  
 Angeles 58, Calif.  
 Whitaker Cable Corp., Kansas City 16, Mo.  
 Whitney Blake Co., New Haven 14, Conn.

**WIRE—Cut and Stripped**

Accurate Insulated Wire Corp., 23 Fox St., New Haven,  
 Conn.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14,  
 N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES INC.**, West  
 Canal St., Winooski, Vt. ADV. PG. 647.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01  
 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Atlantic Wire & Cable Corp., 119-14 14th Rd., College  
 Point, N. Y.  
 B & M Electric Co., 838 Fourth Ave., Brooklyn 32,  
 N. Y.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic,  
 Conn. ADV. PG. 199.  
 Buffalo Electronics Corp., 37 Franklin St., Buffalo 2,  
 N. Y.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd.,  
 Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S.  
 Clinton St., Chicago 16, Ill.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y.  
 ADV. PG. 20.  
 Electric Auto-Lite Co., The, Champlain St., Toledo 1,  
 Ohio.  
 Empire Electronics Co., Inc., 166 River St., Paterson 1,  
 N. J.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19,  
 Mass.  
 General Cable Corp., 420 Lexington Ave., New York 17,  
 N. Y.  
 General Insulated Wire Works, Inc., 69 Gordon Ave.,  
 Providence 5, R. I.  
 Goodline Divn., Wire Co. of America, Inc., 309 Date  
 Ave., Alhambra, Calif.  
 Havg Industries, Inc., 900 Greenbank Rd., Wilmington  
 8, Del.  
 Holyoke Wire & Cable Corp., 720 Main St., Holyoke,  
 Mass.  
 Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago 13,  
 Ill.  
 Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago  
 47, Ill.  
 Manger Electric Co., Miller St., Stamford, Conn.  
 Miller Electric Co., 120 Main St., Pawtucket, R. I.  
 Mohawk Wire & Cable Corp., 320 River St., Fitchburg,  
 Mass.  
 Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8,  
 Mass. ADV. PG. 72.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken,  
 N. J.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave.,  
 Cranston, R. I.  
 Royal Electric Corp., Pawtucket, R. I.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave.,  
 Chicago 41, Ill.  
 Sheltered Workshop, 2521 5th St., Santa Monica, Calif.  
 Sittler Corp., 18 N. Ada St., Chicago 7, Ill.  
 Superior Insulated Wire Co., Route 9W, West Haver-  
 straw, N. Y.

**TENSOLITE INSULATED WIRE CO., INC.**, 190 Main St.,  
 Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Victor Electric Wire & Cable Corp., 618 Main St., West  
 Warwick, R. I.  
 Whitaker Cable Corp., Kansas City 16, Mo.  
 Wirelead Electrical Mfg., Inc., 76 Pulaski St., Stamford,  
 Conn.

**WIRE—Enameled**

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14,  
 N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W.  
 Canal St., Winooski, Vt. ADV. PG. 647.  
 Anaconda Wire & Cable Co., 25 Broadway, New York  
 4, N. Y.  
 Asco Wire & Cable Co., 2 Burroughs St., Bridgeport  
 7, Conn.  
**ASSOCIATED AMERICAN TRADING DIVISION 750**  
 St. Ann's Ave., New York 56, N. Y. ADV. PG. 573.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01  
 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J.  
 ADV. PG. 313.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44,  
 Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York  
 13, N. Y. ADV. PG. 501.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**COHN CORP., SIGMUND**, 121 S. Columbia Ave., Mt.  
 Vernon, N. Y. ADV. PG. 627.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd.,  
 Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S.  
 Clinton St., Chicago 16, Ill.  
 Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway,  
 Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison,  
 N. J. ADV. PG. 429.  
 Electric Auto-Lite Co., The, Champlain St., Toledo 1,  
 Ohio.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable  
 Div., 1601 Wall St., Fort Wayne, Ind.  
 Garfield Wire Div. of The Overlakes Corp., 142 Monroe  
 St., Garfield, N. J.  
 General Cable Corp., 420 Lexington Ave., New York 17,  
 N. Y.  
 General Electric Co., Construction Materials Div., 1285  
 Boston Ave., Bridgeport 2, Conn.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
**JELLIFF MFG. CORP., C. O.**, 200 Pequot Ave., South-  
 port, Conn. ADV. PG. 685.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck,  
 Conn. ADV. PG. 606.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St.,  
 Fort Wayne, Ind.  
 North American Phillips Co., Inc., Elmet Div., Lisbon  
 Rd., Lewiston, Maine.  
**PHELPS DODGE COPPER PRODUCTS CORP., INCA**  
**MFG. DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry,  
 N. Y. ADV. PG. 649.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave.,  
 Cranston, R. I.  
 Roebbing's Sons Corp., John A., 640 Broad St., Trenton  
 2, N. J.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60,  
 N. Y.  
 Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
 Slepian & Co., Arthur, 2 Burroughs St., Bridgeport 7,  
 Conn.  
 Techalloy Co., Inc., Rahns, Pa.  
 Warren Wire Co., Pownal, Vt.  
 Wheeler Insulated Wire Co., Inc., The, Div. of the  
 Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

**WIRE—Fine Wire Specialties**

Accurate Spring Mfg. Co., 3811 West Lake St., Chicago,  
 Ill.  
**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
 Alloy Metal Wire Div. of H. K. Porter Co., Inc., Prospect  
 Park, Pa.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14,  
 N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W.  
 Canal St., Winooski, Vt. ADV. PG. 647.  
**ART WIRE & STAMPING CO.**, 227 High St., Newark  
 N. J. ADV. PG. 62.  
**ASSOCIATED AMERICAN TRADING DIVISION**, 750 St.  
 Ann's Ave., New York 56, N. Y. ADV. PG. 573.  
 Atlantic Wire & Cable Corp., 119-14 14th Rd., College  
 Point, N. Y.  
**BARNES CO., WALLACE, DIV. OF ASSOCIATED SPRING**  
**CORP.**, Bristol, Conn. ADV. PG. 311.  
**BARNES-GIBSON-RAYMOND DIVISION**, 40300 Plymouth  
 Rd., Plymouth, Mich. ADV. PG. 311.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New  
 York 13, N. Y. ADV. PG. 501.  
 Bishop & Co., J., Platinum Works, Malvern, Pa.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Buckbee Mears Co., Tond Bldg., St. Paul 1, Minn.  
 Carpenter Steel Co., Webb Wire Div., New Brunswick,  
 N. J.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV.  
 PG. 436.  
**COHN CORP., SIGMUND**, 121 S. Columbia Ave., Mt.  
 Vernon, N. Y. ADV. PG. 627.

Consolidated Wire & Associated Cos., 1635 S. Clinton  
 St., Chicago 16, Ill.  
 Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New  
 York 36, N. Y.  
 Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
**CRUCIBLE STEEL COMPANY OF AMERICA, P. O. Box**  
 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway,  
 Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison,  
 N. J. ADV. PG. 429.  
 Dudek & Bock Spring & Mfg. Co., 4018 W. Grand Ave.,  
 Chicago 51, Ill.  
 Eastern Tool & Specialty Co., 1 Montgomery St.,  
 Belleville 9, N. J.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable  
 Div., 1601 Wall St., Fort Wayne, Ind.  
 Flexo Wire Div. of Copperweld Steel Co., Oswego, N. Y.  
 Fort Wayne Metals, Inc., Fort Wayne 6, Ind.  
**GIBSON CO., WILLIAM D., THE**, 1800 Clybourn Ave.,  
 Chicago 14, Ill. ADV. PG. 311.  
 Goodline Divn., Wire Co. of America, Inc., 309 Date Ave.,  
 Alhambra, Calif.  
 Holyoke Wire & Cable Corp., 720 Main St., Holyoke,  
 Mass.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Indiana Steel & Wire Co., Inc., 700 Conant St., Muncie,  
 Ind.  
**JELLIFF MFG. CORP., C. O.**, 200 Pequot Ave., South-  
 port, Conn. ADV. PG. 685.  
 Lenz Electric Mfg. Co., 1751 North Western Ave.,  
 Chicago 47, Ill.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 3,  
 N. J.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St.,  
 Ft. Wayne, Ind.  
 Micro-Wire Stranding Co., 252 Chestnut St., P. O.  
 Box 514, Passaic, N. J.  
**MILWAUKEE DIV. OF ASSOCIATED SPRING CORP.**,  
 341 E. Erie St., Milwaukee 2, Wis. ADV. PG. 311.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark,  
 N. J. ADV. PG. 667.  
 New England Electrical Works, Inc., Lisbon, N. H.  
**NEY CO., J. M.**, 179 Elm St., Hartford, Conn. ADV.  
 PG. 558.  
**OHIO DIV. OF ASSOCIATED SPRING CORP.**, 1825 E.  
 First St., Dayton 3, Ohio. ADV. PG. 311.  
**PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG.**  
**DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
 Plastoid Corp., 42-61 24th St., Long Island City, N. Y.  
**RAYMOND MANUFACTURING CO., Corry, Pa.** ADV. PG.  
 311.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry,  
 N. Y. ADV. PG. 649.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass.  
 ADV. PG. 551.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave.,  
 Cranston, R. I.  
 Roebbing's Sons Corp., John A., 640 Broad St., Trenton  
 2, N. J.  
**SEABOARD COIL SPRING DIVISION**, 15001 S. Broad-  
 way, Gardena, Calif. ADV. PG. 311.  
 Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
 Stanley-Judd Div. of Stanley Works, Wallingford, Conn.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway,  
 New York 19, N. Y. ADV. PG. 733-739.  
 Techalloy Co., Inc., Rahns, Pa.  
 Tevco Insulated Wire 108 Prospect Ave., Burbank,  
 Calif.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus,  
 N. J.  
 Waltham Watch Co., Instrument & Industrial Products,  
 Waltham 54, Mass.

**WIRE—Glass Insulated**

Accurate Insulated Wire Corp., 23 Fox St., New Haven,  
 Conn.  
**ACME WIRE CORP.**, New Haven 14, Conn. ADV. PG. 611.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14,  
 N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W.  
 Canal St., Winooski, Vt. ADV. PG. 647.  
 Anaconda Wire & Cable Co., 25 Broadway, New York  
 4, N. Y.  
 Asco Wire & Cable Co., 2 Burroughs St., Bridgeport 7,  
 Conn.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01  
 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York  
 13, N. Y. ADV. PG. 501.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic,  
 Conn. ADV. PG. 199.  
 Chas. Brass & Copper Co., Inc., 236 Grand St., Water-  
 bury 20, Conn.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd.,  
 Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S.  
 Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y.  
 ADV. PG. 20.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave.,  
 Chicago 40, Ill.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway,  
 Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J.  
 ADV. PG. 429.  
 Electro Auto-Lite Co., The, Champlain St., Toledo 1,  
 Ohio.

Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York 69, N. Y.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
 Holyoke Wire & Cable Corp., 720 Main St., Holyoke, Mass.  
**JELLIFF MFG. CORP.**, C. O., 200 Pequot Ave., Southport, Conn. ADV. PG. 685.  
 Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago 47, Ill.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St., Fort Wayne, Ind.  
**PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV.**, Fort Wayne Ind. ADV. PG. 54, 55.  
 Plastoid Corp., 42-61 24th St., Long Island City, N. Y.  
**REVERE CORPORATION OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave., Chicago 41, Ill.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Slepian & Co., Arthur, 2 Burroughs St., Bridgeport 7, Conn.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
 Varflex Corp., 506 W. Court St., Rome, N. Y.  
 Warren Wire Co., Pownal, Vt.

## WIRE—Gold Plated

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
 Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
 North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
 North American Research Labs., Inc., 725 Lexington Ave., Kenilworth, N. J.  
 Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**WILSON CO., H. A., THE**, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

## WIRE—Guy

American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Channel Master Co., Ellenville, N. Y.  
 Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
 E. Manufacturing, 325 N. Hoyne Ave., Chicago 12, Ill.  
 Indiana Steel & Wire Co., Inc., 700 Council St., Muncie, Ind.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Stainless, Inc., Third St., North Wales, Pa.  
 Techalloy Co., Inc., Rahns, Pa.  
 Walco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

## WIRE—High Voltage

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
 Ansonia Wire & Cable Co., 111 Martin St., Ashton, R. I.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Atlantic Wire & Cable Corp., 119-14 14th Rd., College Point, N. Y.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.

Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
 Dielectric Materials Co., 5315-17 North Ravenswood Ave., Chicago 40, Ill.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 Goodline Divn., Wire Co. of America, Inc., 309 Date Ave., Alhambra, Calif.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.  
 Okonite Co., The Canal St., Passaic, N. J.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
 Plastic Wire & Cable Corp., Jewett City, Conn.  
 Plastoid Corp., 42-61 24th St., Long Island City, N. Y.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Rome Cable Corp., Ridge St., Rome, N. Y.  
 Royal Electric Corp., Pawtucket, R. I.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Warren Wire Co., Pownal, Vt.

## WIRE—Hook-up

Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Atlantic Wire & Cable Corp., 119-14 14th Rd., College Point, N. Y.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.  
**CORNISH WIRE CO.**, 50 Church St., New York 7, N. Y. ADV. PG. 20.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
 Electro Auto-Lite Co., The Champlain St., Toledo 1, Ohio.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York 69, N. Y.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Flexo Wire Div. of Copperweld Steel Co., Oswego, N. Y.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 Havg Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.  
 Goodline Divn., Wire Co. of America, Inc., 309 Date Ave., Alhambra, Calif.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Holyoke Wire & Cable Corp., 720 Main St., Holyoke, Mass.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago 47, Ill.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St., Fort Wayne, Ind.  
 Miller Electric Co., 120 Main St., Pawtucket, R. I.  
 Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.  
 Okonite Co., Canal St., Passaic, N. J.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.

Plastic Wire & Cable Corp., Jewett City, Conn.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Radix Wire Co., 26260 Lakeland Blvd., Cleveland 32, Ohio.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
**REVERE CORP. OF AMERICA SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Rome Cable Corp., Ridge St., Rome, N. Y.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave., Chicago 41, Ill.  
 Saxton Products Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Superior Insulated Wire Co., Route 9W, West Haverstraw, N. Y.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**TENSOLITE INSULATED WIRE CO., INC.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
 Tevco Insulated Wire, 108 Prospect Ave., Burbank, Calif.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
 Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.  
 Warren Wire Co., Pownal, Vt.  
 Whitaker Cable Corp., Kansas City 16, Mo.

## WIRE—Litz

Asco Wire & Cable Co., 2 Burroughs St., Bridgeport 7, Conn.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 Consolidated Wire & Associated Cos., 1635 S. Clinton St., Chicago 16, Ill.  
 Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York 69, N. Y.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
 Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 New England Electrical Works, Inc., Lisbon, N. H.  
 Slepian & Co., Arthur, 2 Burroughs St., Bridgeport 7, Conn.  
 Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

## WIRE—Magnet

**ACME WIRE CO.**, New Haven 14, Conn. ADV. PG. 611.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
 Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.  
 Asco Wire & Cable Co., 2 Burroughs St., Bridgeport 7, Conn.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
 Chase Brass & Copper Co., Inc., 236 Grant St., Waterbury 20, Conn.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
**CRUCIBLE STEEL COMPANY OF AMERICA, P. O. Box 1558**, Pittsburgh 30, Pa. ADV. PG. 305-308.  
 Electric Auto-Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.  
 Electro Auto-Lite Co., The Champlain St., Toledo 1, Ohio.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York 69, N. Y.  
 Garfield Wire Div. of The Overlakes Corp., 142 Monroe St., Garfield, N. J.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St., Ft. Wayne, Ind.  
 New England Electrical Works, Inc., Lisbon, N. H.  
 North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.



**PHELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV.**, Fort Wayne, Ind. ADV. PG. 54, 55.  
**Rea Magnet Wire Co., Inc.**, East Pontiac St., Fort Wayne, Ind.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
**Rockbestos Products Corp.**, Nicoll & Canner Sts., New Haven 4, Conn.  
**Roebing's Sons Corp.**, John A., 640 Broad St., Trenton 2, N. J.  
**Rome Cable Corp.**, Ridge St., Rome, N. Y.  
**Saxton Products Inc.**, 1661 Boone Ave., Bronx 60, N. Y.  
**Slepian & Co.**, Arthur, 2 Burroughs St., Bridgeport 7, Conn.  
**Sprague Electric Co.**, 125 Marshall St., North Adams, Mass.  
**TENSOLITE INSULATED WIRE CO.**, 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
**Tensolite Specialties, Inc.**, 198 Main St., Tarrytown, N. Y.  
**Trent Tube Co.**, East Troy, N. Y.  
**Warren Wire Co.**, Pownal, Vt.  
**Wheeler Insulated Wire Co., Inc.**, The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.

**WIRE—Metal Shielded**

**Alpha Metals, Inc.**, 60 Water St., Jersey City, N. J.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**Anaconda Wire & Cable Co.**, 25 Broadway, New York 4, N. Y.  
**Atlantic Wire & Cable Corp.**, 119-14 14th Rd., College Point, N. Y.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**Consolidated Wire & Associated Cos.**, 1635 S. Clinton St., Chicago 16, Ill.  
**Continental Wire Sales Corp.**, Wallingford, Conn.  
**Federal Cable Div. of Royal Electric Corp.**, 95 Grand Ave., Pawtucket, R. I.  
**General Cable Corp.**, 420 Lexington Ave., New York 17, N. Y.  
**General Electric Co.**, Construction Materials, Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**Hallett Mfg. Co.**, 1601 W. Florence Ave., Inglewood, Calif.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**Holyoke Wire & Cable Corp.**, 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
**Mohawk Wire & Cable Corp.**, 320 River St., Fitchburg, Mass.  
**Plastoid Corp.**, 42-61 24th St., Long Island City, N. Y.  
**Precision Tube Co., Inc.**, North Wales, Pa.  
**REX CORP., THE.**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**Rockbestos Products Corp.**, Nicoll & Canner Sts., New Haven 4, Conn.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Tevco Insulated Wire**, 108 Prospect Ave., Burbank, Calif.  
**Union Plastics Corp.**, 1630 Paterson Plank Rd., Secaucus, N. J.  
**Warren Wire Co.**, Pownal, Vt.  
**Whitney Blake Co.**, New Haven 4, Conn.

**WIRE—Molybdenum**

**Associated Engineering & Mfg. Corp.**, Glen Ridge, N. J.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
**Fansteel Metallurgical Corp.**, 2200 Sheridan Rd., North Chicago, Ill.  
**General Electric Co.**, Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
**Micro-Wire Stranding Co.**, 252 Chestnut St., P. O. Box 514, Passaic, N. J.  
**Murex Ltd.**, Rainham, Essex, England.  
**North American Phillips Co., Inc.**, Elmet Div., Lisbon Rd., Lewiston, Maine.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Techalloy Co., Inc.**, Rahns, Pa.

**WIRE—Monel**

**Alloy Metal Wire Div. of H. K. Porter Co., Inc.**, Prospect Park, Pa.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**Consolidated Wire & Associated Companies**, 1635 S. Clinton St., Chicago 16, Ill.  
**DRIVER CO., WILBUR B.**, 1875 MacCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.

**International Nickel Co., Inc.**, 67 Wall St., New York 5, N. Y.  
**JELLIFF MFG. CORP., C. O.**, 200 Pequot Ave., Southport, Conn. ADV. PG. 685.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
**Techalloy Co., Inc.**, Rahns, Pa.

**WIRE—Nickel Clad Copper**

**Alloy Metal Wire Div. of H. K. Porter Co., Inc.**, Prospect Park, Pa.  
**American Leonie Mfg. Co.**, Amber & Hagert Sts., Philadelphia 25, Pa.  
**Associated Engineering & Mfg. Co.**, Glen Ridge, N. J.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Buckbee Mears Co.**, Toni Bldg., St. Paul 1, Minn.  
**Consolidated Wire & Associated Companies**, 1635 S. Clinton St., Chicago 16, Ill.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
**Improved Seamless Wire Co.**, 775 Eddy St., Providence 5, R. I.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
**Little Falls Alloys, Inc.**, 190 Caldwell Ave., Paterson 1, N. J.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Techalloy Co., Inc.**, Rahns, Pa.

**WIRE—Phosphor Bronze**

**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**American Brass Co.**, 414 Meadow St., Waterbury 20, Conn.  
**American Leonie Mfg. Co.**, Amber & Hagert Sts., Philadelphia 2, Pa.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**Bridgeport Brass Co.**, 30 Grand St., Bridgeport, Conn.  
**Chase Brass & Copper Co., Inc.**, 236 Grand St., Waterbury 20, Conn.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**Consolidated Wire & Associated Cos.**, 1635 S. Clinton St., Chicago 16, Ill.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
**Little Falls Alloys, Inc.**, 190 Caldwell Ave., Paterson 1, N. J.  
**Mallory & Co., Inc.**, P. R., 34 S. Gray St., Indianapolis 6, Ind.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.

**WIRE—Plastic Insulated**

**Accurate Insulated Wire Corp.**, 23 Fox St., New Haven, Conn.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**Anaconda Wire & Cable Co.**, 25 Broadway, New York 4, N. Y.  
**Ansonia Wire & Cable Co.**, 111 Martin St., Ashton, R. I.  
**Apex Wire & Cable Corp.**, 237 37th St., Brooklyn 32, N. Y.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Atlantic Wire & Cable Corp.**, 119-14 14th Rd., College Point, N. Y.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
**Channel Master Co.**, Ellenville, N. Y.  
**CHESTER CABLE CORP.**, Hill St., Chester, N. Y. ADV. PG. 436.  
**Collyer Insulated Wire Co.**, 249 Roosevelt Ave., Pawtucket, R. I.  
**Columbia Wire Supply Co.**, 2850 Irving Park Rd., Chicago 18, Ill.  
**Consolidated Wire & Associated Companies**, 1635 S. Clinton St., Chicago 16, Ill.  
**Continental Wire Sales Corp.**, Wallingford, Conn.  
**CRYSTAL-X CORP.**, 4303 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
**Dielectric Materials Co.**, 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
**Eagle Electric Mfg. Co., Inc.**, 23-10 Bridge Plaza, S., Long Island City, N. Y.  
**Electro Auto-Lite Co.**, The, Champlain St., Toledo 1, Ohio.  
**Essex Wire Corp.**, Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
**Fairbanks Wire Co., Inc.**, 2287 Hollers Ave., New York 69, N. Y.  
**Federal Cable Div. of Royal Electric Corp.**, 95 Grand Ave., Pawtucket, R. I.

**Federal Telecommunication Labs.**, A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
**General Cable Corp.**, 420 Lexington Ave., New York 17, N. Y.  
**General Insulated Wire Works, Inc.**, 69 Gordon Ave., Providence 5, N. Y.  
**Goodline Divn. Wire Co. of America, Inc.**, 309 Date Ave., Alhambra, Calif.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**Holyoke Wire & Cable Corp.**, 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
**Jersey Specialty Co.**, Burgess Place, Mountainview, N. J.  
**Kaiser Aluminum & Chemical Sales, Inc.**, 919 N. Michigan Ave., Chicago, Ill.  
**Lenz Electric Mfg. Co.**, 1751 North Western Ave., Chicago 47, Ill.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
**Miller Electric Co.**, 120 Main St., Pawtucket, R. I.  
**Mohawk Wire & Cable Corp.**, 320 River St., Fitchburg, Mass.  
**New England Tape Co.**, Hudson, Mass.  
**Onokite Co.**, The, Canal St., Passic, N. J.  
**Organic Development Corp.**, Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
**PHALO PLASTICS CORP.**, 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**Plastic Wire & Cable Corp.**, Jewett City, Conn.  
**Plastoid Corp.**, 42-61 24th St., Long Island City 1, N. Y.  
**Rego Insulated Wire Co.**, 830 Monroe St., Hoboken, N. J.  
**REVERE CORPORATION OF AMERICA, SUB. OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**Rhode Island Insulated Wire Co.**, 50 Burnham Ave., Cranston, R. I.  
**Rockbestos Products, Nicoll & Canner Sts.**, New Haven 4, Conn.  
**Roebing's Sons Corp.**, John A., 640 Broad St., Trenton 2, N. J.  
**Rome Cable Corp.**, Ridge St., Rome, N. Y.  
**Royal Electric Corp.**, Pawtucket, R. I.  
**Runzel Cord & Wire Co.**, 4723-31 W. Montrose Ave., Chicago 41, Ill.  
**Sequoia Process Corp.**, 2201 Bay Rd., Redwood City, Calif.  
**Standard Telephones & Cables, Ltd.**, Connaught House, 63 Aldwych, London, W.C.2, England.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**Tevco Insulated Wire**, 108 Prospect Ave., Burbank, Calif.  
**Union Plastics Corp.**, 1630 Paterson Plank Rd., Secaucus, N. J.  
**Victor Electric Wire & Cable Corp.**, 618 Main St., West Warwick, R. I.  
**Whitaker Cable Corp.**, Kansas City 16, Mo.  
**Whitney Blake Co.**, New Haven 14, Conn.

**WIRE—Platinum**

**American Platinum Works**, N. J. R. R. Ave. at Oliver St., Newark 5, N. J.  
**BAKER & CO., INC.**, 113 Astor St., Newark 5, N. J. ADV. PG. 313.  
**Bishop & Co., J.**, Platinum Works, Malvern, Pa.  
**Bram Chemical Co.**, 820 65th Ave., Philadelphia 26, Pa.  
**Bristol Co., The**, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**Cooper & Sons, Inc.**, Joseph B., 25 W. 47th St., New York 36, N. Y.  
**Eastern Smelting & Refining Corp.**, 107-109 W. Brookline St., Boston 18, Mass.  
**Goldsmith Bros. Smelting & Refining Co.**, 111 N. Wabash Ave., Chicago 2, Ill.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**Metz Refining Co.**, 369 Mulberry St., Newark 2, N. J.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
**Secan Metals Corp.**, 7 Intervale St., White Plains, N. Y.  
**Tricon Mfg. Co.**, 8012 S. Wallace St., Chicago 20, Ill.  
**Wildberg Bros.**, Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.  
**WILSON CO., H. A., THE**, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

**WIRE—Precious Metal Plated**See **WIRE—Silver Plated****WIRE—Recording**

**Alloy Metal Wire Div. of H. K. Porter Co., Inc.**, Prospect Park, Pa.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**Fidelitone, Inc.**, 6415 Ravenswood, Chicago 26, Ill.  
**Fort Wayne Metals, Inc.**, Fort Wayne 6, Ind.  
**Permo, Inc.**, 6415 Ravenswood Ave., Chicago 26, Ill.  
**Techalloy Co., Inc.**, Rahns, Pa.  
**Union Plastics Corp.**, 1630 Paterson Plank Rd., Secaucus, N. J.

### WIRE—Resistance and Filament

Alloy Metal Wire Div. of H. K. Porter Co., Inc., Prospect Park, Pa.  
 American Leonic Mfg. Co., Amber & Hagert Sts., Philadelphia 25, Pa.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Hoskins Mfg. Co., 4445 Lawton Ave., Detroit 8, Mich.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**JELLIFF MFG. CORP., C. O.**, 200 Pequot Ave., Southport, Conn. ADV. PG. 685.  
**KANTHAL CORP.**, Amelia Place, Stamford, Conn. ADV. PG. 476.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
 Secor Metals Corp., 7 Intervale St., White Plains, N. Y.  
 Techalloy Co., Inc., Rahns, Pa.

### WIRE—Silver Plated

**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
 Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
 Electro Auto-Lite Co., The, Champlain St., Toledo 1, Ohio.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Illumitronic Engineering, 680 E. Taylor Ave., Sunnyvale, Calif.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.  
**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
 North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
 North American Research Labs, Inc., 725 Lexington Ave., Kenilworth, N. J.  
 Plastoid Corp., 42-61 24th St., Long Island City, N. Y.  
 Secor Metals Corp., 7 Intervale St., White Plains, N. Y.  
 Standard Metals Corp., Broad & Whiting Sts., North Attleboro, Mass.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Techalloy Co., Inc., Rahns, Pa.  
 Times, Wire & Cable Co., Wallingford, Conn.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
**WILSON CO., THE, H. A.**, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

### WIRE—Stainless Steel

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
 Alloy Metal Wire Division of H. K. Porter Company, Inc., Prospect Park, Pa.  
 American Leonic Mfg. Co., Amber & Hagert Sts., Philadelphia 25, Pa.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
 Armco Steel Corp., 730 Curtis St., Middletown, Ohio.  
 Carpenter Steel Co., Webb Wire Div., New Brunswick, N. J.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Fort Wayne Metals, Inc., Fort Wayne 6, Ind.  
 Hoskins Mfg. Co., 4445 Lawton Ave., Detroit 8, Mich.  
 Indiana Steel & Wire Co., Inc., 700 Council St., Muncie, Ind.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago 16, Ill.

**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Techalloy Co., Inc., Rahns, Pa.  
 Trent Tube Co., East Troy, N. Y.

### WIRE—Tantalum

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
 Murex Ltd., Rainham, Essex, England.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.

### WIRE—Teflon Insulated

**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Electro Auto-Lite Co., The, Champlain St., Toledo 1, Ohio.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York 69, N. Y.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 Havg Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St., Fort Wayne, Ind.  
 Okonite Co., Canal St., Passaic, N. J.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
**REVERE CORPORATION OF AMERICA, SUB OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
 Times, Wire & Cable Co., Wallingford, Conn.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.

### WIRE—Titanium

Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
 Rem-Cru Titanium, Inc., Midland, Pa.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Techalloy Co., Inc., Rahns, Pa.  
 Trent Tube Co., East Troy, N. Y.

### WIRE—Tungsten

**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.

**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
 General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
 Micro-Wire Stranding Co., 252 Chestnut St., P. O. Box 514, Passaic, N. J.  
 Murex Ltd., Rainham, Essex, England.  
 North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

### WIRE—Zirconium

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Murex Ltd., Rainham, Essex, England.  
 Techalloy Co., Inc., Rahns, Pa.

### WIRE MARKING—Service

Acromark Company, Inc., 323 Morrell St., Elizabeth 4, N. J.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 Apex Machine Co., 14-13 118 Sts., College Point 56, N. Y.  
 Artos Engineering Co., 2737 S. 28th St., Milwaukee, Wis.  
 Bolling Industries, Inc., 1117 N. Main Ave., Scranton 2, Pa.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Duramark, Inc., 2 Secatoag Ave., Fort Washington, N. Y.  
 Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
**MARKWIK MFG. CO., INC.**, 31 Sexton Rd., Plainville, N. Y. ADV. PG. 498.  
 Panelgraphic Corp., P. O. Box 254, Caldwell, N. J.  
 Sheltered Workshop, 2521 Fifth St., Santa Monica, Calif.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**WESTLINE PRODUCTS DIV. OF WESTERN LITHOGRAPH CO.**, 600 E. Second St., Los Angeles 54, Calif. ADV. PG. 470.  
 Whitaker Cable Corp., Kansas City 16, Mo.

### WIRE STRIPPERS—Chemical

Ellanar Chemical Co., 2308 Oakton St., Evanston, Ill.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.  
 Walsco Electronics Mfg. Co., 100 Greer St., Rockford, Ill.

### WIRE STRIPPERS—Hand

**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 Holub Industries, Inc., 414 DeKalb Ave., Sycamore, Ill.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
**JFD MFG. CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
 Millen Co., Edward L., 90 Summit Ave., Brookline, Mass.  
 Multicore Solders, Ltd., Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
 Rush Wire Stripper Div., The Eraser Co., Inc., 1068 S. Clinton St., Syracuse 4, N. Y.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
**WENCO MFG. CO.**, 1133 W. Hubbard St., Chicago 22, Ill. ADV. PG. 520.  
 Whitaker Cable Corp., Kansas City 16, Mo.

### WIRE STRIPPERS—Mechanical

Artos Engineering Co., 2737 S. 28th St., Milwaukee, Wis.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 High Speed Hammer Co., Rochester, N. Y.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
 Rush Wire Stripper Div., The Eraser Co., Inc., 1068 S. Clinton St., Syracuse 4, N. Y.  
 Stevens Mfg. Co., George, 6022 N. Rogers Ave., Pulaski & Peterson, Chicago 30, Ill.  
 Technical Devices Co., 2346 Centinela Ave., Los Angeles 64, Calif.  
**THOMAS INSTRUMENT CO.**, Three Rivers, Phoenix, N. Y. ADV. PG. 420.  
**WENCO MFG. CO.**, 1133 W. Hubbard St., Chicago 22, Ill. ADV. PG. 520.  
 Wire Stripper Co., 1722 Eastham Ave., East Cleveland 12, Ohio.

- HELPS DODGE COPPER PRODUCTS CORP., INCA MFG. DIV.,** Fort Wayne, Ind. ADV. PG. 54, 55.  
**Rea Magnet Wire Co., Inc.,** East Pontiac St., Fort Wayne, Ind.  
**REMBAR CO., INC., THE,** 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
**Rockbestos Products Corp.,** Nicoll & Canner Sts., New Haven 4, Conn.  
**Roebing's Sons Corp.,** John A., 640 Broad St., Trenton 2, N. J.  
**Rome Cable Corp.,** Ridge St., Rome, N. Y.  
**Saxton Products Inc.,** 1661 Boone Ave., Bronx 60, N. Y.  
**Slepian & Co.,** Arthur, 2 Burroughs St., Bridgeport 7, Conn.  
**Sprague Electric Co.,** 125 Marshall St., North Adams, Mass.  
**TENSOLITE INSULATED WIRE CO.,** 190 Main St., Tarrytown, N. Y. ADV. PG. 261-264.  
**Tensolite Specialties, Inc.,** 198 Main St., Tarrytown, N. Y.  
**Trent Tube Co.,** East Troy, N. Y.  
**Warren Wire Co.,** Pownal, Vt.  
**Wheeler Insulated Wire Co., Inc.,** The, Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.
- WIRE—Metal Shielded**  
**Alpha Metals, Inc.,** 60 Water St., Jersey City, N. J.  
**ALPHA WIRE CORP.,** 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.,** W. Canal St., Winooski, Vt. ADV. PG. 647.  
**Anaconda Wire & Cable Co.,** 25 Broadway, New York 4, N. Y.  
**Atlantic Wire & Cable Corp.,** 119-14 14th Rd., College Point, N. Y.  
**BIRNBACH RADIO CO., INC.,** 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.,** 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**Consolidated Wire & Associated Cos.,** 1635 S. Clinton St., Chicago 16, Ill.  
**Continental Wire Sales Corp.,** Wallingford, Conn.  
**Federal Cable Div. of Royal Electric Corp.,** 95 Grand Ave., Pawtucket, R. I.  
**General Cable Corp.,** 420 Lexington Ave., New York 17, N. Y.  
**General Electric Co.,** Construction Materials, Div., 1285 Boston Ave., Bridgeport 2, Conn.  
**Hallett Mfg. Co.,** 1601 W. Florence Ave., Inglewood, Calif.  
**HITEMP WIRES, INC.,** 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**Holyoke Wire & Cable Corp.,** 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.,** Ossining, N. Y. ADV. PG. 287.  
**Mohawk Wire & Cable Corp.,** 320 River St., Fitchburg, Mass.  
**Plastoid Corp.,** 42-61 24th St., Long Island City, N. Y.  
**Precision Tube Co., Inc.,** North Wales, Pa.  
**REX CORP., THE,** Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**Rockbestos Products Corp.,** Nicoll & Canner Sts., New Haven 4, Conn.  
**SURPRENANT MFG. CO.,** Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS INC.,** 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Tevco Insulated Wire,** 108 Prospect Ave., Burbank, Calif.  
**Union Plastics Corp.,** 1630 Paterson Plank Rd., Secaucus, N. J.  
**Warren Wire Co.,** Pownal, Vt.  
**Whitney Blake Co.,** New Haven 4, Conn.
- WIRE—Molybdenum**  
**Associated Engineering & Mfg. Corp.,** Glen Ridge, N. J.  
**Bram Chemical Co.,** 820 65th Ave., Philadelphia 26, Pa.  
**EISLER ENGINEERING CO., INC.,** 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
**ELECTRONIC PARTS MFG. CO., INC.,** 508-10 25th St., Union City, N. J. ADV. PG. 536.  
**Fansteel Metallurgical Corp.,** 2200 Sheridan Rd., North Chicago, Ill.  
**General Electric Co.,** Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
**Micro-Wire Stranding Co.,** 252 Chestnut St., P. O. Box 514, Passaic, N. J.  
**Murex Ltd.,** Rainham, Essex, England.  
**North American Phillips Co., Inc.,** Elmet Div., Lisbon Rd., Lewiston, Maine.  
**REMBAR CO., INC., THE,** 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
**SYLVANIA ELECTRIC PRODUCTS, INC.,** 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Techalloy Co., Inc.,** Rahns, Pa.
- WIRE—Monel**  
**Alloy Metal Wire Div. of H. K. Porter Co., Inc.,** Prospect Park, Pa.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.,** 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Bram Chemical Co.,** 820 65th Ave., Philadelphia 26, Pa.  
**Consolidated Wire & Associated Companies,** 1635 S. Clinton St., Chicago 16, Ill.  
**DRIVER CO., WILBUR B.,** 1875 MacCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.,** 201 Middlessex St., Harrison, N. J. ADV. PG. 429.  
**HUDSON WIRE CO.,** Ossining, N. Y. ADV. PG. 287.
- International Nickel Co., Inc.,** 67 Wall St., New York 5, N. Y.  
**JELLIFF MFG. CORP., C. O.,** 200 Pequot Ave., Southport, Conn. ADV. PG. 685.  
**NESOR ALLOY PRODUCTS CO.,** 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
**Techalloy Co., Inc.,** Rahns, Pa.
- WIRE—Nickel Clad Copper**  
**Alloy Metal Wire Div. of H. K. Porter Co., Inc.,** Prospect Park, Pa.  
**American Leonic Mfg. Co.,** Amber & Hagert Sts., Philadelphia 25, Pa.  
**Associated Engineering & Mfg. Co.,** Glen Ridge, N. J.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.,** 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Buckbee Mears Co.,** Toni Bldg., St. Paul 1, Minn.  
**Consolidated Wire & Associated Companies,** 1635 S. Clinton St., Chicago 16, Ill.  
**ELECTRONIC PARTS MFG. CO., INC.,** 508-10 25th St., Union City, N. J. ADV. PG. 536.  
**HUDSON WIRE CO.,** Ossining, N. Y. ADV. PG. 287.  
**Improved Seamless Wire Co.,** 775 Eddy St., Providence 5, R. I.  
**LEACH & GARNER CO.,** Attleboro, Mass. ADV. PG. 327.  
**Little Falls Alloys, Inc.,** 190 Caldwell Ave., Paterson 1, N. J.  
**NESOR ALLOY PRODUCTS CO.,** 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
**SURPRENANT MFG. CO.,** Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS, INC.,** 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
**Techalloy Co., Inc.,** Rahns, Pa.
- WIRE—Phosphor Bronze**  
**ALPHA WIRE CORP.,** 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**American Brass Co.,** 414 Meadow St., Waterbury 20, Conn.  
**American Leonic Mfg. Co.,** Amber & Hagert Sts., Philadelphia 2, Pa.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.,** 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**BIRNBACH RADIO CO., INC.,** 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**Bram Chemical Co.,** 820 65th Ave., Philadelphia 26, Pa.  
**Bridgeport Brass Co.,** 30 Grand St., Bridgeport, Conn.  
**Chase Brass & Copper Co., Inc.,** 236 Grand St., Waterbury 20, Conn.  
**COHN CORP., SIGMUND,** 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**Consolidated Wire & Associated Cos.,** 1635 S. Clinton St., Chicago 16, Ill.  
**HUDSON WIRE CO.,** Ossining, N. Y. ADV. PG. 287.  
**Little Falls Alloys, Inc.,** 190 Caldwell Ave., Paterson 1, N. J.  
**Mallory & Co., Inc.,** P. R., 34 S. Gray St., Indianapolis 6, Ind.  
**NESOR ALLOY PRODUCTS CO.,** 282 Halsey St., Newark, N. J. ADV. PG. 667.  
**SURPRENANT MFG. CO.,** Clinton, Mass. ADV. PG. 449.
- WIRE—Plastic Insulated**  
**Accurate Insulated Wire Corp.,** 23 Fox St., New Haven, Conn.  
**ALPHA WIRE CORP.,** 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**Anaconda Wire & Cable Co.,** 25 Broadway, New York 4, N. Y.  
**Ansonia Wire & Cable Co.,** 111 Martin St., Ashton, R. I.  
**Apex Wire & Cable Corp.,** 237 37th St., Brooklyn 32, N. Y.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.,** 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**Atlantic Wire & Cable Corp.,** 119-14 14th Rd., College Point, N. Y.  
**BIRNBACH RADIO CO., INC.,** 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.,** 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**BRAND & CO., INC., WILLIAM,** 41 North St., Willimantic, Conn. ADV. PG. 199.  
**Channel Master Co.,** Ellenville, N. Y.  
**CHESTER CABLE CORP.,** Hill St., Chester, N. Y. ADV. PG. 436.  
**Collyer Insulated Wire Co.,** 249 Roosevelt Ave., Pawtucket, R. I.  
**Columbia Wire Supply Co.,** 2850 Irving Park Rd., Chicago 18, Ill.  
**Consolidated Wire & Associated Companies,** 1635 S. Clinton St., Chicago 16, Ill.  
**Continental Wire Sales Corp.,** Wallingford, Conn.  
**CRYSTAL-X CORP.,** 4303 Lenni Rd., Lenni Mills 2, Pa. ADV. PG. 557.  
**Dielectric Materials Co.,** 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
**Eagle Electric Mfg. Co., Inc.,** 23-10 Bridge Plaza, S., Long Island City, N. Y.  
**Electro Auto-Lite Co.,** The, Champlain St., Toledo 1, Ohio.  
**Essex Wire Corp.,** Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
**Fairbanks Wire Co., Inc.,** 2287 Hollers Ave., New York 69, N. Y.  
**Federal Cable Div. of Royal Electric Corp.,** 95 Grand Ave., Pawtucket, R. I.
- Federal Telecommunication Labs.,** A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
**General Cable Corp.,** 420 Lexington Ave., New York 17, N. Y.  
**General Insulated Wire Works, Inc.,** 69 Gordon Ave., Providence 5, N. Y.  
**Goodline Divn.,** Wire Co. of America, Inc., 309 Date Ave., Alhambra, Calif.  
**HITEMP WIRES, INC.,** 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**Holyoke Wire & Cable Corp.,** 720 Main St., Holyoke, Mass.  
**HUDSON WIRE CO.,** Ossining, N. Y. ADV. PG. 287.  
**Jersey Specialty Co.,** Burgess Place, Mountainview, N. J.  
**Kaiser Aluminum & Chemical Sales, Inc.,** 919 N. Michigan Ave., Chicago, Ill.  
**Lenz Electric Mfg. Co.,** 1751 North Western Ave., Chicago 47, Ill.  
**LEWIS ENGINEERING CO.,** 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
**Miller Electric Co.,** 120 Main St., Pawtucket, R. I.  
**Mohawk Wire & Cable Corp.,** 320 River St., Fitchburg, Mass.  
**New England Tape Co.,** Hudson, Mass.  
**Okonite Co.,** The Canal St., Passic, N. J.  
**Organic Development Corp.,** Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
**PHALO PLASTICS CORP.,** 25 Foster St., Worcester 8, Mass. ADV. PG. 72.  
**Plastic Wire & Cable Corp.,** Jewett City, Conn.  
**Plastoid Corp.,** 42-61 24th St., Long Island City 1, N. Y.  
**Rego Insulated Wire Co.,** 830 Monroe St., Hoboken, N. J.  
**REVERE CORPORATION OF AMERICA, SUB. OF NEPTUNE METER CO.,** Wallingford 2, Conn. ADV. PG. 516.  
**REX CORP., THE,** Hayward Rd., West Acton, Mass. ADV. PG. 551.  
**Rhode Island Insulated Wire Co.,** 50 Burnham Ave., Cranston, R. I.  
**Rockbestos Products, Nicoll & Canner Sts.,** New Haven 4, Conn.  
**Roebing's Sons Corp.,** John A., 640 Broad St., Trenton 2, N. J.  
**Rome Cable Corp.,** Ridge St., Rome, N. Y.  
**Royal Electric Corp.,** Pawtucket, R. I.  
**Runzel Cord & Wire Co.,** 4723-31 W. Montrose Ave., Chicago 41, Ill.  
**Sequoia Process Corp.,** 2201 Bay Rd., Redwood City, Calif.  
**Standard Telephones & Cables, Ltd.,** Connaught House, 63 Aldwych, London, W.C.2, England.  
**SURPRENANT MFG. CO.,** Clinton, Mass. ADV. PG. 449.  
**Tevco Insulated Wire,** 108 Prospect Ave., Burbank, Calif.  
**Union Plastics Corp.,** 1630 Paterson Plank Rd., Secaucus, N. J.  
**Victor Electric Wire & Cable Corp.,** 618 Main St., West Warwick, R. I.  
**Whitaker Cable Corp.,** Kansas City 16, Mo.  
**Whitney Blake Co.,** New Haven 14, Conn.
- WIRE—Platinum**  
**American Platinum Works, N. J. R. R. Ave. at Oliver St.,** Newark 5, N. J.  
**BAKER & CO., INC.,** 113 Astor St., Newark 5, N. J. ADV. PG. 313.  
**Bishop & Co., J.,** Platinum Works, Malvern, Pa.  
**Bram Chemical Co.,** 820 65th Ave., Philadelphia 26, Pa.  
**Bristol Co.,** The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
**COHN CORP., SIGMUND,** 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**Cooper & Sons, Inc.,** Joseph B., 25 W. 47th St., New York 36, N. Y.  
**Eastern Smelting & Refining Corp.,** 107-109 W. Brookline St., Boston 18, Mass.  
**Goldsmith Bros. Smelting & Refining Co.,** 111 N. Wabash Ave., Chicago 2, Ill.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.,** 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**Metz Refining Co.,** 369 Mulberry St., Newark 2, N. J.  
**NESOR ALLOY PRODUCTS CO.,** 282 Halsey St., Newark, N. J. ADV. PG. 667.  
**Secan Metals Corp.,** 7 Intervale St., White Plains, N. Y.  
**Tricon Mfg. Co.,** 8012 S. Wallace St., Chicago 20, Ill.  
**Wildberg Bros.,** Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.  
**WILSON CO., H. A., THE,** 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.
- WIRE—Precious Metal Plated**  
**See WIRE—Silver Plated**
- WIRE—Recording**  
**Alloy Metal Wire Div. of H. K. Porter Co., Inc.,** Prospect Park, Pa.  
**BOSTON INSULATED WIRE & CABLE CO.,** 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**COHN CORP., SIGMUND,** 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**CRUCIBLE STEEL COMPANY OF AMERICA, P. O. Box** 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**Fidelitone, Inc.,** 6415 Ravenswood, Chicago 26, Ill.  
**Fort Wayne Metals, Inc.,** Fort Wayne 6, Ind.  
**Permo, Inc.,** 6415 Ravenswood Ave., Chicago 26, Ill.  
**Techalloy Co., Inc.,** Rahns, Pa.  
**Union Plastics Corp.,** 1630 Paterson Plank Rd., Secaucus, N. J.

**WIRE—Resistance and Filament**

Alloy Metal Wire Div. of H. K. Porter Co., Inc., Prospect Park, Pa.  
 American Leonic Mfg. Co., Amber & Hagert Sts., Philadelphia 25, Pa.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 63 Bay St., Boston 25, Mass. ADV. PG. 456.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Hoskins Mfg. Co., 4445 Lawton Ave., Detroit 8, Mich.  
**JFD MANUFACTURING CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
**JELLIFF MFG. CORP., C. O.**, 200 Pequot Ave., Southport, Conn. ADV. PG. 685.  
**KANTHAL CORP.**, Amelia Place, Stamford, Conn. ADV. PG. 476.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
 Secor Metals Corp., 7 Intervale St., White Plains, N. Y.  
 Techalloy Co., Inc., Rahns, Pa.

**WIRE—Silver Plated**

**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**ATLANTIC & PACIFIC WIRE & CABLE CO., INC.**, 112-01 Northern Blvd., Corona, N. Y. ADV. PG. 546.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**COHN CORP., SIGMUND**, 121 S. Columbus Ave., Mt. Vernon, N. Y. ADV. PG. 627.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
 Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
 Electro Auto-Lite Co., The, Champlain St., Toledo 1, Ohio.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Illumitronic Engineering, 680 E. Taylor Ave., Sunnyvale, Calif.  
**LEACH & GARNER CO.**, Attleboro, Mass. ADV. PG. 327.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.  
**MAKEPEACE CO., D. E., DIV. OF UNION PLATE & WIRE CO.**, Attleboro, Mass. ADV. PG. 392.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
 North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
 North American Research Labs, Inc., 725 Lexington Ave., Kenilworth, N. J.  
 Plastoid Corp., 42-61 24th St., Long Island City, N. Y.  
 Secor Metals Corp., 7 Intervale St., White Plains, N. Y.  
 Standard Metals Corp., Broad & Whiting Sts., North Attleboro, Mass.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Techalloy Co., Inc., Rahns, Pa.  
 Times, Wire & Cable Co., Wallingford, Conn.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
**WILSON CO., THE, H. A.**, 2655 U. S. Hwy. 22, Union, N. J. ADV. PG. 257.

**WIRE—Stainless Steel**

Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.  
 Alloy Metal Wire Division of H. K. Porter Company, Inc., Prospect Park, Pa.  
 American Leonic Mfg. Co., Amber & Hagert Sts., Philadelphia 25, Pa.  
 American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.  
 Armco Steel Corp., 730 Curtis St., Middletown, Ohio.  
 Carpenter Steel Co., Webb Wire Div., New Brunswick, N. J.  
 Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Fort Wayne Metals, Inc., Fort Wayne 6, Ind.  
 Hoskins Mfg. Co., 4445 Lawton Ave., Detroit 8, Mich.  
 Indiana Steel & Wire Co., Inc., 700 Council St., Muncie, Ind.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark, N. J. ADV. PG. 667.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago 16, Ill.

**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.  
 Techalloy Co., Inc., Rahns, Pa.  
 Trent Tube Co., East Troy, N. Y.

**WIRE—Tantalum**

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
 Murex Ltd., Rainham, Essex, England.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.

**WIRE—Teflon Insulated**

**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
**AMERICAN SUPER-TEMPERATURE WIRES, INC.**, W. Canal St., Winooski, Vt. ADV. PG. 647.  
**AMPHENOL ELECTRONICS CORP.**, 1830 S. 54th Ave., Chicago 50, Ill. ADV. PG. 158.  
**BIRNBACH RADIO CO., INC.**, 145 Hudson St., New York 13, N. Y. ADV. PG. 501.  
**BOSTON INSULATED WIRE & CABLE CO.**, 65 Bay St., Boston 25, Mass. ADV. PG. 456.  
 Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.  
 Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Ill.  
 Continental Wire Sales Corp., Wallingford, Conn.  
 Contino Auto-Lite Co., The, Champlain St., Toledo 1, Ohio.  
 Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.  
 Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York 69, N. Y.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 Havg Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.  
**HITEMP WIRES, INC.**, 26 Windsor Ave., Mineola, N. Y. ADV. PG. 386.  
**HUDSON WIRE CO.**, Ossining, N. Y. ADV. PG. 287.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
**LEWIS ENGINEERING CO.**, 52 Rubber Ave., Naugatuck, Conn. ADV. PG. 606.  
 Magnet Wire Div. of Essex Wire Corp., 1601 Wall St., Fort Wayne, Ind.  
 Okonite Co., Canal St., Passaic, N. J.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
 Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
**REVERE CORPORATION OF AMERICA, SUB OF NEPTUNE METER CO.**, Wallingford 2, Conn. ADV. PG. 516.  
**REX CORP., THE**, Hayward Rd., West Acton, Mass. ADV. PG. 551.  
 Rockbestos Products Corp., Nicoll & Canner Sts., New Haven 4, Conn.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
 Times, Wire & Cable Co., Wallingford, Conn.  
 Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.

**WIRE—Titanium**

Associated Engineering & Mfg. Co., Glen Ridge, N. J.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
**CRUCIBLE STEEL COMPANY OF AMERICA**, P. O. Box 1558, Pittsburgh 30, Pa. ADV. PG. 305-308.  
**DRIVER CO., WILBUR B.**, 1875 McCarter Highway, Newark 4, N. J. ADV. PG. 391.  
**DRIVER-HARRIS CO.**, 201 Middlesex St., Harrison, N. J. ADV. PG. 429.  
 Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
**NESOR ALLOY PRODUCTS CO.**, 282 Halsey St., Newark 2, N. J. ADV. PG. 667.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
 Rem-Cru Titanium, Inc., Midland, Pa.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Techalloy Co., Inc., Rahns, Pa.  
 Trent Tube Co., East Troy, N. Y.

**WIRE—Tungsten**

**BAKER & CO., INC.**, 113 Astor St., Newark, N. J. ADV. PG. 313.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.

**EISLER ENGINEERING CO., INC.**, 751 S. 13th St., Newark 3, N. J. ADV. PG. 660.  
**ELECTRONIC PARTS MFG. CO., INC.**, 508-10 25th St., Union City, N. J. ADV. PG. 536.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
 General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
 Micro-Wire Stranding Co., 252 Chestnut St., P. O. Box 514, Passaic, N. J.  
 Murex Ltd., Rainham, Essex, England.  
 North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
**REMBAR CO., INC., THE**, 147 Main St., Dobbs Ferry, N. Y. ADV. PG. 649.  
**SYLVANIA ELECTRIC PRODUCTS, INC.**, 1740 Broadway, New York 19, N. Y. ADV. PG. 733-739.

**WIRE—Zirconium**

Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.  
**METALS & CONTROLS CORP., GENERAL PLATE DIV.**, 31 Forest St., Attleboro, Mass. ADV. PG. 167.  
 Murex Ltd., Rainham, Essex, England.  
 Techalloy Co., Inc., Rahns, Pa.

**WIRE MARKING—Service**

Acromark Company, Inc., 323 Morrell St., Elizabeth 4, N. J.  
**ALPHA WIRE CORP.**, 200 Varick St., New York 14, N. Y. ADV. PG. 224.  
 Apex Machine Co., 14-13 118 Sts., College Point 56, N. Y.  
 Artos Engineering Co., 2737 S. 28th St., Milwaukee, Wis.  
 Bolling Industries, Inc., 1117 N. Main Ave., Scranton 2, Pa.  
**BRAND & CO., INC., WILLIAM**, 41 North St., Willimantic, Conn. ADV. PG. 199.  
 Duramark, Inc., 2 Secatoag Ave., Port Washington, N. Y.  
 Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.  
**MARKWIK MFG. CO., INC.**, 31 Sexton Rd., Plainville, N. Y. ADV. PG. 498.  
 Panelgraphic Corp., P. O. Box 254, Caldwell, N. J.  
 Sheltered Workshop, 2521 Fifth St., Santa Monica, Calif.  
**SURPRENANT MFG. CO.**, Clinton, Mass. ADV. PG. 449.  
**WESTLINE PRODUCTS DIV. OF WESTERN LITHOGRAPH CO.**, 600 E. Second St., Los Angeles 54, Calif. ADV. PG. 470.  
 Whitaker Cable Corp., Kansas City 16, Mo.

**WIRE STRIPPERS—Chemical**

Ellanar Chemical Co., 2308 Oakton St., Evanston, Ill.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.

**WIRE STRIPPERS—Hand**

**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 Holub Industries, Inc., 414 DeKalb Ave., Sycamore, Ill.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
**JFD MFG. CO., INC.**, 6101 16th Ave., Brooklyn 4, N. Y. ADV. PG. 53.  
 Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
 Millen Co., Edward L., 90 Summit Ave., Brookline, Mass.  
 Multicore Solders, Ltd., Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
 Rush Wire Stripper Div., The Eraser Co., Inc., 1068 S. Clinton St., Syracuse 4, N. Y.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
**WENCO MFG. CO.**, 1133 W. Hubbard St., Chicago 22, Ill. ADV. PG. 520.  
 Whitaker Cable Corp., Kansas City 16, Mo.

**WIRE STRIPPERS—Mechanical**

Artos Engineering Co., 2737 S. 28th St., Milwaukee, Wis.  
**GENERAL CEMENT MFG. CO., DIV. OF TEXTRON, INC., ELECTRONIC DIV.**, 400 S. Wyman St., Rockford, Ill. ADV. PG. 543.  
 High Speed Hammer Co., Rochester, N. Y.  
 Ideal Industries, Inc., 5103 Park & Borden Aves., Sycamore, Ill.  
 Rush Wire Stripper Div., The Eraser Co., Inc., 1068 S. Clinton St., Syracuse 4, N. Y.  
 Stevens Mfg. Co., George, 6022 N. Rogers Ave., Pulaski & Peterson, Chicago 30, Ill.  
 Technical Devices Co., 2346 Centinela Ave., Los Angeles 46, Calif.  
**THOMAS INSTRUMENT CO.**, Three Rivers, Phoenix, N. Y. ADV. PG. 420.  
**WENCO MFG. CO.**, 1133 W. Hubbard St., Chicago 22, Ill. ADV. PG. 520.  
 Wire Stripper Co., 1722 Eastham Ave., East Cleveland 12, Ohio.

**WIRED WIRELESS COMMUNICATIONS SYSTEMS**

See **COMMUNICATION SYSTEMS—Carrier Current**

**WOOFERS**

See **SPEAKERS**

**WIRE STRIPPERS—Machine**

See **MACHINES—Wire Stripping**

**X-RAY EQUIPMENT—Industrial**

Applied Radiation Corp., 1210 Spring Brook Rd., Walnut Creek, Calif.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
**BRACKE-SEIB X-RAY CO., INC.**, 16 Pelham Bay Parkway, Pelham Manor, N. Y. ADV. PG. 590.  
 Central Research Laboratories, Inc., Red Wing, Minn.  
 Dice Co., J. W., Englewood, N. J.  
 High Voltage Engineering Corp., Burlington, Mass.  
 Litton Industries Beverly Hills, Calif.  
 Litton Industries of Maryland, Inc., 4910 Calvert Rd., College Park, Md.  
 Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
 Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.  
 Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
 St. John X-Ray Laboratory, Califon, N. J.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
**THOMAS INSTRUMENT CO.**, Three Rivers, Phoenix, N. Y. ADV. PG. 420.  
 Triplett & Barton, Inc., 831 N. Lake St., P. O. Box 3128, Burbank, Calif.  
 X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee, Wis.

**X-RAY EQUIPMENT—Medical**

Admiral Corp., 3800 Cortland St., Chicago 47, Ill.  
 Applied Radiation Corp., 1210 Spring Brook Rd., Walnut Creek, Calif.  
 B & K Mfg. Co., 3726 Southport Ave., Chicago 13, Ill.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
**BRACKE-SEIB X-RAY CO., INC.**, 16 Pelham Bay Parkway, Pelham Manor, N. Y. ADV. PG. 590.  
**F-R MACHINE WORKS, INC.**, 26-12 Borough Place, Woodside 77, N. Y. ADV. PG. 195-198.  
 High Voltage Engineering Corp., Burlington, Mass.  
 Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
**SYNTRONIC INSTRUMENTS, INC.**, 100 Industrial Rd., Addison, Ill. ADV. PG. 570.  
**THOMAS INSTRUMENT CO.**, Three Rivers, Phoenix, N. Y. ADV. PG. 420.  
**WESTINGHOUSE ELECTRIC CORP.**, Box 868, Pittsburgh 30, Pa. ADV. PG. 205-216.  
 X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

**YOKES—Deflection**

American Research & Mfg. Corp., 920 Halpine Ave., Rockville, Md.  
 Atlas Coil, Inc., 63 Main St., Ansonia, Conn.  
 Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
**CELCO**, Island Ave., Mahwah, N. J. ADV. PG. 138, 139.  
**CHICAGO STANDARD TRANSFORMER CORP.**, 3521 Addison St., Chicago, Ill. ADV. PG. 466-467.  
 Cinema-Television, Ltd., Worsley Bridge Rd., London S. E. 26, England.

Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3 Ohio.  
 Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.  
 Cossor (Canada) Ltd. 301-303 Windsor St., Halifax, N. S., Canada.  
 Davis Electric Co., Cape Girardeau, Mo.  
 Electro-Science Industries, Box 10066 International Airport, Los Angeles 45, Calif.  
 Gramer-Halderson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill.  
 Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.  
 Leonard Electric Products Co., Inc., 67 Thirty-fourth St., Brooklyn 32, N. Y.  
 Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
 Penn Tran Corp., Bellefonte, Pa.  
**RADIO CORP. OF AMERICA, ENGINEERING PRODUCTS DIV.**, Camden, N. J. ADV. PG. 453, Third & Fourth Covers.  
**RADIO CORP. OF AMERICA, RCA ELECTRON TUBE DIV.**, 415 S. Fifth St., Harrison, N. J. ADV. PG. 453, Third & Fourth Covers.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
**SYNTRONIC INSTRUMENTS, INC.**, 100 Industrial Rd., Addison, Ill. ADV. PG. 570.  
 Telectron Co., The Bldg. #9, Broward County International Airport, Fort Lauderdale, Fla.  
 Television Laboratories, Inc., Mill St., Wauconda, Ill.  
 Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.  
 Thordarson-Meissner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.  
 Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y.  
 Todd-Tran Corp., 156 Gramatan Ave., Mt. Vernon, N. Y.

# TRADE NAME INDEX

The following list of trade names of manufacturers and products in or related to the field of electronics has been prepared from data supplied by manufacturers. This list is intended for use in determining the manufacturer's name when only a purported trade name is known. The editors for obvious reasons have not attempted to determine a manufacturer's right to the exclusive use of any such name. Addresses can be obtained by referring to the Manufacturers Index on Page D-232. Only coined trade names are listed as it was deemed unnecessary to include a company name inasmuch as the manufacturer's identity was immediately apparent.

- A-10 Surprenant Mfg. Co.  
A-30 Superior Tube Co.  
A-31 Superior Tube Co.  
A-100 Advanced Electronics, Inc.  
A-300 Advanced Electronics, Inc.  
"A" NICKEL International Nickel Co., Inc.  
A-B Allen-Bradley Co.  
ABOGLAS Natvar Corp.  
ABRASO Roebbling's Sons Co., John A.  
ABSORB-A-SHOCK Federal Shock Mount Corp.  
ACA Amplifier Corp. of America  
ACA Magnasync Mfg. Co., Ltd.  
A. C. GREYSON A. C. Transformer, Inc.  
ACI Air Control Installations, Ltd.  
ACO General Control Co.  
ACL Adler Electronics, Inc.  
ACCPAC Armstrong Cork Co.  
ACCUMET Crucible Steel Company of America  
ACCURAY Industrial Nucleonics Corp.  
ACCUR-DAM G-C Electronics Mfg. Co., Div. of G-C  
Textron, Inc.  
ACCUVAC Green Rectifier Co.  
ACCWIRE Accurate Insulated Wire Corp.  
ACE American Hard Rubber Co.  
ACE Arro Expansion Bolt Co.  
ACEOHM Ace Electronics Associates.  
ACEPOT Ace Electronics Associates  
ACE-RELAY Ace Electronics Associates.  
ACETRIM Ace Electronics Associates  
ACME Aerovox Corp.  
ACME Electro Wire Service.  
ACME-LITE Acme Battery Co.  
ACME-MOLD Acme Wire Co.  
ACOUSTALLOY Electro Voice Inc.  
ACOUSTIC-BATON University Loudspeakers, Inc.  
ACOUSTIC TAPE Jensen Industries, Inc.  
ACOUSTICEL Brush Electronics Co.  
ACRA-COTE Pacific Universal Products Corp.  
ACRAGAGE Norden-Ketay Corp.  
ACRASPLIT Entron Inc.  
ACRAWAX Glyco Products Co., Inc.  
ACROCEL Acromark Co.  
ACROCUT Acromark Co.  
ACROBOSS Acromark Co.  
ACROD Acme Electric Heating Co.  
ACRODIE Acromark Co.  
ACRO-ETCH Acromark Co.  
ACROFLEX Anchor Plastics Co., Inc.  
ACROGRAVE Acromark Co.  
ACROHEX Acromark Co.  
ACRO-INK Acromark Co.  
ACROLEAF Acromark Co., Inc.  
ACROLITE Acromark Co., Inc.  
ACROM Acme Electric Heating Co.  
ACROMARKER Acromark Co.  
ACRO-MATCH Communications Co., Inc.  
ACROPLAC Acromark Co.  
ACROPRENE Acromark Co.  
ACROPRINTER Acromark Co.  
ACROSOUND Acro Products Co.  
ACROSTAMP Acromark Co., The  
ACROTOOL Acromark Co.  
ACROVISION Acro Products Co.  
ACRYWELD Amphenol Electronics Corp.  
ACTANE Enthone, Inc.  
ACTONE Acton Co., H. W.  
ACTO-TENNA Acme Tool & Specialties Co.  
ACTRON Radionic Transformer Co.  
ACVA-COTE Pacific Universal Products Corp.  
ADD A TANK Bar-Ray Products, Inc.  
ADD-A-UNIT Blonder-Tongue Laboratories, Inc.  
ADAPEC Centralab Div. of Globe-Union, Inc.  
ADAR Radiation Inc.  
ADASHAFT Centralab Div. of Globe-Union, Inc.  
AD-A-SWITCH Clarostat Mfg. Co., Inc.  
ADC Audio Development Co.  
ADDAPLUG Associated Engineering Corp.  
ADDAVERTER Epsco, Incorporated.  
ADDITIVE DRIVE Electro-Voice, Inc.  
ADD-TRACTOR Victor Adding Machine Co., Electronics  
Sales Div.  
ADJUST-A-CONE Quam-Nichols Co.  
ADJUSTA-V Radio Merchandise Sales, Inc.  
ADJUSTOHM Ward Leonard Electric Co.  
ADJUSTOROID Burnell & Co., Inc.  
ADLAKE Adams & Westlake Co., The.  
ADBRAD MacLeod & Hanopol, Inc.  
ADVAC General Ceramics Corp.  
ADVANCE Acme Battery Co.  
ADVANCE Driver-Harris Co.  
ADVANCE Elgin National Watch Co., Electronics  
Div.  
ADVANCETRON Advance Electronics Co.  
ADVENTURER Johnson Co., E. F.  
AE 16 Bow Solder Products Co., Inc.  
AERIOTRON Westinghouse Electric Corp.  
AERO Smith Mfg. Co., Nathan R.  
AEROCOM Aeronautical Communications Equipment  
Co.  
AEROCON Aerovox Corp.  
AERO-GUN Shallcross Mfg. Co.  
AEROFILM Aerovox Corp.  
AEROFLEX Anchor Industrial Co., Div. of Anchor  
Plastics Co., Inc.  
AEROHEAD Giannini & Co., Inc., G. M.  
AEROHM Waters Mfg., Inc.  
AEROLENE Aerovox Corp.  
AEROLITE Aerovox Corp.  
AERO-MAGNETTE Heinemann Electric Co.  
AEROSEAL Breeze Corps.  
AEROTEMP Aerovox Corp.  
AERO-THREAD Heli-Coil Corp.  
AEROTROL Cook Electric Co.  
AEROTRON Aeronautical Electronics, Inc.  
AEROTWEED Apex Coated Fabrics Co.  
AEROVANE Air Control Installations Ltd.  
AEROVANE Friez Instrument Div., Bendix Aviation  
Corp.  
A'G'A Elastic Stop Nut Corp. of America  
AGASTAT Elastic Stop Nut Corp. of America.  
AGTRON Magnuson Engineers, Inc.  
AH Arrow-Hart & Hegeman Electric Co.  
AICO Aeromotive Equipment Corp.  
AICO Litton Industries  
AIL Airborne Instrument Lab., Inc.  
AIRACOUSTIC Johns-Manville.  
AIRBOY Mitchell Industries, Inc.  
AIRBOY American Insulator Corp.  
AIR COM Mitchell Industries, Inc.  
AIR COMMANDER Audio Equipment Co., Inc.  
AIR-CORE Amphenol Electronics Corp.  
AIR-DUX Illumitronic Engineering  
AIRFLEX Irvington Varnish & Insulator Div. of  
Minnesota Mining & Mfg. Co.  
AIRFLEX Lemert Engineering Co., Inc.  
AIRFLEX Transradio Ltd.  
AIR GENERAL Brach Mfg. Co.  
AIRGRIT Matthews & Co., James H.  
AIR INDUCTORS Barker & Williamson.  
AIR KING Ward Products Corp.,  
Div., The Gabriel Co.  
AIRLEAD Goodline Divn., Wire Co. of America,  
Inc.  
AIR-METER Hastings-Raydist, Inc.  
AIR-O-LIMIT Pratt & Whitney Div., Niles-Bement.  
Pond Co.  
AIRPOT Electric Regulator Corp.  
AIR-RAY Edin Co.  
AIRSCOOT Mitchell Industries, Inc.  
AIR SPECIAL Brach Mfg. Corp.  
AIRSTAT Minneapolis-Honeywell Regulator Co.  
AIRSWITCH Minneapolis-Honeywell Regulator Co.  
AIRTRON Arrowhead Products  
AIRTURN Barber-Colman Co.  
A.K.G. Electrovert, Inc.  
AKRA-OHM Shallcross Mfg. Co.  
ALATHON du Pont de Nemours & Co., Inc., E. I.  
ALBASEAL Johns-Manville  
ALCHROME Driver Co., Wilbur B.  
ALCLAD General Cable Corp.  
ALCO Ahrendt Instrument Co.  
ALCOA Aluminum Company of America  
ALCORITE Alcor Electronics Corp.  
ALCROHM Magnetic Metals Co.  
ALCUPLATE Metals & Controls Corp.  
General Plate Div.  
ALECTRAL General Cable Corp.  
ALFER Metals & Controls Corp.  
General Plate Div.  
ALFERON Driver-Harris Co.  
ALGCO Auburn Manufacturing Co., The.  
ALGIN Autel Electronics Co.  
A L I Acton Laboratories, Inc.  
ALIGN-O-POR Service Instrument Co.  
ALIGN-O-POT Bourns Laboratories, Inc.  
ALINCO Allegany Instrument Co., Inc.  
ALITE U. S. Stoneware Co.  
ALJAK Amphenol Electronics Corp.  
ALKA-DEOX Enthone, Inc.  
ALKANVAR Acme Wire Co.  
ALL-ANGL Barry Controls, Inc.  
ALL-HYDRAULIC Hydraulic Press Mfg. Co.  
ALL-METL Barry Controls, Inc.  
ALL SOL Allen Co., Inc., L. B.

**ALLEN-HEAD**  
 Allen Mfg. Co.  
**ALLIED PROFESSIONAL**  
 Allied Recording Products Co.  
**ALLOY A**  
 Jelliff Mfg. Corp., C. O.  
**ALLOY C**  
 Jelliff Mfg. Corp., C. O.  
**ALLOY 30**  
 Jelliff Mfg. Corp., C. O.  
**ALLOY 45**  
 Jelliff Mfg. Corp., C. O.  
**ALLOY 60**  
 Jelliff Mfg. Corp., C. O.  
**ALLOY 90**  
 Jelliff Mfg. Corp., C. O.  
**ALLOY 180**  
 Jelliff Mfg. Corp., C. O.  
**ALLOY 800**  
 Jelliff Mfg. Corp., C. O.  
**ALMAG**  
 Alpha Wire Corp.  
**ALMANOX**  
 Frenchtown Porcelain Co.  
**ALMET**  
 Alloy Metal Wire  
 Div. of H. K. Porter Co., Inc.  
**ALNICO**  
 Arnold Engineering Co.  
**ALNICO**  
 Crucible Steel Co. of America  
**ALNICO V CB**  
 Thomas & Skinner, Inc.  
**ALNIFER**  
 Metals & Controls Corp.,  
 General Plate Div.  
**ALNOR**  
 Illinois Testing Labs., Inc.  
**ALPHATRON**  
 Canadian Radium & Uranium Corp.  
**ALPHATRON**  
 NRC Equipment Corp.  
**ALPHLEX**  
 Alpha Wire Corp.  
**ALPO**  
 Standard-Toch Chemicals, Inc.  
**ALRAY**  
 Alloy Metal Wire  
 Div. of H. K. Porter Co., Inc.  
**ALROK**  
 Aluminum Co. of America  
**ALSCO**  
 Automatic Switch Co.  
**ALSIMAG**  
 American Lava Corp.  
**ALSIPLATE**  
 Metals & Controls Corp.  
 General Plate Div.  
**ALTEMP**  
 Alpha Wire Corp.  
**ALTI-TEMP**  
 Wincharger Corp.  
**ALTIVAR**  
 Rotron Mfg. Co., Inc.  
**ALUMAST**  
 Channel Master Co.  
**ALUMAWELD**  
 Johnson Mfg. Co., Inc.  
**ALUMEL**  
 Hoskins Mfg. Co.  
**ALUMBRAZE**  
 Handy & Harman  
**ALUMILITE**  
 Aluminum Co. of America  
**ALUMI-SOLDER**  
 Allen Co., Inc., L. B.  
**ALUMON**  
 Enthone, Inc.  
**ALUMOUNT**  
 Channel Master Co.  
**ALUMOX**  
 Enthone, Inc.  
**ALUNDUM**  
 Norton Co.  
**ALUZOOM**  
 JFD Mfg. Co., Inc.  
**ALZAK**  
 Aluminum Co. of America  
**AMBERSHEATH**  
 Rome Cable Corp.  
**AMBERYL**  
 Vaco Products Co.  
**AMCO**  
 American Solder & Flux Co.  
**AMCON**  
 American Condenser Co.  
**AMECO**  
 American Electronics Co.  
**AMERBESTOS**  
 American Steel & Wire Co.  
 U. S. Steel Corp., Sub.  
**AMERCLAD**  
 American Steel & Wire Co.  
 U. S. Steel Corp., Sub.  
**AMERCON**  
 American Relay & Controls, Inc.  
**AMERGLASS**  
 American Steel & Wire Co.  
 U. S. Steel Corp., Sub.  
**AMERICAN**  
 Elgin National Watch Co., Electronics  
 Div.  
**AMERICAN**  
 Manning, Maxwell & Moore, Inc.  
**AMERICAN BEAUTY**  
 American Electrical Heater Co.  
**AMERICAN-PHILLIPS**  
 American Screw Co.

**AMERCON-MICROSEN**  
 Manning, Maxwell & Moore, Inc.  
**AMERINE**  
 American Insulator Corp.  
**AMERLAC**  
 American Electric Cable Co.  
**AMPERLASTIC**  
 American Electric Cable Co.  
**AMERSTRAND**  
 American Steel & Wire Co.  
 U. S. Steel Corp., Sub.  
**AMERTRAN**  
 Standard Electronics Corp.  
**AMETRON**  
 Streeter-Amet Corp.  
**AMICO**  
 American Mica Insulation Co.  
**AMINCO**  
 American Instrument Co.  
**AMINCO-AIRE**  
 American Instrument Co., Inc.  
**AMING**  
 Dumont-Airplane & Marine Instruments,  
 Inc.  
**AMMOGAS**  
 Westinghouse Electric Corp.  
**AMO**  
 General Cement Mfg. Co.  
**AMO-ENO-MONO GAS**  
 Westinghouse Electric Co.  
**AMPACET**  
 American Molding Powder &  
 Chemical Corp.  
**AMPEC**  
 Centralab Div.  
 Globe Union, Inc.  
**AMPICALL**  
 Rauland-Borg Corp.  
**AMPLICORP**  
 Amplifier Corp. of America  
**AMPLIFILM**  
 Amp. Inc.  
**AMPLI-RUSS**  
 Amp. Inc.  
**AMPLISET**  
 Bristol Co., The  
**AMPLIVERTER**  
 Blonder-Tongue Laboratories, Inc.  
**AMPLUG**  
 Electrodyne Co.  
**AMPHOS**  
 American Metal Co., Ltd., The  
**AMPROBE**  
 Pyramid Instrument Corp.  
**AMPTRON**  
 Friez Instrument Div.  
 Bendix Aviation Corp.  
**AMPYROL**  
 American Steel & Wire Corp.,  
 U. S. Steel Corp., Sub.  
**AMRAC**  
 American Mica Insulation Co.  
**AMRECON**  
 American Relay & Controls, Inc.  
**AMRECON**  
 Ohmite Mfg. Co.  
**AMVAR**  
 American Steel & Wire Co.,  
 U. S. Steel Corp., Sub.  
**ANACONDA**  
 American Brass Co.  
**ANALYTROL**  
 Beckman Instruments, Inc.  
**ANDICON**  
 International Telephone & Telegraph Corp.  
**ANGLE DRIVE**  
 James Vibrapowr Co.  
**ANGLGEAR**  
 Airborne Accessories, Inc.  
**ANGLYZER**  
 Waters Manufacturing Inc.  
**ANGSYN**  
 Control Components Co.  
**ANHDREX**  
 Simplex Wire & Cable Co.  
**ANKOFOAM**  
 Ansonia Wire & Cable Co.  
**ANKOSEAL**  
 Ansonia Wire & Cable Co., The  
**ANOTHER ABALON PRODUCT**  
 Abalon Precision Mfg. Corp.  
**ANNOUNCE-A-LARM**  
 Dondar Devices.  
**ANNOUNCEMAT**  
 Recora Co.  
**ANTALON**  
 Green Rectifier Co.  
**ANTENNAPLEX**  
 Radio Corp. of America.  
**ANTENNASCOPE**  
 Eldico of New York, Inc.  
**ANTENSIFIER**  
 Blonder-Tongue Laboratories, Inc.  
**ANYVOLT**  
 Sorensen & Co.  
**AO**  
 American Optical Co.  
**APACHE**  
 Sangamo Electric Co.  
**APECO**  
 American Photocopy Equipment Co.  
**APEIZON**  
 Shell Oil Co.  
**APELCO**  
 Applied Electronics Co., Inc.  
**API**  
 Assembly Products, Inc.

**APPLE**  
 Lansdale Tube Co., Div. of Philco Corp.  
**APW**  
 American Platinum Works.  
**AQUADAG**  
 Acheson Colloids Co.  
**AQUALITE**  
 National Vulcanized Fibre Co.  
**AQUALUX**  
 Westinghouse Electric Corp.  
**AQUAMETER**  
 Beckman Instruments, Inc.  
**AQUAPLATE**  
 Bach & Co., Semon  
**AQUARESIN**  
 Glyco Products Co., Inc.  
**AQUASEAL**  
 General Cable Corp.  
**AQUASTOP**  
 Protection Coatings Corp.  
**AQUATHENE**  
 General Cable Corp.  
**AQUATRATOR**  
 Precision Scientific Co.  
**AQUATROL**  
 Minneapolis-Honeywell Regulator Co.  
**AQUIFLUX**  
 Special Chemicals Co.  
**ARALDITE**  
 Ciba Co., Inc.  
**ARAX**  
 Multicore Solders Ltd.  
**ARC**  
 Aircraft Radio Corp.  
**ARCADIA**  
 Wells-Gardner & Co.  
**ARCO-FLEX**  
 Applied Resins Corp.  
**ARCON**  
 Lear, Inc.  
**ARCOSIL**  
 Arrowhead Products  
**ARGLASS**  
 Servo Corp. of America.  
**ARISTOCRAT**  
 Electro-Voice, Inc.  
**ARITEMP**  
 Aries Laboratories, Inc.  
**ARKLESS**  
 Economy Fuse & Mfg. Co.  
**ARL**  
 Applied Research Labs.  
**ARLAVOX**  
 Radionic Transformer Co.  
**ARMALON**  
 du Pont de Nemours & Co., Inc., E. I.  
**ARMATITE**  
 Mica Insulator Co.  
**ARMATURO**  
 Johns-Manville  
**ARMITE**  
 Spaulding Fibre Co., Inc.  
**ARRESTONE**  
 Armstrong Cork Co.  
**ARRO-CORE**  
 Arro Expansion Bolt Co.  
**ARROFULTE**  
 Arro Expansion Bolt Co.  
**ARROW**  
 Peck & Harvey Mfg. Corp.  
**ARROWHEAD**  
 Sangamo Electric Co.  
**ARTIC-GLO**  
 Canadian Radium & Uranium Corp.  
**ASAPCO-LO**  
 Federated Metals Div.  
 American Smelting & Refining Co.  
**ASBESTOMENT**  
 Johns-Manville  
**ASBESTOS EBONY**  
 Johns-Manville  
**ASBESTOSPAK**  
 Felt Products Mfg. Co.  
**ASCO**  
 Automatic Switch Co.  
**ASCP**  
 Applied Science Corp. of Princeton.  
**ASCOR**  
 American Speedlight Corp.  
**ASCORLIGHT**  
 American Speedlight Corp.  
**ASENCO**  
 Associated Engineering & Mfg. Co.  
**ASHCROFT**  
 Manning, Maxwell & Moore, Inc.  
**ASTRAMATIC**  
 Electronic Control Systems, Inc.  
**ATC**  
 Automatic Timing & Controls, Inc.  
**ATCOTRAN**  
 Automatic Timing & Controls, Inc.  
**ATCOTROL**  
 Automatic Timing & Controls, Inc.  
**ATCOTRONIC**  
 Automatic Timing & Controls, Inc.  
**ATL EE**  
 Atlas E-E Corp.  
**ATOMS**  
 Sprague Electric Co.  
**ATOMEER**  
 Maico Co., Inc.  
**ATR**  
 American Television & Radio Co.  
**ATTEN-U-CARD**  
 Elektro-Serv Co.  
**ATTIC-V-BEAM**  
 Telrex, Inc.

**AUBESTON**  
 Auburn Manufacturing Co., The.  
**AUC**  
 Rockbestos Products Corp.  
**AUDAX**  
 Audak Co.  
**AUDET**  
 Centralab Div. of  
 Globe-Union, Inc.  
**AUDIAD**  
 Magnecord, Inc.  
**AUDICLE**  
 Sonotone Corp.  
**AUDIGAGE**  
 Branson Instruments, Inc.  
**AUDIO-AID**  
 Ansley Mfg. Co., Arthur  
**AUDIODISC**  
 Audio Devices, Inc.  
**AUDIO-ELITE**  
 American Elite, Inc. (Telefunken).  
**AUDIOFILM**  
 Audio Devices, Inc.  
**AUDIO GUIDER**  
 Audio Equipment Co., Inc.  
**AUDIO HAILER**  
 Audio Equipment Co., Inc.  
**AUDIOHM**  
 Mallory & Co., Inc., P. R.  
**AUDIOID**  
 Cook Laboratories.  
**AUDIO MIX**  
 Pentron Corp., The  
**AUDIPAGE**  
 Philco Corp.  
**AUDIPLEX**  
 Electronics Development Co., Inc.  
**AUDIPOINTS**  
 Audio Devices, Inc.  
**AUDIOSCOPE**  
 Audio-Master Corp.  
**AUDIOSCOPE**  
 Sonotone Corp.  
**AUDI-O-SEAL**  
 Automatic & Precision Mfg. Co.  
**AUDIOTAPE**  
 Audio Devices, Inc.  
**AUDITION**  
 Reeves Soundcraft Corp.  
**AUDITORIUM**  
 Jensen Mfg. Co.  
**AUDITRON**  
 Sonotone Corp.  
**AUIGATOR**  
 Mitchell Industries, Inc.  
**AUMAN**  
 Associated American Trading Division.  
**AUOMETERS**  
 British Industries Corp.  
**AURASEAL**  
 Maico Co., Inc.  
**AURICON**  
 Berndt-Bach, Inc.  
**AUTELCO**  
 Automatic Electric Sales Corp.  
**AUTOBOOSTER**  
 Industrial Television, Inc.  
**AUTOCON**  
 Sprague Electric Co.  
**AUTOCOUPLER**  
 Industrial Television, Inc.  
**AUTOCROMATIC**  
 Acton Co., H. W.  
**AUTO-DRYAIR**  
 Communication Products Co., Inc.  
**AUTODYNE**  
 Westinghouse Electric Corp.  
**AUTOFAB**  
 General Mills, Inc., Mechanical Div.  
**AUTOGRAF**  
 Moseley Co., F. L.  
**AUTOGRIP**  
 Magnasync Mfg. Co.  
**AUTOHORD**  
 Design Tool Corp.  
**AUTOLLIZER**  
 North Electric Co.  
**AUTOLOY**  
 Teller & Cooper Co.  
**AUTOLYTIC**  
 Micamold Electronics Mfg. Corp.  
**AUTOMANIC**  
 Premax Products Div.  
 Chisholm-Ryder Co., Inc.  
**AUTO-MATE**  
 Automatic Metal Products Corp.  
**AUTOMIX**  
 Westinghouse Electric Corp.  
**AUTOMACAP**  
 Standard Condenser Co.  
**AUTO-NODE**  
 Kay Electric Co.  
**AUTOPILOT**  
 Lear, Inc.  
**AUTOPLATER**  
 Tracerlab, Inc.  
**AUTOPOSITIONER**  
 Collins Radio Co.  
**AUTOSCALER**  
 Tracerlab, Inc.  
**AUTO-SCAN**  
 Nuclear Magnetics Corp.  
**AUTOSET**  
 Bristol Co., The  
**AUTO-SONIC**  
 Vendo Co.  
**AUTO-STAT**  
 American Photocopy Equipment Co.

**AUTOSYN**  
Eclipse-Pioneer Div.  
Bendix Aviation Corp.

**AUTOTROL**  
Westinghouse Electric Corp.

**AUTOTUNE**  
Collins Radio Co.

**AUTOVALVE**  
Westinghouse Electric Corp.

**AUTO-VOX**  
Kay Electric Co.

**AUTRASTAT**  
Ward Leonard Electric Co.

**A.V.C.**  
Rockbestos Products Corp.

**AVCOM**  
Avco Mfg. Corp., Crosley Div.

**AVIGATOR**  
Mitchell Industries, Inc.

**AXIFLO**  
Westinghouse Electric Corp.

**AXIOHM**  
Ward Leonard Electric Co.

**AXIVANE**  
Joy Mfg. Co.

**A-Z**  
Plastic Wire & Cable Corp.

**AZTEC**  
Sangamo Electric Co.

**B-2**  
Peck & Harvey.

**B & A**  
Baker & Adamson Products, General  
Chemical Div. of Allied Chemical & Dye  
Corp.

**BPW**  
Bradford Components, Inc.

**B.S.R.**  
Birmingham Sound Reproducers, Ltd.

**B-T LABS**  
Blonder-Tongue Laboratories, Inc.

**BAACH-INTERNATIONAL**  
International Machine Works.

**BABY TRIM TROL**  
Airborne Accessories Corp.

**BADGER**  
Reliance Automatic Lighting Co.

**BAKELITE**  
Union Carbide & Carbon Co.

**BALAC**  
Conant Laboratories.

**BALANCED BEAM**  
Precise Measurements Co.

**BALANCED PHASE**  
Sieler Design Products.

**BALCO**  
Driver Co., Wilbur B.

**BALINE**  
JFD Mfg. Co., Inc.

**BALL**  
Thomson Industries, Inc.

**BALLARD**  
Electrovert Inc.

**BALLAST**  
Driver Co., Wilbur B.

**BALLASTRON**  
Aerovox Corp.

**BANC-LOK**  
Boots Aircraft Nut Corp.

**BANDMASTER**  
Harvey-Wells Electronics, Inc.

**BANDRIVE**  
Mason-Ketay Corp.

**BANSHEE**  
JFD Mfg. Co., Inc.

**BANTAM**  
Aerovox Corp.

**BANTAM**  
Barnstead Still & Sterilizer Co., Inc.

**BANTAM**  
Cook Electric Co.

**BANTAM**  
Small Motors, Inc.

**BANTAM GT**  
CBS-Hytron,  
A Division of Columbia Broadcasting  
System, Inc.

**BANTAM JR**  
CBS-Hytron,  
A Division of Columbia Broadcasting  
System, Inc.

**BARANM**  
Ward Leonard Electric Co.

**BARCO**  
Barium & Chemicals, Inc.

**BARCOL**  
Barber Colman Co.

**BARCOMBO**  
Electronic Enterprises, Inc.

**BARX**  
King Laboratories, Inc.

**BAROHM**  
Ward Leonard Electric Co.

**BARONET**  
Electro-Voice, Inc.

**BARREL-LIFT**  
Falstrom Co.

**BARRYMOUNTS**  
Barry Controls Inc.

**BASS ULTRAFLEX**  
Jensen Mfg. Co.

**BATTERYPOWER**  
Radiart Corp.

**BATTERY-SCOPE**  
Christie Electric Corp.

**BAT-WING**  
Telrex Inc.

**BAT'S-EYE**  
Kennedy & Co., D. S.

**BAYTEX**  
UBS Chemical Co., Inc.

**BEACHCOMER**  
JFD Mfg. Co., Inc.

**BEACON**  
Esso Standard Oil Co.

**BEAM**  
Barker Sales Co.

**BEAM BENDER**  
Technicraft Laboratories, Inc.

**BEAMA JUSTER**  
Perfection Electric Co.

**BEAMED POWER**  
Telrex, Inc.

**BEAUGUIDE**  
Fischer & Porter Co.

**BEAUTRONIC**  
Wampler, Inc.

**BEAVER**  
Cornell-Dubiller Electric Corp.

**BECK PROCESS**  
Beck's Inc.

**BECKAMINE**  
Reichhold Chemicals, Inc.

**BECKMAN/HELIPOT**  
Helipot Corp.

**BECO**  
Westinghouse Electric Corp.

**BEE**  
Buchanan Electrical Products Corp

**BEE LINE**  
Radio Merchandise Sales, Inc.

**BEEBLE**  
American Cyanamid Co.

**BELCAP**  
Sprague Electric Co.

**BELCO**  
Bogue Electric Mfg. Co.

**BELCON**  
Bogue Electric Mfg. Co.

**BELLOWS**  
Boots Aircraft Nut Co.

**BELL-TIME**  
Industrial Timer Corp.

**BELMONT**  
Thermo Instruments Co.

**BEMCO**  
Becker Electronics Mfg. Corp.

**BENCO**  
Buck Engineering Co., Inc.

**BEN HAR**  
Bentley-Harris Mfg. Co.

**BENELEX**  
Masonite Corp.

**BEPCO**  
Buchanan Electrical Products Corp.

**BERALOY**  
Driver Co., Wilbur B.

**BERCO BRAND**  
Bergen Wire Rope Co.

**BERGER**  
Republic Steel Corp.

**BERKELEY DECIMAL**  
Berkeley Scientific Co.

**BERKSHIRE**  
Radio Corporation of America.

**BERYLCO**  
Beryllium Corp.

**BESTPRODUCTS**  
Barker Sales Corp.

**BEST PRODUCTS**  
Beam Instruments Corp.

**BESTO-WIRE**  
Rhode Island Insulated Wire Co.

**BETTER LIVING**  
Sonotone Corp.

**BEV-RICH**  
Richardson Co., The

**BH**  
Bentley-Harris Mfg. Co.

**BIB**  
Multicore Solders, Ltd.

**BICHROMETER**  
Perkin-Elmer Corporation, The

**BICO**  
Belock Instrument Corp.

**BIFLEX**  
Altec Lansing Corp.

**BIG BERTHA**  
Telrex, Inc.

**BIMORPH**  
Brush Electronics Co.

**BI-NET**  
Johnson Co., E. F.

**BI-PRENE**  
Bishop Mfg. Corp.

**BIRACO**  
Birnbach Radio Co., Inc.

**BIRD-E-VICT**  
Mohawk Business Machines Corp.,

**BIRFLENE**  
Birnbach Radio Co., Inc.

**BIRFLEX**  
Birnbach Radio Co., Inc.

**BIRFLON**  
Birnbach Radio Co., Inc.

**BIRNTEX**  
Birnbach Radio Co., Inc.

**BI-SEAL**  
Bishop Mfg. Corp.

**BI-SILON**  
Bishop Mfg. Corp.

**BITAN**  
Garlock Packing Co., The

**BITUMASTIC**  
Koppers Co., Inc.

**BITUPLASTIC**  
Kopper Co., Inc.

**B.I.W.**  
Boston Insulated Wire & Cable Co.

**BJ**  
Rollin Co.

**BK**  
Barrett Varnish Co.

**BL**  
Browning Laboratories, Inc.

**BLACK ARROW**  
Sangamo Electric Co.

**BLACK BEAUTY**  
Sprague Electric Co.

**BLACK DIAMOND**  
Dunton Co., M. W.

**BLACKLINE**  
Frederick Post Co.

**BLINKER LITES**  
Noel Mfg. Co.

**BLU-RED**  
Associated American Trading Division.

**BLUE JACKET**  
Sprague Electric Co.

**BLUE POINT**  
Astron Corp.

**BLUE SHAFT**  
Centralab Div. of Globe-Union, Inc.

**BLUE STREAK**  
American Electric Cable Co.

**BLUE STREAK**  
Paragon-Revolute Corp.

**BLUE ZEPHYR**  
Mole-Richardson Co.

**BLUEBIRD**  
Radio Corporation of America.

**BLUEPLATES**  
Sprague Electric Co.

**BM-100**  
Miller Labs., August E.

**B-NOBATRON**  
Sorensen & Co., Inc.

**B. O. ELIMINATOR**  
Perfection Electric Co.

**BOARDMASTER**  
Universal Drafting Machine Corp.

**BOFFLE**  
Hartley Products Co.

**BOGENPHONE**  
Bogen Co., Inc., David.

**BOLTAFLEX**  
General Tire & Rubber Co., The.

**BOLTA-GRAY**  
The General Tire & Rubber Co.,  
Bolta Products Div.

**BOLTARON**  
Bolta Products Div. The General Tire &  
Rubber Co.

**BOLTATOP**  
Bolta Products Div., General Tire &  
Rubber Co.

**BOLT-O-SEAL**  
Wolfe Co., Franklin, Div. of the Parker  
Appliance Co.

**BONDEZE**  
Phelps Dodge Copper Products Co.

**BONDMASTER**  
Rubber & Asbestos Corp.

**BONDOLITE**  
Goodyear Aircraft Corp.

**BONDRIE**  
UBS Chemical Co., Inc.

**BOND-ROD**  
Sherman Mfg. Co., H. B.

**BONDWICH**  
Metals & Controls Corp.,  
General Plate Div.

**BONNYTAPE**  
Bonny Mfg. Corp.

**BOOST-A-VOLT**  
Workman TV, Inc.

**BOR-AL-SIL**  
Bird Co., Richard H.

**BORG WARNER**  
B-J Electronics

**BORG WARNER**  
Rollin Co.

**BORO-CARBOFILM**  
Aerovox Corp.

**BOROFILM**  
Aerovox Corp.

**BOROHM**  
Shallcross Mfg. Co.

**BORON X**  
Technicraft Co.

**BOSCAR**  
Benson-Lehner Corp.

**BOSIPT**  
Workman TV, Inc.

**BO TENNA**  
Radio Merchandise Sales, Inc.

**BO TI**  
Fretco Inc.

**BOW-FLECTOR**  
J F D Mfg. Co., Inc.

**BOW-TIE**  
J F D Mfg. Co., Inc.

**BOWTIE-FLECTOR**  
J F D Mfg. Co., Inc.

**BOXSEAL**  
Paisley Products Inc.

**BOY-MAR**  
Electrical Service Co.

**BRADLEY**  
De Jur-Amsco Corp.

**BRADLEYDENSER**  
Allen-Bradley Co.

**BRADLEYLEAK**  
Allen-Bradley Co.

**BRADLEYOHM**  
Allen-Bradley Co.

**BRADLEYOMETER**  
Allen-Bradley Co.

**BRADLEYSTAT**  
Allen-Bradley Co.

**BRADLEYSWITCH**  
Allen-Bradley Co.

**BRADLEYUNIT**  
Allen-Bradley Co.

**BRANDES**  
Cannon Co., C. F.

**BRALOY**  
Brainin Co., C. S.

**BRAND-FIVE**  
Ferrodynamics Corp.

**BRAZALOY**  
All-State Welding Alloys Co., Inc.

**BRAZE-CLAD**  
American Silver Co., Inc.

**BRAZO**  
Linde Air Products Co.  
Unit of Union Carbide & Carbon Corp.

**BRENKERT**  
Radio Corp. of America.

**BRELSCO**  
British Electronics Sales Co.

**BRENCO**  
Bristol Engineering Corp.

**BRIDGER**  
Audio Instrument Co., Inc.

**BRILLIANTONE**  
Acton Co., H. W.

**BRIMAR**  
Standard Telephones & Cables, Ltd.

**BRINELCO**  
Brinnell Co., The

**BRISTO**  
Bristol Co., The

**BROADBAND**  
Racon Electric Co.

**BROAD BAND**  
Topatron, Inc.

**BROADCASTER**  
Reeves Soundcraft Corp.

**BROADMASTER**  
Universal Drafting Machine Corp.

**BRONCO**  
Metals & Controls Corp.  
General Plate Div.

**BRONCO**  
Western Insulated Wire Co.

**BRONZIDITE**  
J. F. D. Mfg. Co., Inc.

**BROWN**  
Minneapolis-Honeywell Regulator Co.

**BROWN DEVIL**  
Ohmite Mfg. Co.

**BROWN HILL**  
R-F Electronics, Inc.

**BRUSHMASTER**  
Rubber & Asbestos Corp.

**BRYANT**  
Westinghouse Electric Corp.

**BUCCANEER**  
Hudson American Corp.

**BUCKEY BRAND**  
Tubular Rivet & Stud Co.

**BUG**  
Vibroplex Co., Inc.

**BUILT IN WATCHMAN**  
Westinghouse Electric Corp.

**BUILT-ON**  
Radion Corp.

**BULLGOG**  
Phelps Dodge Copper Products Corp.

**BULL'S EYE**  
Fischer & Porter Co.

**BULLS-I-UNITS**  
Kirkland Co., H. R.

**BULPLATE**  
Sprague of Wisconsin, Inc.

**BUNA-FLEX**  
Auburn Mfg. Co.

**BUNNY-GARD**  
Television Accessories Co.

**BUSHEND**  
Buchanan Electrical Products Corp.

**BUSS**  
Bussmann Mfg. Co.

**BUTACITE**  
du Pont de Nemours Co., Inc., E. I.

**BUTARONE**  
General Cable Corp.

**BUTTON**  
Erle Resistor Corp.

**BUZZ-TIME**  
Industrial Timer Corp.

**B&W**  
Barker & Williamson

**BW COPYFLEX**  
Bruning Co., Inc., Charles

**BYRON JACKSON**  
Rollin Co.

**C-8**  
G-V Controls, Inc.

**C-B**  
Caddell Burns Mfg. Co.

**CAC**  
Communication Accessories Co.



**CBWT** Automatic Metal Products Co.  
**CCC** Chicago Condenser Corp.  
**C-D-F** Continental-Diamond Fibre Co.  
**CDM** Curtis Development & Mfg. Co.  
**CDP** Electro Voice, Inc.  
**CDX** X-Ray Dept. of General Electric Co.  
**C-H** Cutler-Hammer, Inc.  
**CAACITESTER** Teletest Instrument Corp.  
**CABLE & DRUM** Fischer & Porter Co.  
**CADET** Raytheon Mfg. Co.  
**CADO** Electromation Co.  
**CAE** Controlled Atmosphere Enclosures Corp.  
**CALBENT** California Bent Glass Co.  
**CAL-CONN** Cal-Connector Co.  
**CALIFILM** Shamban & Co., W. S.  
**CALIVOLTER** Calidyne Co.  
**CALLMASTER** Lyman Electronics Corp.  
**CALMAG** California Magnetic Control Corp.  
**CAL-MET** Richardson Co.  
**CALOMIC** Telegraph Construction & Maintenance Co., Ltd.  
**CALPRINT** California Bent Glass Co.  
**CALTROL** Caltron Co.  
**CAMBIRCROID** American Electric Cable Co.  
**CAMCO** Camburn, Inc.  
**CAMTROL** Lear, Inc.  
**CANADIAN** Measurement Engineering, Ltd.  
**CANDOC** Cudner & O'Connor Co.  
**CANDOHMS** Muter Co.  
**CANNON-BALL** Cannon Co., C. F.  
**CANSEAL** Cannon Electric Co.  
**CAPACOMETER** Simpson Electric Co. Div. of American Gage & Machine Co.  
**CAPASWITCH** Mullenbach Div. of Electric Machinery Mfg. Co.  
**CAPACIOLOG** Barber-Colman Co.  
**CAPACIPROBE** Epsco, Incorporated.  
**CAPACITROL** Barber-Colman Co.  
**CAPE COD NAVIGATOR** Raytheon Mfg. Co.  
**CAPITRON** Amp. Inc.  
**CAPR** Camburn, Inc.  
**CAPRISTOR** Jeffers Electronics Div., Speer Carbon Co.  
**CAP-SUBBER** Sprague Electric Co.  
**CAPTI VATED** Staver Co., Inc.  
**CARBAMP** Red Bank Div., Bendix Aviation Corp.  
**CARBIC** Linde Air Products Co. Unit of Union Carbide & Carbon Corp.  
**CARBO-DUR** Permutit Co.  
**CARBOFILM** Aerovox Corp.  
**CARBOLITE** Linde Air Products Co. Unit of Union Carbide & Carbon Corp.  
**CARBOMITE** Continental Carbon, Inc.  
**CARBON-COAT** Electra Mfg. Co., Resistor Div.  
**CARBONYL** General Dyestuff Corp.  
**CAR CALL** Seeley Electronics.  
**CARDAX** Electro-Voice, Inc.  
**CARDIALYZER** Kay Electric Co.  
**CARDIETTE** Sanborn Co.  
**CARDINAL** Midland Mfg. Co.  
**CARDIOSCRIBE** X-Ray Dept. of General Electric Co.  
**CARDIOTRON** American Machine & Foundry Co., Electronics Div.  
**CARDYNE** Electro-Voice, Inc.  
**CAREER** Ampro Corp.  
**CARILLON DYNAMIC** Miller Mfg. Co., M. A.  
**CARITRON** Sheffield Corp., The  
**CARL MEYER** Burke & James, Inc.  
**CARLITE** Armco Steel Co.  
**CARLITE** Bogue Electric Mfg. Co.  
**CARLTON** Hudson Lamp Co.  
**CARRON** United Pressed Products Co.  
**CARRON-AIRE** Carron Mfg. Co.  
**CARRY PHONE** Union Switch & Signal Div. of Westinghouse Air Brake Co.  
**CARTEL** Electro Craft Industries, Inc.  
**CARTWHEEL** Aerovox Corp.  
**CARTRIJ-DRY** Pyramid Electric Co.  
**CARY** Applied Physics Corp.  
**CASCADE** Audio Industries.  
**CASCADE** Linde Air Products Co. Unit of Union Carbide & Carbon Corp.  
**CASCADE YAGI** J F D Mfg. Co., Inc.  
**CASCAMITE** The Borden Co., Chemical Division.  
**CASCO** The Borden Co., Chemical Division.  
**CASCODE** J F D Mfg. Co., Inc.  
**CASCODE AUTOBOOSTER** Industrial Television, Inc.  
**CASCOPHEN** The Borden Co., Chemical Division.  
**CASCOREZ** The Borden Co., Chemical Division.  
**CASTIPLAST** National Engineering Products, Inc.  
**CASTOHM** Shallcross Mfg. Co.  
**CASTOMATIC** Federated Metals Div., American Smelting & Refining Co.  
**CASTORDAG** Acheson Colloids Co.  
**CAST-X** Acme Electric Heating Co.  
**CATABOND** Catalin Corp. of America  
**CATAPAK** Catalin Corp. of America  
**CATAVAR** Catalin Corp. of America  
**CATHALLOY** Superior Tube Co.  
**CATHODE NICKEL** Driver Co., Wilbur B.  
**CATHODE-RAY STETHOSCOPE** Feiler Engineering & Mfg. Co.  
**CATHODRAM** Telegraph Condenser Co., Ltd.  
**CATHODRAY** Telegraph Condenser Co., Ltd.  
**CATHOUISER** Cinema-Television, Ltd.  
**CATHOVISOR** Cinema-Television, Ltd.  
**CAT'S EYE** Ess Specialty Corp.  
**CAVITRON** Woodwelding, Inc.  
**CAVI-TUNER** Radio Receptor Co.  
**CCO** Billey Electric Co.  
**C-CLAMP** Fischer & Porter Co.  
**C-D SEAL** Cornell-Dubilier Electric Corp.  
**CDR** Radiart Corp.  
**CDR ROTOR** Radiart Corp.  
**CECILIAN** Pickard & Burns, Inc.  
**CECOTITE** Cook Electric Co.  
**CEE-COR** Permoflux Corp.  
**CELAB** Clark Electronic Labs.  
**CELASCREEN** Celanese Corp. of America.  
**CELCON** Celanese Corp. of America  
**CELECTRAY** Weston Electrical Instruments Corp.  
**CELLO-BOND** Paisley Products, Inc.  
**CELLULOID** Celanese Corp. of America  
**CELORON** Continental-Diamond Fibre Corp.  
**CENCO** Central Scientific Co.  
**CENCO-HYVAC** Central Scientific Co.  
**CENCO-MEZAVAC** Central Scientific Co.  
**CENCO-SUPERVAC** Central Scientific Co.  
**CENTER-LINE** Topatron, Inc.  
**CENTILATOR** Kay Electric Co.  
**CENTRATHENE** Centralab Div. of Globe-Union, Inc.  
**CENTRE-KOOLED** Sarkes Tarzian Inc.  
**CEN-TRI-CORE** Alpha Metals, Inc.  
**CENTRIGORES** Magnetic Metals Co.  
**CENTROID** Tensor Electric Development Co.  
**CENTURY** Electro-Voice, Inc.  
**CENTURY TELECEIVERS** Industrial Television, Inc.  
**CERAFIL** Aerovox Corp.  
**CERALLOY** New Process Metals, Inc.  
**CERAMAG** Stackpole Carbon Co.  
**CERAMAGNET** Stackpole Carbon Co.  
**CERAMELEX** Erie Resistor Corp.  
**CERAMICAPS** Muter Co.  
**CERAMICON** Erie Resistor Corp.  
**CERAMIKIT** Sprague Electric Co.  
**CERAMISTOR** Glenco Corp.  
**CERA-MITE** Sprague Electric Co.  
**CERAM-OHM** G-C Electronics Mfg. Co., Div. of G-C Textron, Inc.  
**CEREX** Monsanto Chemical Co. Plastics Div.  
**CERISSO** Isolantite Mfg. Corp.  
**CEROC** Sprague Electric Co.  
**CER-OHM** Bradford Components, Inc.  
**CERON** Sprague Electric Co.  
**CERRO BASE** Cerro De Pasco Sales Corp.  
**CERROBEND** Cerro De Pasco Sales Corp.  
**CERROCAST** Cerro De Pasco Sales Corp.  
**CERROLOW** Cerro De Pasco Sales Corp.  
**CERROMATRIX** Cerro De Pasco Sales Corp.  
**CERROSAFE** Cerro De Pasco Sales Corp.  
**CERROSEAL-35** Cerro De Pasco Sales Corp.  
**CERROTRU** Cerro De Pasco Sales Corp.  
**CERTAIN CURTIN** Hayes Inc., C. I.  
**CETRON** Continental Electric Co.  
**CHALLENGER** Bogen Co., Inc., Davil  
**CHALLENGER** Rek-O-Kut Co., Inc.  
**CHAMPION** Channel Master Co.  
**CHAMPION** Crucible Steel Co. of America  
**CHAMPION** Permoflux Corp.  
**CHAMPION No. 180** Division Lead Co.  
**CHANALYST** Radio Corporation of America  
**CHANGE-A-CYCLE** Carter Motor Co.  
**CHANGE-A-VOLT** Carter Motor Co.  
**CHAN-L-MOUNT** Lord Mfg. Co.  
**CHANNEL AUTOBOOSTER** Industrial Television, Inc.  
**CHANNELOCK** Radio Engineering Labs., Inc.  
**CHARACTRON** Stromberg-Carlson Co. Div. of General Dynamics Corp.  
**CHARGALYZER** Christie Electric Corp.  
**CHARGATROL** Assembly Products Co.  
**CHARGICATOR** Hickok Electrical Instrument Co.  
**CHARG-O-MATIC** Hertzner Electric Co.  
**CHASS-EZ** General Cement Mfg. Co.  
**CHEER** Aerolux Lights Corp.  
**CHEMACO** Koppers Co.  
**CHEMALLOW-KAHL** Chemalloy Electronics Corp.  
**CHEMELEC** U. S. Gasket Co.  
**CHEMSEAL** U. S. Gasket Co.  
**CHEMETCH** Automatic Processing Corp.  
**CHEMIFLEX** Technicraft Co.  
**CHEMIGLAS** Technicraft Co.  
**CHEMIGUM** Goodyear Tire & Rubber Co.  
**CHEM-INERT** Lennard Co., Inc., P. M.  
**CHEMLON** Crane Packing Co.  
**CHEM-O-SOL** Chemical Products Corp.  
**CHEMROK** Richardson Co., The  
**CHEMSTONE** Johns-Manville  
**CHEMXORK** Electro Chemical Engineering Co.  
**CHEROKEE** Sangamo Electric Co.  
**CHEVRON** Garlock Packing Co., The.  
**CHIEF** Audio Equipment Co., Inc.  
**CHIEFTAIN** Sangamo Electric Co.  
**CHILCO** Chicago Miniature Lamp Works.  
**CHIME-MATIC** Executone, Inc.  
**CHITRAN** Chicago Standard Transformer Corp.  
**CHLORINOL** Sprague Electric Co.  
**CHROMABAR** Kay Electric Co.  
**CHROMADOT** Kay Electric Co.  
**CHROMALIZER** Maico Co., Inc.  
**CHROMALOX** Wiegand Co., Edwin L.  
**CHROMALYZER** Techchrome, Inc.  
**CHROMASCOPE** Techchrome, Inc.  
**CHROMASOL** Ward Leonard Electric Co.  
**CHROMOTAP** Spencer-Kennedy Labs., Inc.  
**CHROMASTER** Ward Leonard Electric Co.  
**CHROMAX** Driver-Harris Co.  
**CHROMEL** Hoskins Mfg. Co.  
**CHROMEL P** Hoskins Mfg. Co.  
**CHROMOLYTIC** Micamold Electronics Mfg. Corp.  
**CHRONISTOR** Bergen Laboratories  
**CHRONOHM** Red Bank Division, Bendix Aviation Corp.  
**CHRONO-SPRAY** Paragon Electric Co.  
**CHRONOTEST** Sticht Co., Inc., Herman H.  
**CHRONOTHERM** Minneapolis-Honeywell Regulator Co.  
**CHRONOTRON** Red Bank Div. Bendix Aviation Corp.  
**CIBANITE** Ciba Company, Inc.  
**CICRO MICROPOSITIONER** Barber-Colman Co.  
**CIMET** Driver-Harris Co.  
**CINELIGHT** Dormitzer Electric & Mfg. Co., Inc.  
**CINCH** National Lead Co.  
**CINELITE** Mole-Richardson Co.  
**CINEMA** Aerovox Corp.  
**CINEVISION** Calbest Engineering & Electronics Co.  
**CINE-VOICE** Berndt-Bach Inc.  
**CINTEL** Cinema-Television, Ltd.  
**CINTEL** Marconi Instruments.  
**CIRCLE** Hogan Laboratories, Inc.  
**CIRCLE 2** Sprague Electric Co.

**CIRCLE B**  
Bristol Motor Div.,  
Vocaline Company of America.

**CIRCLE COMPUTER**  
Hogan Laboratories, Inc.

**CIRCLE ESS**  
Stewart Corp., Q. W.

**CIRCLET**  
Trumbull Dept. of General Electric Co.

**CIRCLE-VANE**  
Ward Products Corp., Div., Gabriel Co.

**CIRCON**  
Universal Circuit Controls Corp.

**CIRCUIT**  
Heineman Electric Co.

**CIRCUITMASTER**  
Fordham Mfg. Co.

**CIRCUTROL**  
Kollsman Instrument Corp.

**CK**  
Farmer Electric Products Co., Inc.

**CK**  
Raytheon Mfg. Co.

**"CL"**  
Alpha Wire Corp.

**CLAMPIPE**  
Mueller Electric Co.

**CLARKSTAN**  
Pacific Transducer EBG Corp.

**CLARO**  
Clarostat Mfg. Co., Inc.

**CLASSIC**  
Jensen Industries, Inc.

**CLEAR-PIX**  
Superex Electronics Corp.

**CLEAR-PRINT**  
Phillips Process Co., Inc.

**CLEARSITE**  
Economy Fuse & Mfg. Co.

**CLEARSONIC**  
U. S. Television Mfg. Corp.

**CLETRON**  
Cleveland Electronics, Inc.

**CLEVELITE**  
Cleveland Container Corp.

**CLEVITE**  
Transistor Products, Inc.

**CLIMATE-LAB**  
American Instrument Co., Inc.

**CLIMATITE**  
Triad Transformer Corp.

**C LINE**  
Clarostat Mfg. Co., Inc.

**CLIPMASTER**  
Clegg Laboratories, Div. of Clegg, Inc.

**CLIP ON**  
Ferranti Electric, Inc.

**CLIPPER**  
Johns-Manville

**CLIPPER**  
Sterling Transformer Corp.

**CLIPPER SEALS**  
Johns-Manville

**CLOCKTIMER**  
International Register Co.

**CLORINOL**  
Sprague Electric Co.

**CLOSTEMP**  
Westinghouse Electric Corp.

**CLOVER-V-BEAMS**  
Telrex, Inc.

**CML**  
Communication Measurements Lab., Inc.

**CMR**  
Assembley Products, Inc.

**COAST CABLE**  
Pacific Electriccord Co.

**COATINGAGE**  
Branson Instruments, Inc.

**CO-AX**  
Transradio Ltd.

**COAXITUBE**  
Precision Tube Co., Inc.

**COAXWITCH**  
Bird Electronic Corp.

**COBANIC**  
Driver Co., Wilbur B.

**COBENIUM**  
Driver Co., Wilbur B.

**COC**  
Hammarlund Mfg. Co., Inc.

**CODUR**  
Maas & Waldstein Co.

**COHARDITE**  
Connecticut Hard Rubber Co.

**COHRLASTIC**  
Connecticut Hard Rubber Co.

**COILITE**  
National Vulcanized Fibre Co.

**COIL KRAFT**  
Hartford City Paper Co.

**COINRAD**  
Northeastern Engineering, Inc.

**COINVIDEO**  
Coradio, Inc.

**COLONIAL**  
Sylvania Electric Products, Inc.

**COLORBRITE**  
Eberhard Faber Pencil Co.

**COLORCORD**  
Pacific Electriccord Co.

**COLOREDE**  
Instrument Development Laboratories, Inc.

**COLOR-EYE**  
Instrument Development Laboratories, Inc.

**COLORMASTER**  
Manufacturers Engineering & Equipment Co.

**COLORSCOPE**  
Simpson Electric Co., Div. of American Gage & Machine Co.

**COLOR-TENNA**  
JFD Mfg. Co., Inc.

**COLORTOP**  
Trico Fuse Mfg. Co.

**COLORTRONIC**  
Thomas Electronics, Inc.

**COMANCHE**  
Sangamo Electric Co.

**COMCO**  
Communications Co., Inc.

**COMET**  
Astron Corp.

**COMET**  
Driver-Harris Co.

**COM-ETTE**  
Webster Electric Co.,

**COMMAIRE**  
Avionex Electronics Corp.

**COMMANDAIR**  
J F D Mfg. Co., Inc.

**COMMULAC**  
Martindale Electric Co.

**COMMUNICATOR**  
West Coast Electronics Co.

**COMMUNO-PHONE**  
Bogen Co., Inc., David

**COMMUTATOR RESURFACERS**  
Ideal Industries, Inc.

**COMPAC**  
A.C.F. Electronics

**COMPACK**  
General Cable Corp.

**COMPACTUATOR**  
Air Associates, Inc.

**COMPAIRATOR**  
Taft-Peirce Mfg. Co.

**COM-PAK**  
Lambda Electronics Corp.

**COMPAR**  
Goodyear Tire & Rubber Co.

**COMPA-STATION**  
Motorola, Inc.

**COMPENTROL**  
Centralab Div. of Globe-Union, Inc.

**COMPO**  
Muter Co.

**COMPOUND DIFFRACTION PROJECTOR**  
Electro-Voice, Inc.

**COMPREGNITE**  
Borden Co., The, Chemical Div.

**COMP-U-TRIM**  
Eastern Precision Resistor Corp.

**COMSPEC**  
Instrument Motors

**COMTEL**  
Radio Frequency Labs., Inc.

**COMTONE**  
Communications Co., Inc.

**COMVOR**  
Radio Frequency Labs., Inc.

**CONALERT**  
Kaar Engineering Corp.

**CON-AM**  
Astatic Corp.

**CONCERT**  
Jensen Industries, Inc.

**CONCERT GRAND**  
Stewart-Warner Corp.

**CONCERT-LINE**  
Shure Brothers, Inc.

**CONCERTO**  
Jensen Mfg. Co.

**CONCERTONE**  
Berlant Concertone-Audio Div. of American Electronics Inc.

**CONDENS-O-WELD**  
Westinghouse Electric Corp.

**CONDEX**  
Simplex Wire & Cable Co.

**CONDOR**  
Raybestos-Manhattan, Inc.

**CONDUCTALUTE**  
Sauerisen Cements Co.

**CONDUX**  
Hardman Co., Inc., H. V.

**CON-ELCO**  
Edcliff Instruments

**CONELRAD**  
Kaar Engineering Corp.

**CONELRADIO**  
Aircraft Armaments, Inc.

**CON-FEE-PHONE**  
Simpson Mfg. Co., Inc., Mark

**CONFIDENCER**  
Roanwell Corp.

**CONETIC**  
Perfection Mica Co.

**CONFESSIONAIRE**  
Audio Equipment Co., Inc.

**CONFIDENCER**  
Roanwell Corp.

**CONFLEX**  
Metals & Controls Corp.,  
General Plate Div.

**CONICAL-V-BEAM**  
Telrex Inc.

**CONNECTRONICS**  
Continental Connector Corp.

**CONNSONATA**  
Conn Ltd., C. G.

**CONNSONETTE**  
Conn Ltd., C. G.

**CONNTENNA**  
Connecticut Telephone & Electric Corp.

**CONOLITE**  
Continental Can Co., Inc.

**CONPERNIK**  
Westinghouse Electric Corp.

**CONSISTORATOR**  
Fischer & Porter Co.

**CONSOLETTA**  
Ampro Corp.

**CONSOLIDATED**  
Manning, Maxwell & Moore Inc.

**CONSTAVAC**  
Green Rectifier Co.

**CONSTELLATION**  
JFD Mfg. Co., Inc.

**CONSTRUCT-O-GRIP**  
Technology Instrument Corp.

**CON-TAC-TOR**  
Minneapolis-Honeywell Regulator Co.

**CONTINENTAL**  
DeJur-Amsco Corp.

**CONTINUOUS BALANCE**  
Minneapolis-Honeywell Regulator Co.

**CONTROFLEX**  
Eagle Signal Corp.

**CONTROL-A-MATIC**  
Rockwell Engineering Co.

**CONTROLARC**  
Vickers Electric Div., Vickers, Inc.

**CONTROLITE**  
Ward Leonard Electric Co.

**CONVECTRON**  
Red Bank Div.  
Bendix Aviation Corp.

**CONVERS-O-CALL**  
National Inter-Communication Systems, Inc.

**CONVOTROL**  
Automatic Electric Sales Corp.

**COOK SOUNDS OF OUR TIMES**  
Cook Laboratories Inc.

**COOLER-PROOF**  
Paisley Products Inc.

**COORDINATED PROCESS CONTROL**  
Bristol Co., The

**COPACO**  
Cottrell Paper Co., Inc.

**COPEL**  
Hoskins Mfg. Co.

**COPOLENE**  
Amphenol Electronics Corp.

**COPPERBRITE**  
London Chemical Co.

**COPRENE**  
Mass & Waldstein Co.

**COPROX**  
Bradley Labs., Inc.

**COPYFLEX**  
Bruning Co., Inc., Charles

**COPYMASTER**  
Peck & Harvey Mfg. Corp.

**CORAL DESIGNS**  
Dietz Co., Henry G.

**COREPROOF**  
Magnetic Metals Co.

**CORKOUSTIC**  
Armstrong Cork Co.

**CORO-GRAD**  
Minnesota Mining & Mfg. Co.

**COROHM**  
Aerovox Corp.

**COROHON**  
Hi-Q Div., Aerovox Corp.

**CORONATEST**  
Network Mfg. Corp.

**CORONATION**  
Interelectronics Corp.

**CORONOX**  
Westinghouse Electric Corp.

**COROX**  
Westinghouse Electric Corp.

**CORRIB**  
Ohmrite Mfg. Co.

**CORSAIR**  
Hudson American Corp.

**CORSAIR**  
JFD Mfg. Co., Inc.

**CORULITE**  
Premax Products Div.  
Chisholm-Ryder Co., Inc.

**CORVETTE**  
JFD Mfg. Co., Inc.

**CORWICO**  
Cornish Wire Co.

**COSMALITE**  
Cleveland Container Co., The

**CO-SPIRAL**  
Stephens Mfg. Corp.

**COSSOR**  
Barker Sales Corp.

**CO-THERM**  
Hopkins Engineering Co.

**COTO**  
Coto-Coil Co., Inc.

**COTTONITE**  
Acme Wire Co.

**COUNTERPOISE**  
Cook Electric Co.

**COUNTOMATIC**  
Instrument Development Labs.

**COUPLATE**  
Centralab Div.  
Globe-Union Inc.

**COX**  
Commercial Research Labs., Inc.

**COX**  
Boston Insulated Wire & Cable Co.

**COXPROX**  
Bradley Labs.

**CP-2**  
Cast Optics Corp.

**CPPC**  
Clifton Precision Products Co., Inc.

**CR-39**  
Cast Optics Corp.

**CRBB**  
Capps & Co., Inc.

**CRL**  
Centralab Div. of Globe-Union, Inc.

**CRAPO**  
Indiana Steel & Wire Co.

**CREME-O-WAX**  
General Cement Mfg. Co.

**CRESTBRITE**  
Crest Transformer Corp.

**CRESTRAN**  
Crest Transformer Corp.

**CRESTROL**  
Crest Transformer Corp.

**CRESTWOOD**  
Daystrom Electric Corp.

**CRISE**  
Acro Mfg. Co.

**CRO-ART**  
Croname, Inc.

**CROFLEX**  
Croname, Inc.

**CROFLEX**  
Waldom Electronics Inc.

**CROLITE**  
Aerovox Corp.

**CROLITE MAGICORE**  
Aerovox Corp.

**CROLOY**  
Aerovox Corp.

**CROMAG**  
Aerovox Corp.

**CROMALLOY**  
Linde Air Products Co.  
Unit of Union Carbide & Carbon Corp.

**CROMAX**  
Aerovox Corp., Pacific Coast

**CROMEL-ALUMEL**  
Hoskins Mfg. Co.

**CROMESH**  
Croname, Inc.

**CROMIND**  
Driver Co., Wilbur B.,

**CRONAME**  
Waldom Electronics Inc.

**CROROTO**  
Croname, Inc.

**CROROTO**  
Waldom Electronics, Inc.

**CROWE**  
Croname, Inc.

**CROWELD**  
Croname, Inc.

**CROWLEY**  
Aerovox Corp.

**CROWN**  
International Radio & Electronics Corp.

**CRUCIBLE WELD**  
Westinghouse Electric Corp.

**CRUSADER**  
Hudson American Corp.

**CRUSADER**  
Transitron, Inc.

**CRUGAST**  
Crucible Steel Company of America.

**CRUSFIDER**  
Hudson American Corp.

**CRYSTALEAR**  
Brush Electronics Co.

**CRYSTALIGNED**  
Magnetic Metals Co.

**CRYSTALINER**  
Monitor Products Co.

**CRYSTOGRAPH**  
Offner Electronics, Inc.

**CRYSTOLON**  
Norton Co.

**C-S**  
Felt Products Mfg. Co.

**C S P**  
Westinghouse Electric Corp.

**CTS**  
Chicago Telephone Supply Corp.

**CTS**  
Chicago Telephone of California, Inc.

**CUEMETER**  
Lear, Inc.

**CUE TAPE**  
Rangertone, Inc.

**CUNICO**  
Arnold Engineering Co.

**CUNIFE**  
Arnold Engineering Co.

**CUNNINGHAM**  
Radio Corp. of America

**CUPALOY**  
Westinghouse Electric Corp.

**CUPROCHROME**  
Driver Co., Wilbur B.

**CUPRON**  
Driver Co., Wilbur B.

**CUPROVAC-E**  
Vacuum Metals Corp.

**CURTAIN OF LIGHT**  
Electronic Control Corp.

- CUSHIONED-POWER**  
Roboron Corp.
- CUSHIONTONE**  
Armstrong Cork Co.
- CUSIL**  
Westera Gold & Platinum Co.
- CUSTOM**  
Precision Radiation Instruments, Inc.
- CUSTOM MASTER**  
Post & Co., Frederick
- CUSTOM FOUR HUNDRED**  
Stromberg-Carlson Co., Div. of General Dynamics Corp.
- CUSTOMODE**  
Jensen Mfg. Co.
- CUTAWL**  
International Register Co.
- C. W. C.**  
Continental Wire Corp.
- CYCOLAC**  
Marbon Corp.
- CYCLE-PROGRESS**  
Automatic Temperature Control Co.
- CYCLELOG**  
Foxboro Co., The
- CYCL-FLEX**  
Eagle Signal Corp.
- CYCLO-FLEX**  
Wilson & Co., G. C.
- CYCLOHM**  
Howard Industries, Inc.
- CYCLO-RAY**  
Friez Instrument Div.  
Bendix Aviation Corp.
- CYCLOTROL**  
Cyclotron Specialties Co.
- CYCLOTROL**  
Minneapolis-Honeywell Regulator Co.
- CYMEI**  
American Cyanamid Co.
- CYPAK**  
Westinghouse Electric Corp.
- D 54**  
Mallory & Co., Inc., P. R.
- "D" NICKEL**  
International Nickel Co., Inc.
- DAG**  
Acheson Colloids Co.
- DAGE**  
Thompson Products, Inc.
- DAGLAS**  
Phelps Dodge Copper Products Corp.
- DAGLAS**  
Acme Wire Co.
- DAISY BLIND**  
Hudson American Corp.
- DAKA-WARE**  
Davies Molding Co., Harry
- DALBAR**  
Electronic Enterprises
- DALE**  
Electronic Development Co.
- DALMOTRON**  
Dalmo Victor Co.
- DALOHM**  
Dale Products, Inc.
- DAMASCENE**  
Linick Chemical Co.
- DANCO**  
Daniels, Inc., C. R.
- DANDEE**  
Aerovox Corp.
- DA-NITE**  
Bendix Aviation Corp.
- DAPON**  
Ohio-Apex Div., Food Machinery & Chemical Corp.
- DARCON**  
du Pont de Nemours & Co., Inc., E. I.
- DAREX "FLOWED-IN"**  
Dewey & Almy Chemical Co. Div. of W. R. Grace Co.
- DATAGRAPH**  
Consolidated Electrodynamics Corp.
- DATALAB**  
Consolidated Electrodynamics Corp.
- DATA-LINER**  
Hanson-Gorrill-Brian, Inc.
- DATAMASTER**  
Consolidated Electrodynamics Corp.
- DATA-MASTER**  
Hanson-Gorrill-Brian, Inc.
- DATRAC**  
Epsco, Incorporated,
- DATAREADER**  
Electro Data Corp.
- DATASYNC**  
Berndt-Bach, Inc.
- DATA-TAB**  
Hupp Electronics Co., A Div. of Hupp Corp.
- DATA TAPE**  
Consolidated Electrodynamics Corp.
- DATATRON**  
Electro Data Corp.
- DATA-VISION**  
Dage Television Div. of Thompson Products, Inc.
- DAUNTLESS**  
Defiance Engineering & Microwave Corp.
- DAVENOIL**  
Daven Co.
- DAVOHM**  
Daven Co.
- DAZIC**  
Westerburg Mfg. Co.
- DBPC**  
Koppers Co., Inc.
- DC SILICONES**  
Dow Corning Corp.
- DE-ACIDITE**  
Permutit Co.
- DECADIAL**  
Ford Engineering Co. Inc.
- DECI**  
Dwyer Engineering Co., Inc.
- DECITRON**  
Post Machinery Co.
- DE FOREST**  
Radio Corp. of America
- DECASWEEP**  
Decade Instrument Co.
- DECAFIER**  
Decade Instrument Co.
- DECALATOR**  
Decade Instrument Co.
- DECAVIDER**  
Decade Instrument Co.
- DECOHM**  
Davis Electric Co.
- DEFOREST**  
Radio Corp. of America
- DE-FROST-IT**  
Paragon Electric Co.
- DEHYDRA**  
Wappler, Inc.
- DE-ION**  
Westinghouse Electric Corp.
- DEKABOX**  
Electro-Measurements, Inc.
- DEKABRIDGE**  
Electro-Measurements, Inc.
- DEKAPACITOR**  
Electro-Measurements, Inc.
- DEKAPOT**  
Electro-Measurements, Inc.
- DEKASTAT**  
Electro-Measurements, Inc.
- DEKATRON**  
Baird-Atomic, Inc.
- DEKA-XTAL**  
Scientific Radio Products Co.
- DELCO**  
General Motors Corp.
- DELPEC**  
Centralab Div. of Globe-Union, Inc.
- DELTABESTON**  
General Electric Co.
- DELTAMAX**  
Allegheny Ludlum Steel Corp.
- DELTAMAX**  
Arnold Engineering Co.
- DELTA PLY**  
Dearborn Electronic Labs., Inc.
- DELTASWITCH**  
Detroit Controls Corp.
- DELTA-TENNAS**  
Western Gear Corp.,  
Electro Products Div.
- DELTA-WELD**  
Channel Master Co.
- DeLUXE**  
Precision Radiation Instruments, Inc.
- DEMCO**  
Defiance Engineering & Microwave Corp.
- DEMCO**  
Dormitzer Electric & Mfg. Co., Inc.
- DEMINERALIZER**  
Barnstead Still & Sterilizer Co. Inc.
- DENSICHRON**  
Welch Scientific Co., W. M.
- DENSITE**  
West Virginia Pulp & Paper Co.
- DENSI-TINER**  
Lekra Laboratories
- DEOXIDINE**  
American Chemical Paint Co.
- DEOXO**  
Baker & Co., Inc.
- DEPTHOMETER**  
Bludworth Marine Div., Kearfott Co., Inc.
- DERLIKOR**  
Associated American Trading Division.
- DERMITRON**  
Unit Process Assemblies, Inc.
- DERVIMETER**  
Gerber Scientific Instrument Co.
- DESCO**  
Dietz Design & Mfg. Co.
- DESK-FAX**  
Western Union Telegraph Co.
- DESKTOPPER**  
Universal Drafting Machine Corp.
- DETECT-A-FIRE**  
Fenwal, Inc.
- DETECTOLAB**  
BJ Electronics, Borg-Warner Corp.
- DETECTOMETER**  
Dillon & Co., Inc., W. C.
- DETERMOMH**  
Ohmite Mfg. Co.
- DETI-RATED**  
Foote Brothers Gear & Machine Corp.
- DEVELCO**  
Development Engineering Co.
- DEW POINTER**  
Illinois Testing Labs., Inc.
- DIACLOR**  
Sangamo Electric Co.
- DIACONE**  
Aitec Laasing Corp.
- DI-ACRO**  
O'Neil-Ingram Mfg. Co.
- DIAGNOMETER**  
Supreme, Inc.
- DIAL-A-MATIC**  
American Photocopy Equipment Co.
- DIALAMATIC**  
JFD Mfg. Co., Inc.
- DIALCO**  
Dialight Corporation
- DIALGLO**  
Ackerman Engravers
- DIALSAW**  
Enwood, Inc.
- DIALX**  
Stromberg-Carlson Co.
- DIAMACONTROL**  
Standard Electronics Research Corp.
- DIAMATROL**  
Standard Electronics Research Corp.
- DIAMOND**  
Continental-Diamond Fiber Corp.
- DIAMOND**  
Tetrad Corp.
- DIAMOND G**  
Garrett Co., Inc., G. K.
- DIAMOND-H**  
Hart Mfg. Co.
- DIAMOND PRODUCTS**  
Garrett Co., Inc., George K.
- DIAMOND WEAVE**  
Sickles Div., F. W.  
General Instrument Corp.
- DIAMONITE**  
U. S. Ceramic Tile Co.
- DIAMONTINE**  
Linick Chemical Co.
- DIAPHLEX**  
Cook Electric Co.
- DIATRON**  
Consolidated Engineering Corp.
- DICO**  
Diamond Mfg. Co.
- DICO**  
Diamond Antenna & Microwave Corp.
- DICTABELT**  
Dictaphone Corp.
- DICTACORD**  
Dictaphone Corp.
- DICTALOG**  
Dictaphone Corp.
- DICTATAPE**  
Dictaphone Corp.
- DICTET**  
Dictaphone Corp.
- DIEFLEX**  
Insulation Manufacturers Corp.
- DI-FAN**  
Andrew Co.
- DIFFAXIAL**  
University Loudspeakers, Inc.
- DIFFERENTIAL**  
Electro-Voice, Inc.
- DIFFUSICONE**  
University Loudspeakers, Inc.
- DIFFUSION PORT**  
Sieler Design Products.
- DIFILM**  
Sprague Electric Co.
- DI-FORMED**  
Precision Paper Tube Co.
- DIGE \* CODER**  
Fischer & Porter Co.
- DIGESTER**  
Telecomputing Corp.
- DIGICON**  
Anatron Engineering Corp.
- DIGILOG**  
Librascope, Inc.
- DIGIMATIO**  
Electronic Control Systems, Inc.
- DIGIMATIC**  
Stromberg-Carlson Co., Div. of General Dynamics Corp.
- DIGIPOT**  
Anatron Engineering Corp.
- DIGIPULSER**  
Jacobs Instrument Co.
- DIGISYN**  
Adcon Corp.
- DIGITIZER**  
Coleman Engineering Co., Inc.
- DIGIT-MATIC**  
Victor Adding Machine Co., Electronics Sales Div.
- DIGITOMETER**  
Electro-Mec Laboratory, Inc.
- DI JELL 171**  
Sonneborn Sons, Inc., L.
- DILECTO**  
Continental-Diamond Fibre Corp.
- DI-MAX**  
Armco Steel Corp.
- DIMINUETTE**  
Permoflux Corp.
- DIMMERETTE**  
Ward Leonard Electric Co.
- DIMOMATIC**  
Maico Co., Inc.
- DIOFHLEX**  
Cook Electric Co.
- DIPILOT**  
Dielectric Materials Co.
- DIPOT**  
Servonics, Inc.
- DIP PAK**  
Fidelity Chemical Products Corp.
- DIPWHITE**  
Special Chemicals Co.
- DIPWRAP**  
Paisley Products Co.
- DIRECT-A-CALL**  
Connecticut Telephone & Electric Corp.
- DIRECT-DRIVE**  
Shure Brothers, Inc.
- DIRECTION EXPOSURE SHIELD**  
Technical Operations, Inc.
- DIRECTRON**  
Sanford Miller Co.
- DIRON**  
Peerless Products Industries
- DISCALOY**  
Westinghouse Electric Corp.
- DISCAP CON**  
Sprague Electric Co.
- DISCAPS**  
Radio Materials Corp.
- DISCOHM**  
Ward Leonard Electric Co.
- DISKCHANGERS**  
Webcor, Inc.
- DISPATCHER**  
Motorola Inc.
- DIVCO**  
Division Lead Co.
- DIVCO HOT-ROZ**  
Division Lead Co.
- DIVCO INTENSE-REZ**  
Division Lead Co.
- DIVIDOHM**  
Ohmite Mfg. Co.
- "DM"**  
Dage Electric Co.
- DOBRO**  
Valco Mfg. Co.
- DODO**  
JFD Mfg. Co., Inc.
- DOG**  
Radio Corporation of America.
- DOMEPAK**  
Sprague Electric Co.
- DOMINO**  
Sprague Electric Co.
- DONUT**  
Associated Research Inc.
- DONWOOD**  
Sierra Electric Corp.
- DORPHONE**  
Republic Electronic Industries Corp.
- DOSIFILM**  
Keed-Curtis Nuclear Industries, Inc.
- DOSIMETER**  
Bendix Aviation Corp., Cincinnati Div.
- DOSIMETER**  
Instrument Development Labs.
- DOT**  
United-Carr Fastener Corp.
- D.O.T.**  
United Transformer Co.
- DOUGLAS**  
British Industries Corp.
- DOWMETAL**  
Dow Chemical Co.
- DPR**  
Hardman Co., Inc., H. V.
- DR**  
D & R, Ltd.
- DRAFT-HORSE**  
Karp, Lawrence A.
- DRAFTMASTER**  
Stacor Equipment Co.
- DRAGNET**  
Radeco Mfg. Co.
- DREADNOUGHT**  
Wall Mfg. Co.
- DRILL HOLE**  
Precision Radiation Instruments, Inc.
- DRI-FILM**  
General Electric Co.
- DRIMETER**  
Fielden Instrument Div. of Robertshaw-Fulton Controls Co.
- DRIOX**  
Linde Air Products Co.  
Unit of Union Carbide & Carbon Corp.
- DRI-STAT**  
Peerless Photo Products, Inc.
- DRITHERM**  
North American Electric Lamp Co.
- DRUM-KARRIER**  
Falstrom Co.
- DRYGALV**  
American Solder & Flux Co.,
- DU NOUY**  
Central Scientific Co.
- DUA-CAPS**  
Centralab Div., Globe-Union, Inc.
- DUAL DANDEE**  
Aerovox Corp.
- DUAL LOCK**  
Simmons Fastener Corp.
- DUALTRONIC**  
Goldak Co., Inc., The
- DUART**  
Mass & Waldstein Co.
- DUBL-X**  
Telrex, Inc.
- DUCO**  
Du Pont de Nemours & Co., Inc., E. I.
- DUETTE**  
Jensen Mfg. Co.

**DULAC**  
Maas & Waldstein Co.

**DULUX**  
du Pont de Nemours & Co., Inc., E. I.

**DU-MITTER**  
DuMont Laboratories, Inc., Allen B.

**DUNCO**  
Struthers-Dunn, Inc.

**DUO**  
J F D Mfg. Co., Inc.

**DUO-BAND**  
Telrex, Inc.

**DUOCARB**  
Driver Co., Wilbur B.

**DUO-CHROME**  
Duotone Co., Inc.

**DUOCREX**  
Horn Co., Inc., A. C.

**DUODE**  
Beam Instruments Corp.

**DUODIAL**  
Helipot Corp.

**DUODISC**  
Duotone Co., Inc.

**DUODYNE**  
Telex, Inc.

**DUO-FLEX**  
Dumore Co., The

**DUOFONIC**  
Paraplegics Mfg. Co., Inc.

**DUO-KAP**  
Centralab Div. of Globe-Union, Inc.

**DUOLITE**  
Pittsburgh Plate Glass Co.

**DUOLUX**  
Masonite Corp.

**DUO MOUNT**  
South River Metal Products Co.

**DU OP**  
General Control Company

**DUO-PULSATOR**  
Fischer & Co., R. A.

**DUOSCALE**  
Tracerlab, Inc.

**DUOSEAL**  
Welch Scientific Co., W. M.

**DUOSTAT**  
Beckman Instruments, Inc.

**DUOTAPE**  
Duotone Co., Inc.

**DUO-TENNA**  
Waldom Electronics, Inc.

**DUOVOLT**  
Carter Motor Co.

**DUPLATE**  
Pittsburgh Plate Glass Co.

**DUPLEX**  
Altec Lansing Corp.

**DUPLEXER**  
Blonder-Tongue Laboratories, Inc.

**DUPPLICAN**  
Canadian Radium & Uranium Corp.

**DURO-VAC**  
Glasseal Products Co.

**DURACON**  
Co-Operative Industries, Inc.

**DURAFLEX**  
American Brass Co.

**DURAFLEX**  
Co-operative Industries, Inc.

**DURALINE**  
Universal Drafting Machine Corp.

**DURALON**  
U. S. Stoneware Co.

**DURAMEG**  
Sprague Electric Co.

**DURAMIC**  
Aerovox Corp.

**DURAMOULD**  
Dumont-Airplane & Marine Instruments, Inc.

**DURANICKEL**  
International Nickel Co., Inc.

**DURANITE**  
Aerovox Corp.

**DURATAPE**  
Rahm Instruments, Inc.

**DURATEX**  
Stromberg-Carlson Co., Div. of General Dynamics Corp.

**DURISITE**  
U. S. Stoneware Co.

**DURITE**  
Borden Co., Chemical Div.

**DUROTEST**  
Dearborn Electronic Laboratories, Inc.

**DUROID**  
Rogers Corp.

**DURPOINT**  
Duotone Co., Inc.

**DUSTRAP**  
Air Control Installations Ltd.

**DUSTRONIC**  
Radex Corp.

**DUTCH BOY**  
National Lead Co.

**DUTCH BRAND**  
Johns-Manville.

**DUTI-RATED**  
Foote Brothers Gear & Machine Corp.

**DUXSEAL**  
Johns-Manville

**DUZ-ALL**  
CBC Electronics Co., Inc.

**D-XER**  
JFD Mfg. Co., Inc.

**DX MASTERSPEAKERS**  
DX Radio Products Co., Inc.

**DYEPRINT**  
Times Facsimile Corp.

**DYKANOL**  
Cornell-Dubilier Electric Corp.

**DYLAN**  
Koppers Co., Inc.

**DYLENE**  
Koppers Co., Inc.

**DYLITE**  
Koppers Co., Inc.

**DYMIN-VANE**  
Ward Products Corp., Div. The Gabriel Co.

**DYNA-CHEK**  
Western Gear Corp., Electro Products Div.

**DYNACO**  
Dynamic Gear Co., Inc.

**DYNAONE**  
Lord Mfg. Co.

**DYNACOR**  
Applied Dynamics Corp.

**DYNACORD**  
Pentron Corp.

**DYNAFLUX**  
Lear, Inc.

**DYNAFOCAL**  
Lord Mfg. Co.

**DYNAGAGE**  
Photocon Research Products

**DYNAGRAPH**  
Offner Electronics, Inc.

**DYNALOG**  
Foxboro Co., The

**DYNAMASTER**  
Bristol Co., The

**DYNAMATIC**  
Telatest Instrument Corp.

**DYNA-METER**  
Industrial Electronics, Inc.

**DYNAMIKE**  
Astatic Corp.

**DYNA-MYKE**  
Industrial Electronics, Inc.

**DYNAMU**  
Maico Co., Inc.

**DYNA-PAK**  
Red Bank Div., Bendix Aviation Corp.

**DYNAPORT**  
Lear, Inc.

**DYNAPRENE**  
Whitney Blake Co.

**DYNA-Q**  
K-W Engineering Works

**DYNA-QUIK**  
B & K Mfg. Co.

**DYNARAY**  
Dormitzer Electric & Mfg. Co., Inc.

**DYNA-SCAN**  
B & K Manufacturing Co.

**DYNASEAL**  
Dormitzer Electric & Mfg. Co., Inc.

**DYNASET**  
Telex, Inc.

**DYNASERT**  
United Shoe Machinery Corp.

**DYNATEQ**  
Dynamics Research Associates Div. of Universal Match Corp.

**DYNATHERM**  
American Diathermy Products, Inc.

**DYNATROL**  
Dynamics Research Associates Div. of Universal Match Corp.

**DYNATROPS**  
Lear, Inc.

**DYNAURAL**  
Scott, Inc., Herman Hosmer

**DYNAVAR**  
Allied Products Co. Hamilton Watch Co.

**DYNETRIC**  
Gisholt Machine Co.

**DYNETRIC**  
Westinghouse Electric Corp.

**DYNOGRAPH**  
Annis Co., R. B.

**DYNOGRAPH**  
Offner Electronics, Inc.

**DYNOID**  
McQuay-Norris Mfg. Co.

**DYNO-MITE**  
Millers Falls Co.

**E A D**  
Eastern Air Devices, Inc.

**EAI**  
Electronic Associates, Inc.

**"E" NICKEL**  
The International Nickel Co., Inc.

**EF**  
Electric Furnace Co.

**E101**  
Burroughs Corp.

**E-V**  
Electro Voice, Inc.

**EARSET**  
Telex, Inc.

**EASE**  
Berkeley Division, Beckman Instruments, Inc.

**EASYCAPS**  
Waldom Electronics, Inc.

**EASYSPLICE**  
Waldom Electronics, Inc.

**EASY-VISION**  
Hoffman Electronics Corp.

**EBCOR**  
Ed-Berl Products, Inc.

**EBONOL**  
Enthone, Inc.

**EBROK**  
Richardson Co., The

**ECCO**  
Emerson & Cuming Inc.

**ECCO**  
Triad Transformer Corp.

**ECCOBOND**  
Emerson & Cuming, Inc.

**ECCOFOAM**  
Emerson & Cuming, Inc.

**ECCOMOLD**  
Emerson & Cuming, Inc.

**ECCO REFLECTOR**  
Emerson & Cuming, Inc.

**ECCOSEAL**  
Emerson & Cuming, Inc.

**ECCOSORB**  
Emerson & Cuming, Inc.

**ECCOSTOCK**  
Emerson & Cuming, Inc.

**ECHO**  
Fort Wayne Metals Inc.

**ECHOPHONE**  
Hallicrafters Co.

**ECHO-VOX**  
Kay Electric Co.

**ECKCO**  
Eckstein Radio & Television Co.

**ECO**  
Economy Fuse & Mfg. Co.

**ECOM**  
Economy Fuse & Mfg. Co.

**ECONOMASTER**  
Sonotone Corp.

**ECON-OHM**  
Model Engineering & Mfg. Inc.

**ECONO-SLIDE**  
Grant Pulley & Hardware Co.

**ECONOSTAT**  
Barber-Colman Co.

**ECONO-SWITCH**  
Centralab Div. of Globe Union, Inc.

**ECONO-WATT**  
Redmond Company, Inc.

**ECTROMAG**  
Electronic Processes Corp.

**ECTROTHERM**  
Electronic Processes Corp.

**EDDYSTONE**  
Marconi Instruments

**EDGE LIT**  
Ackerman Engravers

**EDGEOHM**  
Ward Leonard Electric Co.

**EDIPHONE**  
Edison, Inc. Thomas A.

**EDIPHONE-TELEPHONE**  
Edison Inc., Thomas A.

**EEOO**  
Electronic Engineering Co. of California.

**EEL**  
Electronic Enterprises Inc.

**EPECO**  
Electro Engineering Products Co.

**EFCON**  
Electronic Fabricators, Inc.

**EGEN**  
British Radio Electronics, Ltd.

**EGYPTIAN TIP**  
Mitchell Industries, Inc.

**EI**  
Electrical Industries, Inc.

**EICO**  
Electronic Instrument Co., Inc.

**EIGHT-BALL**  
Ward Products Corp., Div. of The Gabriel Co.

**EILEX**  
Electro Engineering Works

**EILEX**  
Electro Impulse Labs.

**EIMAC**  
Eitel-McCullough, Inc.

**EKOMATIC**  
Laboratoire Industriel de Physique Appliquee.

**EKOTAPE**  
Webster Electric Co.

**EKTAR**  
Eastman Kodak Co.

**EKTRON**  
Eastman Kodak Co.

**EL**  
Electrons, Inc.

**ELASTICABLE**  
Mutual Electronic Industries Corp.

**ELASTOBOND**  
Paisley Products, Inc.

**ELASTOMER**  
Kellogg Co., M. W.

**ELC**  
Armco Steel Corp.

**ELCO**  
Electronic Instrument Co., Inc.

**ELCOFONE**  
Loral Electronics Corp.

**ELDEC**  
Electro Development Co.

**ELECOM**  
Electronic Computer Div., Underwood Corp.

**ELECOTONE**  
Northeastern Engineering, Inc.

**ELECTONE**  
Electron Enterprises

**ELECTOUNITE**  
Republic Steel Corp.

**ELECTRACER**  
Special Products Co.

**ELECTRALOY**  
Circon Component Co.

**ELECTRICA**  
Arnhold Ceramics, Inc.

**ELECTRICORD**  
Pacific Electriccord Company

**ELECTRITE**  
West Virginia Pulp & Paper Co.

**ELECTRIX**  
U. S. Rubber Co.

**ELECTROBOND**  
Cavitrion Electron Oscillator Co. Div. of Short Wave Plastic Forming Co.

**ELECTRO-BOND**  
Woodwelding, Inc.

**ELECTROC**  
Sprague Electric Co.

**ELECTRO-CAL**  
Industrial Electronics, Inc.

**ELECTROCAM**  
Westinghouse Electric Corp.

**ELECTRO-CLUTCH**  
I-T-E Circuit Breaker Co.

**ELECTRO CORDER**  
Electron Enterprises.

**ELECTROCRAFT**  
Richards Electro aft, Inc.

**ELECTROFARAD**  
Aerovox Corp.

**ELECTROFLO**  
Hays Mfg. Co.

**ELECTRO-FLOW**  
Super Flow Solder Co., Inc.

**ELECTRO-GLOW**  
Industrial Devices, Inc.

**ELECTRO GRAPHIC**  
Precise Measurements Co.

**ELECTRO-LARYNX**  
Aurex Corp.

**ELECTRO-LINE**  
Minneapolis-Honeywell Regulator Co.

**ELECTROLINK**  
Lear, Inc.

**ELECTROLYTIC**  
Astron Corp.

**ELECTROMANGANESE**  
Foote Mineral Co.

**ELECTROMANOMETER**  
Sanborn Co.

**ELECTRO-MATIC**  
Automatic Signal Div., Eastern Industries Inc.

**ELECTROMAX**  
Leeds & Northrup Co.

**ELECTROMECH**  
International Telephone & Telegraph Corp.

**ELECTRO-MESURFLO**  
Hays Mfg. Co.

**ELECTROMITE**  
Hays Mfg. Co.

**ELECTRONAMIC**  
Precision Apparatus Co., Inc.

**ELECTRONHEAT**  
Resdel Engineering Corporation.

**ELECTRONIC EAR**  
Sonotone Corp.

**ELECTRONIC ESSENTIALS**  
Aerolite Electronics Corp.

**ELECTRONIC FEATHER**  
Westinghouse Electric Corp.

**ELECTRONIC LONGHAND**  
Tel Autograph Corp.

**ELECTRONIC-MESSENGER**  
Air Associates, Inc.

**ELECTRONIC SCORER**  
Eagle Pencil Co.

**ELECTRONIK**  
Minneapolis-Honeywell Regulator Co.

**ELECTROPATH**  
Century Engineers, Inc.

**ELECTROPILOT**  
Lear, Inc.

**ELECTROPOINT**  
Century Engineers, Inc.

**ELECTRO-PROBE**  
Edwood, Inc.

**ELECTROPHOTOMETER**  
Fisher Scientific Co.

**ELECTR-O-PULSE**  
Minneapolis-Honeywell Regulator Co.

**ELECTROQUIPT**  
Filters, Inc.

**ELECTROSCOPE**  
Feiler Engineering & Mfg. Co.

**ELECTROSIL**  
Pacific Moulded Products.

**ELECTRO-SPAN**  
Bendix Aviation Corp., Pacific Div.

**ELECTRO-STAT**  
Anslay Mfg. Corp., Arthur

**ELECTROTESTER**  
Feiler Engineering & Mfg. Co.

**ELECTROTEMP**  
Westinghouse Electric Corp.

**ELECTR-O-VOLT**  
Minneapolis-Honeywell Regulator Co.

**ELECTRO-WIPE**  
Duotone Co., Inc.

**ELECTROWRITER**  
Pioneer Electric & Research Corp.

**ELECTROX**  
Schauer Mfg. Corp.

**ELECTRUNITE**  
Republic Steel Corp.

**ELEKTRAN**  
Ward Products Div. of The Gabriel Co.

**ELEPHANT**  
Phosphor Bronze Corp.

**ELFURNO**  
Electric Furnace Co.

**EL GATO**  
Lewis & Kaufman, Ltd.

**ELGIN-NEOMATIC**  
Elgin National Watch Co.

**ELIMAG**  
American Time Products, Inc.

**ELINCO**  
Electric Indicator Co., Inc.

**ELINVAR**  
Allied Products Div., Hamilton Watch Co.

**ELINVAR EXTRA**  
Allied Products Div., Hamilton Watch Co.

**E-LITE**  
Eldema Corp.

**ELITE**  
American Elite, Inc., (Telefunken).

**ELKOLOY**  
P. R. Mallory & Co., Inc.

**ELKONITE**  
P. R. Mallory & Co., Inc.

**ELKONIUM**  
P. R. Mallory & Co., Inc.

**ELLISCO**  
Ellis & Sons, Inc., George D.

**ELMAC**  
Multi-Products Co.

**EL MENCO**  
Electro Motive Mfg. Co.

**ELMET**  
North American Phillips Co., Inc.

**EL-TEC**  
Electronic Protection Inc.

**ELVANOL**  
du Pont de Nemours & Co., Inc., E. I.

**E-M**  
Electric Machinery Mfg. Co.

**EM-BED-IT**  
Electronic Plastics Corp.

**EMC**  
Electronic Measurements Corp.

**EMC**  
Howard Industries, Inc.

**EMCOR**  
Elgin Metalformer Corp.

**EMDECO**  
Magnetic Devices Corp.

**EMPIRE**  
Mica Insulator Co.

**EMPIRE**  
Russell, Burdsall & Ward Bolt & Nut Co.

**ENAMEL G**  
General Cable Corp.

**ENAMELITE**  
Acme Wire Co.

**ENCAPSOR**  
Alcor Electronics Corp.

**ENCORE**  
Technical Tape Corp.

**ENDON**  
Voltarc Tubes Inc.

**ENDURO**  
Republic Steel Corp.

**ENDURPRENE**  
General Insulated Wire Works, Inc.

**ENDOGAS**  
Westinghouse Electric Corp.

**ENERGIZED**  
Alpha Metals, Inc.

**ENGIN SCOPE**  
DuMont Laboratories, Inc., Allen B.

**ENGRAVOGRAPH**  
New Hermes Engraving Machine Co.

**ENSCO**  
Engineered Electronics Co.

**ENSTRIP**  
Enthone, Inc.

**ENTERITE**  
General Cable Corp.

**ENTHOL**  
Enthone, Inc.

**ENTHOX**  
Enthone, Inc.

**ENVOY**  
Anslay Mfg. Co., Arthur

**EONITE**  
Kaiser Aluminum & Chemical Sales, Inc.

**E. P.**  
Electronic Products Co.

**EPC**  
Electronic Parts Mfg. Co., Inc.

**EPCO**  
Etcheo Products Corp.

**EPCOR**  
Electronic Products Corp.

**EPINATE**  
American Printed Circuits Co., Inc.

**EPINATE A**  
American Printed Circuits Co., Inc.

**EPINATE C-P**  
American Printed Circuits Co., Inc.

**EPINATE G**  
American Printed Circuits Co., Inc.

**EPINATE-T**  
American Printed Circuits Co., Inc.

**EPIC**  
Electrical & Physical Instrument Corp.

**EPIPHEN**  
Borden Co., The, Chemical Div.

**EPM**  
Electronics Parts Mfg. Co., Inc.

**EPOGLAS**  
Plastilight, Inc.

**EPON**  
Shell Chemical Corp.

**EPUT**  
Berkeley Division, Beckman Instruments, Inc.

**EQUALINE**  
Entron Inc.

**EQUALOAD**  
Keystone Carbon Co., Inc.

**EQUAMETER**  
Gerber Scientific Instrument Co.

**EQUATROL**  
Entron, Inc.

**EQUIBAR**  
Trans-Sonics, Inc.

**ERECTOHM**  
Workman TV, Inc.

**ERSIN MULTICORE**  
Multicore Solders Ltd.

**ERX**  
Hupp Electronics Co., A Div. of Hupp Corp.

**ESCO**  
Electric Specialty Co.

**ESCO**  
Electro Switch Corp.

**ESCON**  
Electro-Switch & Controls Inc.

**ESICO**  
Electric Soldering Iron Co.

**ESICO-LUGER**  
Electric Soldering Iron Co.

**ESNA**  
Elastic Stop Nut Corp.

**ESNAILS**  
Elastic Stop Nut Corp.

**ESSAR**  
Unitronics, Inc.

**ESTAR**  
Sprague Electric Co.

**ET**  
Astron Corp.

**ETCO**  
Electronic Transformer Co., Inc.

**ETERNALLOY**  
Electro-Lab Processes, Inc.

**ETHOCEL**  
Dow Chemical Co.

**ETHYLON**  
Amphenol Electronics Corp.

**ETHOLOC**  
Weckesser Co.

**ETS-7**  
Industrial Electronic Engineers

**EUREKA**  
Morse Co., Frank W.

**EVABRITE**  
Bache & Co., Semon

**EVALAST**  
Bache & Co., Semon

**EVANOHM**  
Driver Co., Wilbur B.

**EVAPOROGRAPH**  
Baird-Atomic, Inc.

**EVELYN**  
Rubicon Co.

**EVEN-BREAK**  
Electric Eye Equipment Co.

**EVENGLO**  
Koppers Co., Inc.

**EVERDUR**  
American Brass Co.

**EVEREADY**  
National Carbon Co., Div. of Union Carbide & Carbon Corp.

**EVERFAST**  
Ambroid Co.

**EVERLASTING**  
Harper Co., The, H. M.

**EVERLOCK**  
Thompson-Bremer Co.

**EVER-LOK**  
Russell & Stoll Co., Inc.

**EVERON**  
Voltarc Tubes Inc.

**EXACTOHM**  
Workman TV, Inc.

**EXACT PHOTOCOPY**  
General Photo Products Co.

**EXCELLALL**  
Frederick Post Co.

**EXECUTIVE ADF**  
Lear, Inc.

**EXIDE**  
Electric Storage Battery Co.

**EXIDE-IRONCLAD**  
Electric Storage Battery Co.

**EXIDE-MANCHEX**  
Electric Storage Battery Co.

**EXPAMET**  
British Industries Corp.

**EXPRESS**  
Centralab Div. of Globe-Union, Inc.

**EYE WITNESS**  
Radio Corporation of America

**E-Z**  
Ideal Industries, Inc.

**E-Z**  
Pyramid Products Co.

**E-Z-CODE**  
Westline Products Div. of Western Lithograph Co.

**E-Z CUE**  
Amplifier Corp. of America

**E-ZEE-ON**  
Indiana Steel Products Co.

**EZSOL**  
Hudson Wire Co.

**FC**  
Electro-Mechanical Div. of General Riveters, Inc.

**F-C-I**  
Film Capacitors, Inc.

**FM**  
Electro-Mechanical Div. of General Riveters, Inc.

**FABRILITE**  
du Pont de Nemours & Co., Inc., E. I.

**FACTROL**  
Maico Co., Inc.

**FAI**  
Summers Gyroscope Co.

**FAIRPRENE**  
du Pont de Nemours & Co., Inc., E. I.

**FARADON**  
Cornell-Dubilier Electric Corp.

**FARATRON**  
Lumenite Electric Co.

**FARLITE**  
Farley & Loetscher Mfg. Co.

**FARLOEX**  
Farley & Loetscher Mfg. Co.

**FASALOY**  
Fansteel Metallurgical Corp.

**FASTATCH**  
Centralab Div. of Globe-Union, Inc.

**FASTACK**  
Paisley Products, Inc.

**FASTEE**  
Entron, Inc.

**FASTELL**  
Fansteel Metallurgical Corp.

**FASTEERING**  
Central Screw Co.

**FASTICK**  
Paisley Products, Inc.

**FASTOP**  
Lear, Inc.

**FAST'S**  
Koppers Co., Inc.

**FATHOMETER**  
Raytheon Mfg. Co.

**FAX-FILM**  
Brush Electronics Co.

**FAXIMILE**  
Hogan Laboratories, Inc.

**FAXPAPER**  
Hogan Laboratories, Inc.

**FEATHERIDE**  
Webster Electric Co.

**FEATHERLITE**  
Brush Electronics Co.

**FEATHERWEIGHT**  
Clifford Mfg. Co.

**FEATHERWEIGHT**  
Goldak Co., Inc., The

**FEDCO**  
Federal Engineering Co.

**FEDERAL RECORDER**  
Conn. Ltd., C. G.

**FEEDRATOR**  
Fischer & Porter & Co.

**FELCO**  
Forest Electric Co.

**FELCOID**  
Felt Products Mfg. Co.

**FEL-PAK**  
Felt Products Mfg. Co.

**FEL-PRO**  
Felt Products Mfg. Co.

**FENOX**  
Bakelite Corp.

**FERNETIC**  
Perfection Mica Co.

**FERRAC**  
Airpax Products Co.

**FERRACTOR**  
Remington Rand Univac Div. of Sperry Rand Corp.

**FERRAMIC**  
General Ceramics Corp.

**FERRI-CHOKE**  
Superex Electronics Corp.

**FERRICORE**  
National Moldite Co.

**FERRI-LOOPSTICK**  
Superex Electronics Corp.

**FERRIMAG**  
Crucible Steel Co. of America.

**FERRISTOR**  
Berkeley Division, Beckman Instruments, Inc.

**FERRO-CELL**  
Topatron, Inc.

**FERROD**  
Tuttle & Kift.

**FERRO-DYNAMIC**  
Lear, Inc.

**FERRO-SHEEN**  
Orradio Industries, Inc.

**FERROTRON**  
Polymer Corp., The.

**FERROVAC-E**  
Vacuum Metals Corp.

**FEUTRON**  
American Felt Co.

**FIBROID**  
Johns-Manville.

**FIBERGLAS**  
Owen-Corning Fiberglas Corp.

**FIBERLOY**  
British Electronics Sales Co., Inc.

**FIBRACOUSTIC**  
Johns-Manville.

**FIBRETONE**  
Johns-Manville.

**FIDELITONE**  
Permo, Inc.

**FIELD-FONE**  
Industrial Radio Corp.

**FIL-CAP**  
Filtron Co., Inc.

**FILMAGNETIC**  
Berndt-Bach, Inc., Auricon Div.

**FILMETER**  
American Instrument Co., Inc.

**FILMGRAPH**  
Miles Reproducer Co., Inc.

**FILMITE**  
Sprague Electric Co.

**FILMPOI**  
Fairchild Controls Corp.

**FILM-X**  
Good-All Electric Mfg. Co.

**FILPEC**  
Centralab Div. of Globe-Union, Inc.

**FILPLATE**  
Centralab Div. of Globe-Union, Inc.

**FILTACOL**  
Magnetic Core Corp.

**FILT-A-COR**  
Magnetic Core Corp.

**FILTERETTE**  
Tobe Deutschmann Corp.

**FILTERIZE D**  
Tobe Deutschmann Corp.

**FILTERMITE**  
Tobe Deutschmann Corp.

**FILTERNOYS**  
Continental Carbon, Inc.

**FILTEROL**  
Sprague Electric Co.

**FILTER POINT**  
Duotone Co., Inc.

**FILTERS L**  
Sprague Electric Co.

**FILTERVOLT**  
Insuline Corp. of America.

**FILTOR PAK**  
Torocoil Co.

**FINCO**  
Finney Co.

**FINCOR**  
Fidelity Instrument Corp.

**FINNIFLEX**  
Finn & Co., Inc., T. R.

**FIREBALL**  
JFD Mfg. Co., Inc.

**FIRE BELLE**  
Minneapolis-Honeywell Regulator Co.

**FIRE DEVIL**  
Littelfuse, Inc.

**FIRETRON**  
Electronics Corporation of America.

**FIREYE**  
Electronics Corp. of America.

**FIREWALL**  
Rockbestos Products Corp.

**FIREZONE**  
Rockbestos Products Corp.

**FISCHERQUARTZ**  
Fischer & Co., R. A.

**FISCHERSINE**  
Fischer & Co., R. A.

**FISCHER THERM**  
Fischer & Co., R. A.

**FISHBONE**  
Telrex Inc.

**FISHERFONE**  
Fisher Research Lab.

**5-WAY**  
Superior Electric Co., The

**FIXTOHM**  
Clarostat Mfg. Co., Inc.

**FLAME-O-TROL**  
Barber-Colman Co.

**FLASH**  
Phillips Mfg. Co., Inc.

**FLATAK**  
Paisley Products Inc.

**FLATOHM**  
Centralab Div. of Globe-Union, Inc.

**FLATWRAP**  
Paisley Products Inc.

**FLAWMASTER**  
Biggs Co., Carl H.

**FLEETCOM**  
Communications Co., Inc.

**FLEET CONTROL**  
Hammarlund Mfg. Co.

**FLEETWAY**  
Connecticut Telephone & Electric Corp.

**FLEETWOOD**  
Conrac, Inc.

**FLEK-PAK**  
Bogen Co., Inc., David.

**FLEXAGUIDE**  
Airtron Inc.

**FLEXALL**  
Rome Cable Corp.

**FLEX-A-POWER**  
Trumbull Dept. of General Electric Co.

**FLEXARC**  
Westinghouse Electric Corp.

**FLEXFLAT**  
Paisley Products Inc.

**FLEXIFONE**  
Dukane Corp.

**FLEXIFORM**  
Precision Paper Tube Co.

**FLEXIMOUNT**  
Insuline Corp. of America.

**FLEXISPLICES**  
Frankel Connector Co.

**FLEXITE**  
Markel & Sons, L. Frank.

**FLEXITIP**  
Weller Mfg. Co.

**FLEXI-TROL**  
Wilson & Co., G. C.

**FLEXLAB**  
Standard Electric Time Co.

**FLEXLIFE**  
Columbia Wire & Supply Co.

**FLEXLOC**  
Standard Pressed Steel Co.

**FLEXO**  
Copperweld Steel Co.

**FLEXO-FLUTE**  
Arro Expansion Bolt Co.

**FLEXOHM**  
Clarostat Mfg. Co., Inc.

**FLEXO-MOLD**  
Plastronics

**FLEXON**  
Flexonics Corp.

**FLEXOPULSE**  
Eagle Signal Corp.

**FLEXO WAX C**  
Glyco Products Co., Inc.

**FLEX-SOK**  
Stupakoff Ceramic & Mfg. Co.,  
Div. of The Carborundum Co.

**FLEXTACK**  
Paisley Products Co.

**FLIGHTCOM**  
Communications Co., Inc.

**FLIGHTWEIGHT**  
Bendix Aviation Corp.

**FLIMOSEAL**  
Telegraph Condenser Co., Ltd.

**FLIPON**  
Westinghouse Electric Corp.

**FLITE-LOK**  
Boots Aircraft Nut Corp.

**FLOCRON**  
Magnuson Engineers, Inc.

**FLO-FORM**  
Harper Co., H. M.

**FLOGUIDE**  
Fischer & Porter Co.

**FLOOD-FLASH**  
Photobell Company.

**FLORI-TRAN**  
Merit Coil & Transformer Corp.

**FLOSOL**  
American Chemical Paint Co.

**FLOWMETER**  
Hastings Instrument Co.

**FLOWRATOR**  
Fischer & Porter Co.

**FLUORADEX**  
Westinghouse Electric Corp.

**FLUORETOR**  
Menlo Research Laboratory.

**FLUORFILM**  
Dilectrix Corp.

**FLUOROFLEX**  
Resistoflex Corp.

**FLUOROFLEX-C**  
Resistoflex Corp.

**FLUOROFLEX-T**  
Resistoflex Corp.

**FLUOROSPOT**  
Westinghouse Electric Corp.

**FLOUROVUE**  
Westinghouse Electric Corp.

**FLUSH-LITE**  
Littelfuse, Inc.

**FLUSHLITE**  
Drake Mfg. Co.

**FLUTED ELECTRODE**  
P. R. Mallory & Co., Inc.

**FLUXCOTE**  
London Chemical Co.

**FLUX GATE**  
Eclipse-Pioneer Div.  
Bendix Aviation Corp.

**FLUX-IN-SOLDER**  
Johnson Mfg. Co., Inc.

**FLUXOL**  
Standard Metals Corp.

**FLUXRITE**  
National Lead Co.

**FLUX-STIK**  
Lake Chemical Co.

**FLUXVALVE**  
Pickering & Co.

**FLYING ARROW**  
Ward Products Corp., Div. of  
The Gabriel Co.

**FLYING TYPEWRITER**  
Potter Instrument Co., Inc.

**FLYWEIGHT MAGNEMITE**  
Amplifier Corp. of America

**F-M-E**  
Federal Mfg. & Engineering Corp.

**FM-G**  
General Controls Co.

**F.N.A.**  
Paisley Products, Inc.

**FOAM LINE**  
Plastoid Corp.

**FOAMTUBE**  
Plastoid Corp.

**FOCALIZER**  
Quam Nichols Co.

**FONOGRAFS**  
Webcor, Inc.

**FOOTROL**  
General Control Co.

**FORASITE**  
Reichhold Chemicals, Inc.

**FORDMICA**  
Ford Radio & Mica Corp.

**FORMBOND**  
Acme Wire Co.

**FORMEX**  
General Electric Co.

**FORMEZE**  
General Cable Corp.

**FORM FLEX**  
Aircraft Transformer Corp.

**FORMLON**  
General Cable Corp.

**FORMVAR**  
General Cable Corp.

**FORMVAR**  
Acme Wire Co.

**FORMVAR**  
Phelps Dodge Copper Products Co.

**FORTICEL**  
Celanese Corp. of America, Plastics Div.

**FORTIFLEX**  
Celanese Corp. of America, Plastics Div.

**FORTISAN**  
Celanese Corp. of America.

**FORTISSIMO**  
Permoflux Corp.

**44**  
Kester Solder Co.

**#479**  
Cohn Corp., Sigmund.

**"49" ALLOY**  
Magnetic Metals Co.

**49-1**  
Triplett & Barton, Inc.

**FOSTERITE**  
Westinghouse Electric Corp.

**FOTOELECTRIC**  
Worner Electronic Devices.

**FOTOLINE**  
California Bent Glass Co.

**FOTOLUX**  
American Speedlight Corp.

**FOTO SOLAR**  
National Fabricated Products  
Div. of Hoffman Electronics Corp.

**F.P.**  
Mallory & Co., Inc., P. R.

**FRAHM**  
Biddle Co., James C.

**FRANKLIN ELECTRONICS**  
Precision Electronics, Inc.

**FREAS**  
Precision Scientific Co.

**FREE-CUT INVAR "36"**  
Carpenter Steel Co.

**FREED-EISEMAN**  
Fairchild Controls Corp.

**FREE-VANE**  
Bristol Co., The

**FREON**  
du Pont de Nemours & Co., Inc., E. I.

**FREQUEMATIC**  
Federal Telephone & Radio Corp.

**FRETARAY**  
Fretco, Inc.

**FRETLINE**  
Fretco, Inc.

**FRIGISTAT**  
Minneapolis-Honeywell Regulator Co.

**FRINGE LEADER**  
Radio Merchandise Sales, Inc.

**FRINGEMASTER**  
Radio Merchandise Sales, Inc.

**FROEHLER**  
Associated American Trading Division.

**FROST**  
Chicago Telephone Supply Corp.

**FRY'S**  
Electrovert Inc.

**FURNATRON**  
Westinghouse Electric Corp.

**FUSE-BAR**  
Workman TV, Inc.

**FUSELITE**  
Alden Products Co.

**FUSES**  
Jefferson Electric Co.

**FUSETRON**  
Bussmann Mfg. Co.

**FUSIONWELD**  
Avon Tube Div.,  
Higbie Mfg. Co.

**FUSISTOR**  
Bradford Components, Inc.

**FUSTATS**  
Bussmann Mfg. Co.

**FUTUREMIC**  
Channel Master Co.

**FUZOHM**  
Clarostat Mfg. Co., Inc.

**FXR**  
F-R Machine Works, Inc.

**FYBEROID**  
Wilmington Fibre Specialty Co.

**FYBRGLASS**  
Rush Wire Stripper Div.,  
Eraser Co., Inc., The

**GA & F CARBONYL**  
Antara Chemicals Div., General Aniline  
& Film Corp.

**GB**  
Goldsmith Bros. Smelting & Refining Co.

**G-B JET**  
Workman TV, Inc.

**G-C**  
General Cement Mfg. Co.

**G METER**  
Boonton Radio Corp.

**GAINSET**  
Kay Electric Co.

**GALVO PROTECTOR**  
Audio Instrument Co., Inc.

**GANGPOT**  
Giannini & Co., Inc., G. M.

**GAP/R**  
Philbrick Researches, Inc., George A.

**GARCEAU**  
Electro-Medical Lab., Inc.

**GARDINER**  
Federated Metals Div., American  
Smelting & Refining Co.

**GARDTROL**  
Shand & Jurs Co., Sub. of General Pre-  
cision Equipment Corp.

**GARRARD**  
British Industries Corp.

**GASEAL**  
General Hermetic Sealing Corp.

**GASK-O-SEAL**  
Wolfe Co., Inc., Franklin C.  
Div. of the Parker Appliance Co.

**GEARMOTOR**  
Motoresearch Co.

**GEDA**  
Goodyear Aircraft Corp.

**GEM**  
Jefferson Electric Co.

**GEM**  
Mallory & Co., Inc., P. R.

**GEMTENNA**  
Tennalab.

**GENALEX**  
British Industries Corp.

**GENCALLOY A**  
General Cable Corp.

**GENCASEAL**  
General Cable Corp.

**GENCAST**  
General Plastics Corp.

**GENCATHENE**  
General Cable Corp.

**GENCATROL**  
General Cable Corp.

**GENCO EXACT FAX**  
General Photo Products Co., Inc.

**GENCORONE**  
General Cable Corp.

**GENCOTE**  
General Plastics Corp.

**GENEMOTOR**  
Carter Motor Co.

**GENERAL**  
Mallory Battery Co.

**GENERAL SCIENTIFIC**  
San Fernando Electric Mfg. Co.

**GENSCOPE**  
Simpson Electric Co. Div. of  
American Gage & Machine Co.

**GENETRON**  
Baker & Adamson Products, General  
Chemical Div. of Allied Chemical & Dye  
Corp.

**GENEVALOC**  
Bendix Aviation Corp., Pacific Div.

**GEN-RAL**  
Muter Co.

**GENTON**  
General Plastics Corp.

**GEOCABLE**  
Georator Corp.

**GEOFORMER**  
Triad Transformer Corp.

**GEOHMETER**  
Georator Corp.

**GEOOMATIC**  
Finney Co., The.

**GEON**  
Goodrich Chemical Co., B. F.

**GEOREEL**  
Georator Corp.

**GEORGIAN**  
Electro-Voice, Inc.

**GEOTRODE**  
Georator Corp.

**GEOVOLTMETER**  
Georator Corp.

**GER-FLEX**  
Gering Products, Inc.

**GER-HIDE**  
Gering Products, Inc.

**GER-MAT**  
Gering Products, Inc.

**GERON**  
Gering Products, Inc.

**GER-PAK**  
Gering Products, Inc.

**GER-TUBE**  
Gering Products, Inc.

**GEVIDUTY FLOWRATOR**  
Fischer & Porter Co.

**G-H**  
Girard-Hopkins

**GI**  
General Industries Co.

**GIANT SIX**  
Burgess Battery Co.

**GIBSILOY**  
Gibson Electric Co.

**G-L**  
Gee-Lar Mfg. Co.

**GLASBES**  
Electro-Technical Products Div.  
of Sun Chemical Corp.

**GLASLINE**  
Knights Co., James, The.

**GLASOHM**  
Clarostat Mfg. Co., Inc.

**GLASSEAL**  
Pyramid Electric Co.

**GLASSFLOSS**  
Pittsburgh Plate Glass Co.

**GLASSMIKE**  
Condenser Products Co.

**GLASS SEALING "42"**  
Carpenter Steel Co.

**GLASWELD**  
U. S. Plywood Corp.

**GLASWITCH**  
Revere Corp. of America  
Sub. of Neptune Meter Co.

**GLENNITE**  
Gulton Industries, Inc.

**GLIDER**  
Shure Brothers

**G-LINE**  
Bogen Co., Inc., David.

**GLOBAL**  
Molded Insulation Co.

**GLOBAR**  
Carborundum Co.

**GLOBE TROTTER**  
Radio Corporation of America.

**GLO-DROP**  
Workman TV, Inc.

**GLO-N-GLO**  
Canadian Radium & Uranium Corp.

**GLOTECH**  
Fischer & Porter Co.

**GLYCOWAX**  
Glyco Products Co., Inc.

**GLYDAG**  
Acheson Colloids Co.

**GLYPTAL**  
General Electric Co.

**GM**  
Detroit Diesel Engine Div. of General  
Motors Corp.

**GOETZE**  
Johns-Manville.

**GOLD BRAND**  
Sylvania Electric Products Inc.

**GOLD CUP**  
Carboneau Industries, Inc.

**GOLD SHIELD**  
J. F. D. Mfg. Co., Inc.

**GOLDEN BEAM**  
Motorola, Inc.

**GOLDEN THROAT**  
Radio Corporation of America.

**GOLDEN VIEW**  
Motorola, Inc.

**GOLDEN VOICE**  
Motorola, Inc.

**GOLDEN WAND**  
Peerless Products Industries

**GOODLINE**  
Wire Co. of America, Inc.

**GOOD-RITE**  
Goodrich Chemical Co., B. F.

**GOTHARD**  
Johnson Co., E. F.

**GOTHAM ELECTRIC GLASSLINE**  
Hartford City Paper Co.

**GP**  
Erie Resistor Corp.

**GR**  
Grles Reproducer Corp.

**GRACOIL**  
Gramer-Halldorson Transformer  
Corp.

**GRADIENT**  
Shure Brothers, Inc.

**GRAFOIL**  
Brush Electronics Co.

**GRAFOLUBE**  
Grafo Colloids Corp.

**GRAFOLUX**  
Grafo Colloids Corp.

**GRAFSIL**  
Neosil Products Div. of Rubber  
Associates Inc.

**ELECTRO-STAT**  
Anslay Mfg. Corp., Arthur

**ELECTROTESTER**  
Feiler Engineering & Mfg. Co.

**ELECTROTEMP**  
Westinghouse Electric Corp.

**ELECTR-O-VOLT**  
Minneapolis-Honeywell Regulator Co.

**ELECTRO-WIPE**  
Duotone Co., Inc.

**ELECTROWRITER**  
Pioneer Electric & Research Corp.

**ELECTROX**  
Schauer Mfg. Corp.

**ELECTRUNITE**  
Republic Steel Corp.

**ELEKTRAN**  
Ward Products Div. of The Gabriel Co.

**ELEPHANT**  
Phosphor Bronze Corp.

**ELFURNO**  
Electric Furnace Co.

**EL GATO**  
Lewis & Kaufman, Ltd.

**ELGIN-NEOMATIC**  
Elgin National Watch Co.

**ELIMAG**  
American Time Products, Inc.

**ELINCO**  
Electric Indicator Co., Inc.

**ELINVAR**  
Allied Products Div., Hamilton Watch Co.

**ELINVAR EXTRA**  
Allied Products Div., Hamilton Watch Co.

**E-LITE**  
Eldema Corp.

**ELITE**  
American Elite, Inc., (Telefunken).

**ELKOLOY**  
P. R. Mallory & Co., Inc.

**ELKONITE**  
P. R. Mallory & Co., Inc.

**ELKONIUM**  
P. R. Mallory & Co., Inc.

**ELLISCO**  
Ellis & Sons, Inc., George D.

**ELMAC**  
Multi-Products Co.

**EL MENCO**  
Electro Motive Mfg. Co.

**ELMET**  
North American Phillips Co., Inc.

**EL-TEC**  
Electronic Protection Inc.

**ELVANOL**  
du Pont de Nemours & Co., Inc., E. I.

**E-M**  
Electric Machinery Mfg. Co.

**EM-BED-IT**  
Electronic Plastics Corp.

**EMC**  
Electronic Measurements Corp.

**EMC**  
Howard Industries, Inc.

**EMCOR**  
Elgin Metalformer Corp.

**EMDECO**  
Magnetic Devices Corp.

**EMPIRE**  
Mica Insulator Co.

**EMPIRE**  
Russell, Burdsall & Ward Bolt & Nut Co.

**ENAMEL G**  
General Cable Corp.

**ENAMELITE**  
Acme Wire Co.

**ENCAPSOR**  
Alcor Electronics Corp.

**ENCORE**  
Technical Tape Corp.

**ENDON**  
Voltarc Tubes Inc.

**ENDURO**  
Republic Steel Corp.

**ENDURPRENE**  
General Insulated Wire Works, Inc.

**ENDOGAS**  
Westinghouse Electric Corp.

**ENERGIZED**  
Alpha Metals, Inc.

**ENGIN SCOPE**  
DuMont Laboratories, Inc., Allen B.

**ENGRAVOGRAPH**  
New Hermes Engraving Machine Co.

**ENSCO**  
Engineered Electronics Co.

**ENSTRIP**  
Enthone, Inc.

**ENTERITE**  
General Cable Corp.

**ENTHOL**  
Enthone, Inc.

**ENTHOX**  
Enthone, Inc.

**ENVOY**  
Anslay Mfg. Co., Arthur

**EOHITE**  
Kaiser Aluminum & Chemical Sales, Inc.

**E. P.**  
Electronic Products Co.

**EPC**  
Electronic Parts Mfg. Co., Inc.

**EPCO**  
Etcheo Products Corp.

**EPCOR**  
Electronic Products Corp.

**EPINATE**  
American Printed Circuits Co., Inc.

**EPINATE A**  
American Printed Circuits Co., Inc.

**EPINATE C-P**  
American Printed Circuits Co., Inc.

**EPINATE G**  
American Printed Circuits Co., Inc.

**EPINATE-T**  
American Printed Circuits Co., Inc.

**EPIC**  
Electrical & Physical Instrument Corp.

**EPIPHEN**  
Borden Co., The, Chemical Div.

**EPM**  
Electronics Parts Mfg. Co., Inc.

**EPOGLAS**  
Plastilight, Inc.

**EPON**  
Shell Chemical Corp.

**EPUT**  
Berkeley Division, Beckman Instruments, Inc.

**EQUALINE**  
Entron Inc.

**EQUALOAD**  
Keystone Carbon Co., Inc.

**EQUAMETER**  
Gerber Scientific Instrument Co.

**EQUATROL**  
Entron, Inc.

**EQUIBAR**  
Trans-Sonics, Inc.

**ERECTOHM**  
Workman TV, Inc.

**ERSIN MULTICORE**  
Multicore Solders Ltd.

**ERX**  
Hupp Electronics Co., A Div. of Hupp Corp.

**ESCO**  
Electric Specialty Co.

**ESCO**  
Electro Switch Corp.

**ESCON**  
Electro-Switch & Controls Inc.

**ESICO**  
Electric Soldering Iron Co.

**ESICO-LUGER**  
Electric Soldering Iron Co.

**ESNA**  
Elastic Stop Nut Corp.

**ESNAILS**  
Elastic Stop Nut Corp.

**ESSAR**  
Unitronics, Inc.

**ESTAR**  
Sprague Electric Co.

**ET**  
Astron Corp.

**ETCO**  
Electronic Transformer Co., Inc.

**ETERNALLOY**  
Electro-Lab Processes, Inc.

**ETHOCEL**  
Dow Chemical Co.

**ETHYLON**  
Amphenol Electronics Corp.

**ETHOLOC**  
Weckesser Co.

**ETS-7**  
Industrial Electronic Engineers

**EUREKA**  
Morse Co., Frank W.

**EVABRITE**  
Bache & Co., Semon

**EVALAST**  
Bache & Co., Semon

**EVANOHM**  
Driver Co., Wilbur B.

**EVAPOROGRAPH**  
Baird-Atomic, Inc.

**EVELYN**  
Rubicon Co.

**EVEN-BREAK**  
Electric Eye Equipment Co.

**EVENGLO**  
Koppers Co., Inc.

**EVERDUR**  
American Brass Co.

**EVEREADY**  
National Carbon Co., Div. of Union Carbide & Carbon Corp.

**EVERFAST**  
Ambroid Co.

**EVERLASTING**  
Harper Co., The, H. M.

**EVERLOCK**  
Thompson-Bremer Co.

**EVER-LOK**  
Russell & Stoll Co., Inc.

**EVERON**  
Voltarc Tubes Inc.

**EXACTOHM**  
Workman TV, Inc.

**EXACT PHOTOCOPY**  
General Photo Products Co.

**EXCELLALL**  
Frederick Post Co.

**EXECUTIVE ADF**  
Lear, Inc.

**EXIDE**  
Electric Storage Battery Co.

**EXIDE-IRONCLAD**  
Electric Storage Battery Co.

**EXIDE-MANCHEX**  
Electric Storage Battery Co.

**EXPAMET**  
British Industries Corp.

**EXPRESS**  
Centralab Div. of Globe-Union, Inc.

**EYE WITNESS**  
Radio Corporation of America

**E-Z**  
Ideal Industries, Inc.

**E-Z**  
Pyramid Products Co.

**E-Z-CODE**  
Westline Products Div. of Western Lithograph Co.

**E-Z CUE**  
Amplifier Corp. of America

**E-ZEE-ON**  
Indiana Steel Products Co.

**EZSOL**  
Hudson Wire Co.

**FC**  
Electro-Mechanical Div. of General Riveters, Inc.

**F-C-I**  
Film Capacitors, Inc.

**FM**  
Electro-Mechanical Div. of General Riveters, Inc.

**FABRILITE**  
du Pont de Nemours & Co., Inc., E. I.

**FACTROL**  
Maico Co., Inc.

**FAI**  
Summers Gyroscope Co.

**FAIRPRENE**  
du Pont de Nemours & Co., Inc., E. I.

**FARADON**  
Cornell-Dubilier Electric Corp.

**FARATRON**  
Lumenite Electric Co.

**FARLITE**  
Farley & Loetscher Mfg. Co.

**FARLOEX**  
Farley & Loetscher Mfg. Co.

**FASALOY**  
Fansteel Metallurgical Corp.

**FASTATCH**  
Centralab Div. of Globe-Union, Inc.

**FASTACK**  
Paisley Products, Inc.

**FASTEE**  
Entron, Inc.

**FASTEEL**  
Fansteel Metallurgical Corp.

**FASTEERING**  
Central Screw Co.

**FASTICK**  
Paisley Products, Inc.

**FASTOP**  
Lear, Inc.

**FAST'S**  
Koppers Co., Inc.

**FATHOMETER**  
Raytheon Mfg. Co.

**FAX-FILM**  
Brush Electronics Co.

**FAXIMILE**  
Hogan Laboratories, Inc.

**FAXPAPER**  
Hogan Laboratories, Inc.

**FEATHERIDE**  
Webster Electric Co.

**FEATHERLITE**  
Brush Electronics Co.

**FEATHERWEIGHT**  
Clifford Mfg. Co.

**FEATHERWEIGHT**  
Goldak Co., Inc., The

**FEDCO**  
Federal Engineering Co.

**FEDERAL RECORDER**  
Conn. Ltd., C. G.

**FEEDRATOR**  
Fischer & Porter & Co.

**FELCO**  
Forest Electric Co.

**FELCOID**  
Felt Products Mfg. Co.

**FEL-PAK**  
Felt Products Mfg. Co.

**FEL-PRO**  
Felt Products Mfg. Co.

**FENOX**  
Bakelite Corp.

**FERNETIC**  
Perfection Mica Co.

**FERRAC**  
Airpax Products Co.

**FERRACTOR**  
Remington Rand Univac Div. of Sperry Rand Corp.

**FERRAMIC**  
General Ceramics Corp.

**FERRI-CHOKE**  
Superex Electronics Corp.

**FERRICORE**  
National Moldite Co.

**FERRI-LOOPSTICK**  
Superex Electronics Corp.

**FERRIMAG**  
Crucible Steel Co. of America.

**FERRISTOR**  
Berkeley Division, Beckman Instruments, Inc.

**FERRO-CELL**  
Topatron, Inc.

**FERROD**  
Tuttle & Kift.

**FERRO-DYNAMIC**  
Lear, Inc.

**FERRO-SHEEN**  
Orradio Industries, Inc.

**FERROTRON**  
Polymer Corp., The.

**FERROVAC-E**  
Vacuum Metals Corp.

**FEUTRON**  
American Felt Co.

**FIBROID**  
Johns-Manville.

**FIBERGLAS**  
Owen-Corning Fiberglas Corp.

**FIBERLOY**  
British Electronics Sales Co., Inc.

**FIBRACOUSTIC**  
Johns-Manville.

**FIBRETONE**  
Johns-Manville.

**FIDELITONE**  
Permo, Inc.

**FIELD-FONE**  
Industrial Radio Corp.

**FIL-CAP**  
Filtron Co., Inc.

**FILMAGNETIC**  
Berndt-Bach, Inc., Auricon Div.

**FILMETER**  
American Instrument Co., Inc.

**FILMGRAPH**  
Miles Reproducer Co., Inc.

**FILMITE**  
Sprague Electric Co.

**FILMPOT**  
Fairchild Controls Corp.

**FILM-X**  
Good-All Electric Mfg. Co.

**FILPEC**  
Centralab Div. of Globe-Union, Inc.

**FILPLATE**  
Centralab Div. of Globe-Union, Inc.

**FILTACOL**  
Magnetic Core Corp.

**FILT-A-COR**  
Magnetic Core Corp.

**FILTERETTE**  
Tobe Deutschmann Corp.

**FILTERIZE D**  
Tobe Deutschmann Corp.

**FILTERMITE**  
Tobe Deutschmann Corp.

**FILTERNOYS**  
Continental Carbon, Inc.

**FILTEROL**  
Sprague Electric Co.

**FILTER POINT**  
Duotone Co., Inc.

**FILTERS L**  
Sprague Electric Co.

**FILTERVOLT**  
Insuline Corp. of America.

**FILTOR PAK**  
Torocoll Co.

**FINCO**  
Finney Co.

**FINCOR**  
Fidelity Instrument Corp.

**FINNFLEX**  
Finn & Co., Inc., T. R.

**FIREBALL**  
JFD Mfg. Co., Inc.

**FIRE BELLE**  
Minneapolis-Honeywell Regulator Co.

**FIRE DEVIL**  
Littelfuse, Inc.

**FIRETRON**  
Electronics Corporation of America.

**FIREYE**  
Electronics Corp. of America.

**FIREWALL**  
Rockbestos Products Corp.

**FIREZONE**  
Rockbestos Products Corp.

**FISCHERQUARTZ**  
Fischer & Co., R. A.

**FISCHERSINE**  
Fischer & Co., R. A.

**FISCHER THERM**  
Fischer & Co., R. A.

**FISHBONE**  
Telrex Inc.

**FISHERFONE**  
Fisher Research Lab.

**5-WAY**  
Superior Electric Co., The

**FIXTOHM**  
Clarostat Mfg. Co., Inc.

**FLAME-O-TROL**  
Barber-Colman Co.

**FLASH**  
Phillips Mfg. Co., Inc.

**FLATAK**  
Paisley Products Inc.

**FLATOHM**  
Centralab Div. of Globe-Union, Inc.

**FLATWRAP**  
Paisley Products Inc.

**FLAWMASTER**  
Biggs Co., Carl H.

**FLEETCOM**  
Communications Co., Inc.

**FLEET CONTROL**  
Hammarlund Mfg. Co.

**FLEETWAY**  
Connecticut Telephone & Electric Corp.

**FLEETWOOD**  
Conrac, Inc.

**FLEK-PAK**  
Bosen Co., Inc., David.

**FLEXAGUIDE**  
Airtron Inc.

**FLEXALL**  
Rome Cable Corp.

**FLEX-A-POWER**  
Trumbull Dept. of General Electric Co.

**FLEXARC**  
Westinghouse Electric Corp.

**FLEXFLAT**  
Paisley Products Inc.

**FLEXIFONE**  
Dukane Corp.

**FLEXIFORM**  
Precision Paper Tube Co.

**FLEXIMOUNT**  
Insuline Corp. of America.

**FLEXISPLICES**  
Frankel Connector Co.

**FLEXITE**  
Markel & Sons, L. Frank.

**FLEXITIP**  
Weller Mfg. Co.

**LEXI-TROL**  
Wilson & Co., G. C.

**LEXLAB**  
Standard Electric Time Co.

**LEXLIFE**  
Columbia Wire & Supply Co.

**LEXLOC**  
Standard Pressed Steel Co.

**LEXO**  
Copperweld Steel Co.

**LEXO-FLUTE**  
Arro Expansion Bolt Co.

**LEXOHM**  
Clarostat Mfg. Co., Inc.

**LEXO-MOLD**  
Plastronics

**LEXON**  
Flexonics Corp.

**LEXOPULSE**  
Eagle Signal Corp.

**LEXO WAX C**  
Glyco Products Co., Inc.

**LEX-SOK**  
Stupakoff Ceramic & Mfg. Co.,  
Div. of The Carborundum Co.

**EXTACK**  
Paisley Products Co.

**IGHTCOM**  
Communications Co., Inc.

**IGHTWEIGHT**  
Bendix Aviation Corp.

**IMOSEAL**  
Telegraph Condenser Co., Ltd.

**IPON**  
Westinghouse Electric Corp.

**ITE-LOK**  
Boots Aircraft Nut Corp.

**OCRON**  
Magnuson Engineers, Inc.

**O-FORM**  
Harper Co., H. M.

**OGUIDE**  
Fischer & Porter Co.

**OOD-FLASH**  
Photobell Company.

**ORI-TRAN**  
Merit Coil & Transformer Corp.

**OSOL**  
American Chemical Paint Co.

**OWMETER**  
Hastings Instrument Co.

**OWRATOR**  
Fischer & Porter Co.

**ORADEX**  
Westinghouse Electric Corp.

**ORETOR**  
Menlo Research Laboratory.

**ORFILM**  
Dilectrix Corp.

**OROFLEX**  
Resistoflex Corp.

**OROFLEX-C**  
Resistoflex Corp.

**OROFLEX-T**  
Resistoflex Corp.

**OROSPOT**  
Westinghouse Electric Corp.

**OUROVUE**  
Westinghouse Electric Corp.

**USH-LITE**  
Littelfuse, Inc.

**USHLITE**  
Drake Mfg. Co.

**UTED ELECTRODE**  
P. R. Mallory & Co., Inc.

**UXCOTE**  
London Chemical Co.

**FIX GATE**  
Eclipse-Pioneer Div.

**ENDIX AVIATION**  
Bendix Aviation Corp.

**FIX-N-SOLDER**  
Johnson Mfg. Co., Inc.

**FIXOL**  
Standard Metals Corp.

**FIXRITE**  
National Lead Co.

**FIX-STIK**  
Lake Chemical Co.

**FLUXVALVE**  
Pickering & Co.

**FLYING ARROW**  
Ward Products Corp., Div. of  
The Gabriel Co.

**FLYING TYPEWRITER**  
Potter Instrument Co., Inc.

**FLYWEIGHT MAGNEMITE**  
Amplifier Corp. of America

**F-M-E**  
Federal Mfg. & Engineering Corp.

**FM-G**  
General Controls Co.

**F.N.A.**  
Paisley Products, Inc.

**FOAM LINE**  
Plastoid Corp.

**FOAMTUBE**  
Plastoid Corp.

**FOCALIZER**  
Quam Nichols Co.

**FONOGRAPHS**  
Webcor, Inc.

**FOOTROL**  
General Control Co.

**FORASITE**  
Reichhold Chemicals, Inc.

**FORDMICA**  
Ford Radio & Mica Corp.

**FORBOND**  
Acme Wire Co.

**FORMEX**  
General Electric Co.

**FORMEZE**  
General Cable Corp.

**FORM FLEX**  
Aircraft Transformer Corp.

**FORMLON**  
General Cable Corp.

**FORMVAR**  
General Cable Corp.

**FORMVAR**  
Acme Wire Co.

**FORMVAR**  
Phelps Dodge Copper Products Co.

**FORTICEL**  
Celanese Corp. of America, Plastics Div.

**FORTIFLEX**  
Celanese Corp. of America, Plastics Div.

**FORTISAN**  
Celanese Corp. of America.

**FORTISSIMO**  
Permoflux Corp.

**44**  
Kester Solder Co.

**#479**  
Cohn Corp., Sigmund.

**"49" ALLOY**  
Magnetic Metals Co.

**49-1**  
Triplett & Barton, Inc.

**FOSTERITE**  
Westinghouse Electric Corp.

**FOTOELECTRIC**  
Worner Electronic Devices.

**FOTOLINE**  
California Bent Glass Co.

**FOTOLUX**  
American Speedlight Corp.

**FOTO SOLAR**  
National Fabricated Products  
Div. of Hoffman Electronics Corp.

**F.P.**  
Mallory & Co., Inc., P. R.

**FRAHM**  
Biddle Co., James C.

**FRANKLIN ELECTRONICS**  
Precision Electronics, Inc.

**FREAS**  
Precision Scientific Co.

**FREE-CUT INVAR "36"**  
Carpenter Steel Co.

**FREED-EISEMAN**  
Fairchild Controls Corp.

**FREE-VANE**  
Bristol Co., The

**FREON**  
du Pont de Nemours & Co., Inc., E. I.

**FREQUEMATIC**  
Federal Telephone & Radio Corp.

**FRETARAY**  
Fretco, Inc.

**FRETLINE**  
Fretco, Inc.

**FRIGISTAT**  
Minneapolis-Honeywell Regulator Co.

**FRINGE LEADER**  
Radio Merchandise Sales, Inc.

**FRINGEMASTER**  
Radio Merchandise Sales, Inc.

**FROEHLER**  
Associated American Trading Division.

**FROST**  
Chicago Telephone Supply Corp.

**FRY'S**  
Electrovert Inc.

**FURNATRON**  
Westinghouse Electric Corp.

**FUSE-BAR**  
Workman TV, Inc.

**FUSELITE**  
Alden Products Co.

**FUSES**  
Jefferson Electric Co.

**FUSETRON**  
Bussmann Mfg. Co.

**FUSIONWELD**  
Avon Tube Div.,  
Higbie Mfg. Co.

**FUSISTOR**  
Bradford Components, Inc.

**FUSTATS**  
Bussmann Mfg. Co.

**FUTUREMIC**  
Channel Master Co.

**FUZOHM**  
Clarostat Mfg. Co., Inc.

**FXR**  
F-R Machine Works, Inc.

**FYBEROID**  
Wilmington Fibre Specialty Co.

**FYBRGLASS**  
Rush Wire Stripper Div.,  
Eraser Co., Inc., The

**GA & F CARBONYL**  
Antara Chemicals Div., General Aniline  
& Film Corp.

**GB**  
Goldsmith Bros. Smelting & Refining Co.

**G-B JET**  
Workman TV, Inc.

**G-C**  
General Cement Mfg. Co.

**G METER**  
Boonton Radio Corp.

**GAINSET**  
Kay Electric Co.

**GALVO PROTECTOR**  
Audio Instrument Co., Inc.

**GANGPOT**  
Giannini & Co., Inc., G. M.

**GAP/R**  
Philbrick Researches, Inc., George A.

**GARCEAU**  
Electro-Medical Lab., Inc.

**GARDINER**  
Federated Metals Div., American  
Smelting & Refining Co.

**GARDTROL**  
Shand & Jurs Co., Sub. of General Pre-  
cision Equipment Corp.

**GARRARD**  
British Industries Corp.

**GASEAL**  
General Hermetic Sealing Corp.

**GASK-O-SEAL**  
Wolfe Co., Inc., Franklin C.  
Div. of the Parker Appliance Co.

**GEARMOTOR**  
Motoresearch Co.

**GEDA**  
Goodyear Aircraft Corp.

**GEM**  
Jefferson Electric Co.

**GEM**  
Mallory & Co., Inc., P. R.

**GEMTENNA**  
Tennalab.

**GENALEX**  
British Industries Corp.

**GENCALLOY A**  
General Cable Corp.

**GENCASEAL**  
General Cable Corp.

**GENCAST**  
General Plastics Corp.

**GENCATHENE**  
General Cable Corp.

**GENCATROL**  
General Cable Corp.

**GENCO EXACT FAX**  
General Photo Products Co., Inc.

**GENCORONE**  
General Cable Corp.

**GENCOTE**  
General Plastics Corp.

**GENEMOTOR**  
Carter Motor Co.

**GENERAL**  
Mallory Battery Co.

**GENERAL SCIENTIFIC**  
San Fernando Electric Mfg. Co.

**GENSCOPE**  
Simpson Electric Co. Div. of  
American Gage & Machine Co.

**GENETRON**  
Baker & Adamson Products, General  
Chemical Div. of Allied Chemical & Dye  
Corp.

**GENEVALOC**  
Bendix Aviation Corp., Pacific Div.

**GEN-RAL**  
Muter Co.

**GENTON**  
General Plastics Corp.

**GEOCABLE**  
Georator Corp.

**GEOFORMER**  
Triad Transformer Corp.

**GEOMETER**  
Georator Corp.

**GEOMATIC**  
Finney Co., The.

**GEON**  
Goodrich Chemical Co., B. F.

**GEOREEL**  
Georator Corp.

**GEORGIAN**  
Electro-Voice, Inc.

**GEOTRODE**  
Georator Corp.

**GEOVOLTMETER**  
Georator Corp.

**GER-FLEX**  
Gering Products, Inc.

**GER-HIDE**  
Gering Products, Inc.

**GER-MAT**  
Gering Products, Inc.

**GERON**  
Gering Products, Inc.

**GER-PAK**  
Gering Products, Inc.

**GER-TUBE**  
Gering Products, Inc.

**GEVIDUTY FLOWRATOR**  
Fischer & Porter Co.

**G-H**  
Girard-Hopkins

**GI**  
General Industries Co.

**GIANT SIX**  
Burgess Battery Co.

**GIBSILOY**  
Gibson Electric Co.

**G-L**  
Gee-Lar Mfg. Co.

**GLASBES**  
Electro-Technical Products Div.  
of Sun Chemical Corp.

**GLASLINE**  
Knights Co., James, The.

**GLASOHM**  
Clarostat Mfg. Co., Inc.

**GLASSEAL**  
Pyramid Electric Co.

**GLASSFLOSS**  
Pittsburgh Plate Glass Co.

**GLASSMIKE**  
Condenser Products Co.

**GLASS SEALING "42"**  
Carpenter Steel Co.

**GLASWELD**  
U. S. Plywood Corp.

**GLASWITCH**  
Revere Corp. of America  
Sub. of Neptune Metrs Co.

**GLENNITE**  
Gulton Industries, Inc.

**GLIDER**  
Shure Brothers

**G-LINE**  
Bogen Co., Inc., David.

**GLOBAL**  
Molded Insulation Co.

**GLOBAR**  
Carborundum Co.

**GLOBE TROTTER**  
Radio Corporation of America.

**GLO-DROP**  
Workman TV, Inc.

**GLO-N-GLO**  
Canadian Radium & Uranium Corp.

**GLOTECH**  
Fischer & Porter Co.

**GLYCOWAX**  
Glyco Products Co., Inc.

**GLYDAG**  
Acheson Colloids Co.

**GLYPTAL**  
General Electric Co.

**GM**  
Detroit Diesel Engine Div. of General  
Motors Corp.

**GOETZE**  
Johns-Manville.

**GOLD BRAND**  
Sylvania Electric Products Inc.

**GOLD CUP**  
Carbonneau Industries, Inc.

**GOLD SHIELD**  
J F D Mfg. Co., Inc.

**GOLDEN BEAM**  
Motorola, Inc.

**GOLDEN THROAT**  
Radio Corporation of America.

**GOLDEN VIEW**  
Motorola, Inc.

**GOLDEN VOICE**  
Motorola, Inc.

**GOLDEN WAND**  
Peerless Products Industries

**GOODLINE**  
Wire Co. of America, Inc.

**GOOD-RITE**  
Goodrich Chemical Co., B. F.

**GOTHARD**  
Johnson Co., E. F.

**GOTHAM ELECTRIC GLASSLINE**  
Hartford City Paper Co.

**GP**  
Erie Resistor Corp.

**GRC**  
Griles Reproducer Corp.

**GRACOIL**  
Grammer-Halldorson Transformer  
Corp.

**GRADIENT**  
Shure Brothers, Inc.

**GRAFOIL**  
Brush Electronics Co.

**GRAFOLUBE**  
Grafo Colloids Corp.

**GRAFOLUX**  
Grafo Colloids Corp.

**GRAFSIL**  
Neosil Products Div. of Rubber  
Associates Inc.



**GRA-LAB**  
 U. S. Gray Co.  
**GRALLEN**  
 Clegg Laboratories, Div. of Clegg, Inc.  
**GRAMIX**  
 U. S. Graphite Co. Div. of  
 The Wicks Corp.  
**GRAMPIAN-GOTHAM**  
 Gotham Audio Development Corp.  
**GRANODINE**  
 American Chemical Paint Co.  
**GRAPHALLOY**  
 Graphite Metallizing Corp.  
**GRAPHANALOGUE**  
 Gerber Scientific Instrument Co.  
**GRAPHITAR**  
 U. S. Graphite Co. Div. of  
 The Wicks Corp.  
**GRAPHLON**  
 Graphite Metallizing Corp.  
**GRAVALUM**  
 Hermes Plastics, Inc.  
**GRAVALUM**  
 New Hermes Engraving Machine Co.  
**GRAVEX**  
 Graver Water Conditioner Co.  
**GRAVIGAGE**  
 Ess Specialty Co.  
**GRAVOFLEX**  
 Hermes Plastics, Inc.  
**GRAVOFLUX**  
 New Hermes Engraving Machine Co.  
**GRAVOLUBE**  
 New Hermes Engraving Machine Co.  
**GREEN BAND**  
 Todd-Tran Corp.  
**GREENBILT**  
 Equipment and Service Co.  
**GREEN GEM**  
 Rauland-Borg Corp.  
**GREENOHM**  
 Clarostat Mfg. Co., Inc.  
**GREENHOLM JR.**  
 Clarostat Mfg. Co., Inc.  
**GRENZ**  
 Westinghouse Electric Corp.  
**GRIDALLOY**  
 Driver Co., Wilbur B.  
**GRIDNIC**  
 Driver-Harris Co.  
**GRIP-EZE**  
 Pheloh Dodge Copper Products Corp.  
**GRIP-HOLD**  
 JFD Mfg. Co.  
**GRIP-LIP-TIP**  
 CBC Electronics Co., Inc.  
**GRIPMASTER**  
 Walker Co., George  
**GRIPPER**  
 Scovill Mfg. Co.  
**GRIP-SPINITE**  
 Stevens-Walden, Inc.  
**GRIP TITE**  
 Paisley Products, Inc.  
**GRIP TITE**  
 Stevens-Walden, Inc.  
**GRIZZLY**  
 Kaiser Aluminum & Chemical Sales  
 Inc.  
**GROMMES**  
 Precision Electronics, Inc.  
**GROUNDOMETER**  
 Borden Engineering Co. Div. of  
 M. J. Johnson Aircraft Engineering Co.  
**GRPC**  
 General Resistance Products Corp.  
**GTC**  
 General Transformer Co.  
**GUARDIAN**  
 General Cable Corp.  
**GUARDSMAN**  
 West Instrument Corp.  
**GUDELAGE**  
 Gudebrod Bros. Silk Co., Inc.  
**GUDE-NYLACE**  
 Gudebrod Bros. Silk Co., Inc.  
**GUEST TELEVISION**  
 Industrial Television, Inc.  
**GUIDELINE**  
 Airtron, Inc.  
**GYRALINE**  
 Cascade Research Corp.  
**GYRO FLUX GATE**  
 Eclipse-Pioneer Div.,  
 Bendix Aviation Corp.  
**GYROPILOT**  
 Sperry Gyroscope Co., Div. of  
 The Sperry Corp.  
**GYROSTIE**  
 Gyromechanisms Inc.  
**GYROSYN**  
 Sperry Gyroscope Co., Div. of  
 The Sperry Corp.  
**GYROTRON**  
 Sperry Gyroscope Co., Div. of  
 The Sperry Corp.  
**H. C. R. ALLOY**  
 Telegraph Construction &  
 Maintenance Co., Ltd.  
**HBB**  
 Buggie, Inc., H. H.  
**HABIRLENE**  
 Phelps Dodge Copper Products Corp.  
**HABIRSHAW**  
 Phelps Dodge Copper Products Corp.  
**HALLOWELL**  
 Standard Pressed Steel Co.  
**HALO**  
 Haloid Co., The  
**HALOBROME**  
 Haloid Co., The  
**HALOWAX**  
 Union Carbide & Carbon Corp.  
**HAM CRYSTALS**  
 Nebel Lab., R. E.  
**HAMILTON**  
 Allied Products Div.,  
 Hamilton Watch Co.  
**HAMMERTONE**  
 Maas & Waldstein Co.  
**HAMMERGUILD**  
 Fidelity Chemical Products Corp.  
**HAMMETER**  
 Simpson Electric Co. Div. of  
 American Gage & Machine Co.  
**HAMSWITCH**  
 Mallory & Co., Inc., P. R.  
**HANCOCK**  
 Manning, Maxwell & Moore, Inc.  
**HANDI**  
 Trumbull Components Dept.,  
 General Electric Co.  
**HANDIE-MICRO-TALKIE**  
 Motorola Communications &  
 Electronics, Inc.  
**HANDI-GLOW**  
 Industrial Devices Inc.  
**HANDIE TALKIE**  
 Motorola Communications &  
 Electronics, Inc.  
**HANDY-FLUX**  
 Handy & Harman  
**HANDYPAK**  
 Birnbach Radio Co., Inc.  
**HANDYVAR**  
 Martindale Electric Co.  
**HARVEL**  
 Irvington Varnish & Insulator Div. of  
 Minnesota Mining & Mfg. Co.  
**HARVEY**  
 Peck & Harvey  
**HARWOOD**  
 Avia Products Co.  
**HASCROME**  
 Haynes Stellite Co., Division of  
 Union Carbide & Carbon Corp.  
**HASTELLOY**  
 Haynes Stellite Co., Division of  
 Union Carbide & Carbon Corp.  
**HAYES**  
 Paisley Products, Inc.  
**HAYSTELLITE**  
 Haynes Stellite Co., Division of  
 Union Carbide & Carbon Corp.  
**HAZEGAGE**  
 Ess Specialty Corp.  
**HGX**  
 Sprague Electric Co.  
**HEAD**  
 Industrial Electronics, Inc.  
**HEALTH-AIR**  
 Master Appliance Mfg. Co.  
**HEAR-RINGS**  
 Maico Co., Inc.  
**HEATEX**  
 Acme Wire Co.  
**HEATHKIT**  
 Heath Co. A Sub of Daystrom, Inc.  
**HEATZONE**  
 Rockbestos Products Corp.  
**HECO**  
 Heinemann Electric Co.  
**HECTOFAX**  
 Western Union Telegraph Co.  
**HEDIN**  
 General Automatic Corp.  
**HEEMCO**  
 Hill Electronic Engineering &  
 Mfg. Co., Inc.  
**HEETMOR**  
 Acme Electric Heating Co.  
**HELCO**  
 Hoover Electric Co.  
**HELECON**  
 U. S. Radium Corp.  
**HELIAIX**  
 Andrew Corp.  
**HELICOP-HUT**  
 Craig Systems, Inc.  
**HELIDEL**  
 Helipot Corp.  
**HELIOFLASH NO. 124**  
 MacLeod & Hanopol  
**HELI-O-LITES**  
 C. F. Pease Co.  
**HELIOS**  
 Keuffel & Esser Co.  
**HELIPULSE**  
 Helipot Corp.  
**HELIX**  
 Biggs Co., Carl H.  
**HERCOCEL A**  
 Hercules Powder Co., Inc.  
**HERCOCEL E**  
 Hercules Powder Co., Inc.  
**HERCULES**  
 Acromark Co.  
**HERCULES**  
 Rubicon Co.  
**HERCULES**  
 Shure Brothers, Inc.  
**HERCULITE**  
 Pittsburgh Plate Glass Co.  
**HERLEC**  
 Sprague Electric Co.  
**HERMATRONIC**  
 General Hermetic Sealing Corp.  
**HERMEFLEX**  
 Kearfott Co., Inc.  
**HERMETICIAN**  
 Fusite Corp.  
**HERMETRONIC KW**  
 General Hermetic Sealing Corp.  
**HERMICO**  
 Hermetic Seal Products Co.  
**HERVEL**  
 Irvington Varnish & Insulator Div.,  
 Minnesota Mining & Mfg. Co.  
**HETRON**  
 Durez Plastics Div., Hooker Electro-  
 chemical Co.  
**HEVIMET**  
 Carboloy Dept. of General Electric Co.  
**HEXAMAG**  
 Ferroxcube Corp. of America  
**HEX-LOK**  
 Boots Aircraft-Nut Corp.  
**HEX-SCRU**  
 Stronghold Screw Products, Inc.  
**HEXSEAL**  
 Automatic & Precision Mfg. Co.  
**HEYCO**  
 Heyman Mfg. Co.  
**H & H**  
 Arrow-Hart & Hegeman Electric Co.  
**HI**  
 Holub Industries, Inc.  
**HI-BALL**  
 Radiart Corp.  
**HI-CAPS**  
 Centralab Div., Globe-Union, Inc.  
**HICO-LITE**  
 Hauman Instrument Co.  
**HI-COR**  
 Alpha Metals, Inc.  
**HI DRIVE**  
 Specialty Battery Co.  
**HIDE-AWAY**  
 JFD Mfg. Co., Inc.  
**HI-FARAD**  
 Aerovox Corp.  
**HI-FLUX**  
 Annis Co., R. B.  
**HI-G**  
 General Controls Co.  
**HI-GAIN**  
 Radio Merchandise Sales, Inc.  
**HIGH PERMEABILITY 1497**  
 Carpenter Steel Co.  
**HIGH-RELIABILITY**  
 Fast & Co., John E.  
**HIGHWAYMAN**  
 JFD Mfg. Co., Inc.  
**HI-K**  
 Erie Resistor Corp.  
**HI-KAP**  
 Centralab Div. of Globe-Union, Inc.  
**HIKONOL**  
 Telegraph Condenser Co., Ltd.  
**HI-MAG**  
 P. R. Mallory & Co., Inc.  
**HI-MEG**  
 Victoreen Instrument Co.  
**HINJON JR.**  
 Thomas & Betts Co.  
**HIPERCO**  
 Westinghouse Electric Corp.  
**HIPERMALLOY**  
 United Transformer Corporation  
**HIPERNIK**  
 Westinghouse Electric Corp.  
**HIPERSIL**  
 Westinghouse Electric Corp.  
**HIPOWER**  
 Radiart Corp.  
**HI-Q**  
 Aerovox Corp.  
**HI-Q**  
 Johnson Co., E. F.  
**HIS MASTER'S VOICE**  
 Radio Corporation of America  
**HI STAB**  
 Erie Resistor Corp.  
**HI-TEMP**  
 Handy & Harman  
**HI-TEMP**  
 Rockbestos Products Corp.  
**HI-TEMP**  
 Eastern Precision Resistor Corp.  
**HI-TEMP**  
 Rome Cable Corp.  
**HI-TENSION**  
 JFD Mfg. Co., Inc.  
**HI TRIM**  
 Aerovox Corp.  
**HI TRONIC**  
 Bliss Electronic Corp.  
**HI-VOLT**  
 Industrial Devices, Inc.  
**HI-VO-DISCS**  
 Centralab Div. of Globe-Union, Inc.  
**HI-VO-KAPS**  
 Centralab Div. of Globe-Union, Inc.  
**H-LAB**  
 Harrison Laboratories, Inc.  
**HOKO**  
 Pratt & Whitney Div.,  
 Niles-Bement-Pond Co.  
**HOLD-TITE**  
 U. S. Rubber Co.  
**HOLITE**  
 Holyoke Wire & Cable Co.  
**HOLLYTRAN**  
 Transformer Engineers,  
**HOLLYWOOD VIBRA-TONE**  
 Fischer & Co., R. A.  
**HOLTITE**  
 American Brass Co.  
**HOLTITE**  
 Continental Screw Co.  
**HOLTZER-CABOT**  
 National Pneumatic Co., Inc.  
**HOME HEALTH**  
 Waters Conley Co.  
**HOMEASE**  
 Bogue Electric Mfg. Co.  
**HOMOCORD**  
 Raybestos-Manhattan, Inc.  
**HOMOFLEX**  
 Raybestos-Manhattan, Inc.  
**HOMOSIL**  
 Amersil Co., Inc.  
**HORNAC**  
 Horn Co., Inc., A. C.  
**HORNET**  
 New York Transformer Co., Inc.  
**HORSEHILL**  
 Kraeuter & Co., Inc.  
**HORTON**  
 Becker Electronics Mfg. Corp.  
**HOTSPOT**  
 Mitchell Industries, Inc.  
**HOUSE OF ABALON PRODUCTS**  
 Abalon Precision Mfg. Corp.  
**HOUSE OF HEARING**  
 Sonotone Corp.  
**HOUSE OF RESISTORS**  
 Clarostat Mfg. Co., Inc.  
**HOWALLOY**  
 Howe International.  
**HOZ**  
 Eaton Mfg. Co., Reliance Div.  
**HP**  
 Aerovox Corp.  
**HP**  
 Hewlett-Packard Co.  
**H-Q**  
 Hammerlund Mfg. Co.  
**HRO-60**  
 National Co., Inc.  
**HUBBELOCK**  
 Harvey Hubbell, Inc.  
**HUCKBOLT**  
 Huck Mfg. Co.  
**HUDCO**  
 Hudson Wire Co.  
**HUDSON**  
 Oxford Electric Corp.  
**HUMDINGER**  
 Clarostat Mfg. Co., Inc.  
**HUMICOIL**  
 Bowser Technical Refrigeration Div.,  
 Bowser, Inc.  
**HUMICON**  
 Standard Telephones & Cables, Ltd.  
**HUMIDIGRAPH**  
 Bristol Co., The  
**HUMIDI-SEAL**  
 Pyramid Electric Co.  
**HUMIDISTAT**  
 Minneapolis-Honeywell Regulator Co.  
**HUMIDOLAIN**  
 Star Porcelain Co.  
**HUMIDUSTAT**  
 Minneapolis-Honeywell Regulator Co.  
**HUMISTAT**  
 American Instrument Co., Inc.  
**HUMPHREY**  
 Pacific Scientific Co.  
**HURLETRON**  
 Electric Eye Equipment Co.  
**HUSHATONE**  
 Brush Electronics Co.  
**HUSKY**  
 Price Electric Corp.  
**HY-A-SIL**  
 Sanford Miller Co.  
**HYCAR**  
 Goodrich Chemical Co., B. F.  
**HYCONVERTER**  
 Hycon Electronics, Inc.  
**HYDENT**  
 Burndy Corp.  
**HYDEX**  
 Jensen Mfg. Co.  
**HYDI**  
 Jelliff Mfg. Corp., C. O.  
**HYDRAMOTOR**  
 General Controls Co.  
**HYDRAFINED**  
 Magnetic Metals Co.  
**HYDRIMET**  
 Metal Hydrides, Inc.  
**HYDROGRAF**  
 GPafo Colloids Corp.  
**HYDRON**  
 Clifford Mfg. Co.  
**HYDROPHEN**  
 Reichhold Chemicals, Inc.  
**HYDROSEC**  
 U. S. Rubber Co.  
**HYDROSPERSE**  
 Fidelity Chemical Products Corp.  
**HYDTROL**  
 Cook Electric Co.

**HYFLEX**  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co.

**HYFLUX ALNICO**  
Indiana Steel Products Company.

**HYPAGE**  
Consolidated Electrodynamics Corp.

**HYPGRADE**  
Footo Brothers Gear & Machine Corp.

**HYPGRADE**  
Mitchell-Rand Insulation Co., Inc.

**HYPGRADE**  
Markel & Sons, L. Frank.

**HYPGRADIAL**  
Friez Instrument Div., Bendix Aviation Corp.

**HYPGROPAK**  
Photo Crystals Inc.

**HYHERVAC**  
Central Scientific Co.

**HYLINK**  
Burndy Engineering Co., Inc.

**HY-LOW**  
Stevens Products Inc.

**HYLUG**  
Burndy Corp.

**HY-MET**  
Astron Corp.

**HYMU**  
Magnetic Metals Co.

**HYMU "80"**  
Carpenter Steel Co.

**HYPALON**  
du Pont de Nemours & Co., Inc., E. I.

**HYPASS**  
Sprague Electric Co.

**HYPERCORE**  
Moloney Electric Co.

**HYPERFIL**  
Westinghouse Electric Corp.

**HYPERSONIC**  
Brush Electronics Co.

**HYPERVAC**  
Central Scientific Co.

**HYPEX**  
Jensen Mfg. Co.

**HYPOT**  
Associated Research, Inc.

**HYPRESS**  
Burndy Corp.

**HY-PUSS**  
Sprague Electric Co.

**HY-RA "49"**  
Carpenter Steel Co.

**HYRAD**  
Sequoia Process Corp.

**HYREL**  
Sprague Electric Co.

**HYRING**  
Burndy Corp.

**HYSAT**  
Telegraph Construction & Maintenance Co., Ltd.

**HYSOL**  
Houghton Laboratories, Inc.

**HYSPAR**  
Midland Paint & Varnish Co.

**HYSTERSET**  
Ward Leonard Electric Co.

**HYTAB**  
Magnuson Engineers, Inc.

**HYTEMCO**  
Driver-Harris Co.

**HY-THERM**  
Hopkins Engineering Co.

**HYTOOL**  
Burndy Corp.

**HYVAC**  
Central Scientific Co.

**HYVOL**  
Aerovox Corp.

**IATRON**  
Farnsworth Electronics Co. Div. of I. T. & T.

**ICA**  
Insuline Corp. of America.

**ICE-STIK**  
Paisley Products, Inc.

**ICONIC**  
Altec Lansing Corp.

**I. D. C.**  
Motorola Inc.

**IDEALPHONE**  
Automatic Electric Sales Corp.

**IDENTASLEEVE**  
General Plastics Corp.

**IDENTRA**  
Union-Switch & Signal Div. of Westinghouse Air Brake Co.

**I.E.I.**  
International Electronic Industries, Inc.

**I.E.R.C.**  
International Electronic Research Corp.

**IHC**  
Illinois Condenser Co.

**IHT**  
Illinois Condenser Co.

**II-TV**  
General Precision Laboratory, Inc.

**ILLINI-HYCAP**  
Illinois Condenser Co.

**ILLUSTRAVOX**  
Electro Engineering & Mfg. Co.

**IMAGE DISSECTOR**  
Farnsworth Electronics Co. Div. of I. T. & T.

**I M C**  
Induction Motors Corp.

**IMC**  
Insulation Manufacturers Corp.

**IMCO**  
Interstate Mfg. Corp.

**IMCOR**  
Insulation Manufacturers Corp.

**IMMERSATHERM**  
Mercoind Corp.

**IMMERSCOPE**  
Electro Circuits, Inc.

**IMP**  
Carter Parts Co.

**IMP**  
Kaar Engineering Corp.

**IMP**  
Pyramid Electric Co.

**IMPEDOMETER**  
Electrodyne Company

**IMPERIAL**  
Jensen Mfg. Co.

**IMPERIAL**  
Indiana Steel & Wire Co.

**IMPERIAL**  
Vokar Corp.

**IM-PLAST**  
Richardson Co., The

**IMPREGNITE**  
Standard Varnish Works.

**IMPRUVOL**  
Koppers Co., Inc.

**IMPULSE SEQUENCE**  
Bristol Co., The

**IN-A-GRIP**  
Stevens-Walden Inc.

**INCA**  
Phelps Dodge Copper Products Corp.

**INCAS**  
Sangamo Electric Co.

**INCELOID**  
American Products Mfg. Co., Inc.

**INCHWORM**  
Airborne Instruments Lab., Inc.

**INCO**  
International Nickel Co., Inc., The

**INCONEL**  
Alloy Metal Wire Div. of H. K. Porter Co., Inc.

**INCONEL**  
International Nickel Co., Inc., The

**INCREDUCTOR**  
C. G. S. Laboratories, Inc.

**INCREVOLT**  
Sorensen & Co.

**INCURO**  
Western Gold & Platinum Co.

**INCUSIL**  
Western Gold & Platinum Co.

**INDALLOY**  
Indiana Steel Products Company.

**INDALLOY**  
Indium Corp. of America

**INDCO**  
Industrial Condenser Corp.

**INDELCO**  
Industrial Electronics Co., Inc.

**INDELI-DENT**  
Markwik Manufacturing Co., Inc.

**INDITRON**  
National Union Electric Corp.

**INDOX**  
Indiana Steel Products Co.

**INDUCTORIDS**  
De Coursey Engineering Lab.

**INDUCTOSYN**  
Farrand Optical Co., Inc.

**INDUCTOTHERM**  
X-Ray Dept. of General Electric Co.

**INDUCTUNER**  
Mallory & Co., Inc., P. R.

**INDUR**  
Reilly Tar & Chemical Corp.

**INDUSTRIAL**  
Technic Inc.

**INDUSTRIAL TELECEIVERS**  
Industrial Television, Inc.

**INDUSTRO**  
Haloid Co., The

**INDUSTRO**  
Star Stainless Screw Co.

**IND-X-MATIC**  
Brush Electronics Co.

**INERTAIRE**  
Westinghouse Electric Corp.

**INERTEEN**  
Westinghouse Electric Corp.

**INFERNOCOTE**  
Wirt Co.

**IN-LINE**  
JFD Mfg. Co., Inc.

**INMANCO**  
Insulation Manufacturers Corp.

**INMCO**  
Instrument Motors.

**IN-RES-CO**  
Instrument Resistors Co.

**INSA-LUTE**  
Sauerisen Cements Co.

**INSANOL**  
Westinghouse Electric Corp.

**INSL**  
Insl-X-Co., Inc.

**INSPECTOGAGE**  
Alcar Instruments, Inc.

**INSPECTOLITE**  
Hanovia Chemical & Mfg. Co.

**INSTAGRAPH**  
Bristol Co., The

**INSTAN-FORM**  
Tel Autograph Corp.

**INSTANSOLDER**  
Cole Radio Works.

**INSTOMATIC**  
Sanborn Co.

**INSULAZED**  
Magnetic Metals Co.

**INSULCON**  
Stupakoff Ceramic & Mfg. Co., Div. of The Carborundum Co.

**INSULKOTE**  
Johns-Manville.

**INSULUGS**  
Burndy Engineering Co., Inc.

**INSUROK**  
Richardson Co., The

**INTEC**  
Intercontinental Electronics Corp.

**INTELIN**  
Federal Telephone & Radio Co.

**INTERCEPTOR**  
Wells & Winegard

**INTERCHEMICAL**  
Precision Scientific Co.

**INTERLINK**  
Federal Telephone & Radio Co.

**INTERLOCK**  
Harvey Hubbell, Inc.,

**INTERNATIONAL**  
Colortone Electronics, Inc.

**INTERVERTER**  
Interelectronics Corp.

**INTRAFAX**  
Western Union Telegraph Co.

**INTREX**  
Interelectronics Corp.

**INTRUDALARM**  
Harvey-Wells Electronics, Inc.

**INVAR**  
Telegraph Construction & Maintenance Co., Ltd.

**INVAR "36"**  
Carpenter Steel Co.

**INVERTRON**  
Behlman Engineering Co.

**IONAC**  
Permutit Co.

**IONIC**  
Scientific Electric Corp.

**IONOTRON**  
U. S. Radium Corp.

**IPI ISOFOAM**  
Iscoyante Products, Inc.

**IRC**  
International Resistance Co.

**IRD/HICKS**  
The Hicks Corp.

**IRESCO RELAY SYSTEM**  
International Research Associates.

**IRIS**  
American Scientific Co.

**IRISH**  
Orradio Industries, Inc.

**IRN**  
Williams & Co., C. K.

**IROQUOIS**  
Sangamo Electric Co.

**IRADIOMETERS**  
Sensitive Research Instrument Co.

**IRY-O-LITE**  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co.

**IRV-O-VOLT**  
Irvington Varnish & Insulator Co. Div. of Minnesota Mining & Mfg. Co.

**I/S**  
Intersearch, Inc.

**ISATRON**  
Consolidated Electrodynamics Corp.

**ISO**  
Isolantite Manufacturing Corp.

**ISOBESTOS**  
Natvar Corp.

**ISOELASTIC**  
Chatillon & Sons, John.

**ISOGLAS**  
Natvar Corp.

**ISO-KAPS**  
Centralab Div. of Globe-Union, Inc.

**ISOMICA**  
Mica Insulator Co.

**ISOMODE**  
M B Mfg.Div. of Textron American, Inc.

**ISONEL**  
Acme Wire Co.

**ISOPHASE**  
Pickering & Company

**ISOPHON**  
Arnhold Ceramics, Inc.

**ISOPLANE**  
Motorola Communications & Electronics, Inc.

**ISOPLY**  
Elcor, Inc.

**ISO-Q**  
Isolantite Mfg. Corp.

**ISO-Q**  
Motorola, Inc.

**ISO-SEAL**  
Chatillon & Sons, John.

**ISOTRAN**  
Sorensen & Co., Inc.

**IT**  
Illinois Condenser Co.

**ITC**  
Technology Instrument Corp.

**ITECO**  
Industrial Test Equipment Co.

**ITELITE**  
I-T-E Circuit Breaker Co.

**IVIFLEX**  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co.

**IVITHENE**  
Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co.

**IXL**  
Collyer Insulated Wire Co.

**J-CAP**  
Jeffers Electronics Div. of Speer Carbon Co.

**"J-E"**  
Jacks-Evans Mfg. Co.

**J P CAPACITOR**  
Jeffers Electronics Div. of Speer Carbon Co.

**J TRANS**  
Automatic Mfg. Div. of General Instrument Corp.

**JACKNIFE**  
Radio Merchandise Sales

**JACKSON**  
Vulcan Electric Co.

**JACO**  
Jarrell-Ash Co.

**JAGABI**  
Biddle Co., James G.

**JAINCO**  
Jacobs Instrument Co.

**JAINCOMP**  
Jacobs Instrument Co.

**JAY-BEE-TEE**  
J-B-T Instruments, Inc.

**JERKIT**  
Littelfuse Inc.

**JETCAL**  
Howell Instrument Co.

**JETENNA**  
JFD Mfg. Co. Inc.

**JETFLEX**  
Cook Electric Co.

**JET FLUX**  
All-State Welding Alloys Co., Inc.

**JET-HELIX**  
JFD Mfg. Co., Inc.

**JETIE**  
JFD Mfg. Co., Inc.

**JET-LOK**  
Boots Aircraft Nut Corp.

**JETOMIC**  
JFD Mfg. Co., Inc.

**JET-PLATER**  
Sel-Rex Corp., Rectifier Div.

**JET PROBE**  
Workman TV, Inc.

**JETUBE**  
Tuttle & Kift

**JIFFY-TITE**  
Millen Mfg. Co.

**JK**  
Knights Co., James.

**J-M**  
Johns-Manville.

**J. M.**  
Paisley Products, Inc.

**JOHNCRANE**  
Crane Packing Co.

**JOLTA**  
Jan Hardware Mfg. Co., Inc.

**JOLITE**  
Lerner Plastics, Inc.

**JOMANCO**  
Johns-Manville.

**J.S.C.**  
Jersey Specialty Co., Inc.

**JUMBO**  
JFD Mfg. Co., Inc.

**JUMBO**  
Sierra Electric Corp.

**JUNIOR FLOWRATOR**  
Fischer & Porter Co.

**J-W**  
Johnson-Williams, Ltd.

**JUPITER GUM**  
Paisley Products, Inc.

**J-W SNIFFER**  
Johnson-Williams, Ltd.

**K 42 B**  
Westinghouse Electric Corp.

**"K" MONEL**  
International Nickel Co., Inc., The

**"KR" MONEL**  
International Nickel Co., Inc., The

**KAHL**  
Chemalloy Electronics Corp.

**KALOTRON**  
Thermosen, Inc.

**KALWOOD**  
Keller Products Co.

**KANIGEN**  
General American Transportation Corp.

**KANTARK**  
Trico Fuse Mfg. Co.

**KANTLINK**  
Positive Lock Washer Co.

**KANT-LINK**  
American Nut & Bolt Fastener Co.

**KANTLINK**  
Eaton Mfg. Co.  
**KAPPA**  
Wrights & Sons Co., William E.  
**KARADIO**  
Eckstein Radio & Television Co.  
**KARAK**  
Ohio Carbon Co.  
**KARBOMET**  
Driver-Harris Co.  
**KARMA**  
Driver-Harris Co.  
**KARROPAK**  
Felt Products Mfg. Co.  
**KASIL**  
Philadelphia Quartz Co.  
**KATOLIGHT**  
Kato Engineering Co.  
**KAYGREY**  
Rogers Corp.  
**KAYPAR**  
Rogers Corp.  
**KAYROK**  
Rogers Corp.  
**KEI**  
Kurman Electric Co., Inc.  
**KEL-F**  
Kellogg Co., M. W.  
**KELLERFLEX**  
Pratt & Whitney Div.,  
Niles-Bennett-Pond Co.  
**KELLER POLYGRAPH**  
Associated Research, Inc.  
**KELON**  
Shamban & Co., W. S.  
**KELOX**  
Fasteners, Inc.  
**KEMET**  
Union Carbide & Carbon Co.  
**KEMFUZE**  
Bel Fuse, Inc.  
**KEMIGO**  
Markem Machine Co.  
**KEMISTOR**  
Bel Fuse, Inc.  
**KENCO**  
Kenwood Engineering Co., Inc.  
**KENEX**  
Westinghouse Electric Corp.  
**KENITE**  
Keystone Electronics Corp.  
**KEN-RAD**  
General Electric Co.  
**KEPRO**  
Keil Engineering Products.  
**KEPS**  
Eaton Mfg. Co., Reliance Div.  
**KEPS**  
Shakeproof Div., Illinois Tool Works,  
**KERATYM**  
Horn Co., Inc., A. C.  
**KETAY**  
Norden-Ketay Corp.  
**KETOS**  
Crucible Steel Co. of America  
**KEYBOARD**  
Weinschel Engineering Co.  
**KEYDSWEEP**  
Kay Electric Co.  
**KEYUNCIATOR**  
Power Equipment Co.  
**KEYSTONE**  
Penn Keystone Corp.  
**KIC**  
Union Carbide & Carbon Corp.  
**K-H**  
Krohn-Hite Instrument Co.  
**KILO-Q**  
Kay Electric Co.  
**KILO-SWEEP**  
Kay Electric Co.  
**KILOTRON**  
Cook Electric Co.  
**KILOVOLT**  
Caddell-Burns Mfg. Co.  
**KIN-EX**  
Vidaire Electronics Mfg. Co.  
**KINE-LITE**  
Vidaire Electronics Mfg. Co.  
**KINEPLEX**  
Collins Radio Co.  
**KINE-TEST**  
Vidaire Electronics Mfg. Co.  
**KINEVOX-HALLEN**  
Electromation Co.  
**KING MARKWELL**  
Markem Machine Co.  
**KIRKSITE**  
National Lead Co.  
**KLAMP-TITE**  
I-T-E Circuit Breaker Co.  
**KLEEN'R**  
Conrac, Inc.  
**KLEEN-SWEEP**  
Duotone Co., Inc.  
**KLEER-IT**  
Superex Electronics Corp.  
**KLEERKOTE**  
Crown Industrial Products.  
**KLEER-PAK**  
Sprague Electric Co.  
**KLEIN-KOAT**  
Klein & Sons, Mathias  
**KLIPOK**  
Trico Fuse Mfg. Co.  
**KLIPTITE**  
Kulka Electric Mfg. Co., Inc.

**KLIPXIT**  
Vaco Products Co.  
**KLIPZON**  
United Technical Laboratories.  
**KLIXON**  
Spencer Thermostat Div.,  
Metals & Controls Corp.  
**K-LOC**  
Erie Resistor Corp.  
**KLOZURE**  
Garlock Packing Co., The.  
**KLYDONOGRAPH**  
Westinghouse Electric Corp.  
**KME**  
Kaiser Manufacturing Engineers, Inc.  
**KNEADED**  
Eberhard Faber Pencil Co.  
**KNIGHT**  
Allied Radio Corp.  
**KNOCKOMETER**  
Sperry Gyroscope Co.,  
Div. of The Sperry Corp.  
**KNOLINK**  
Eaton Mfg. Co., Reliance Div.  
**KODAGRAPH**  
Eastman Kodak Co.  
**KODAK**  
Eastman Kodak Co.  
**KODAPAK**  
Eastman Kodak Co.  
**KODIFIER**  
Markwik Manufacturing Co., Inc.  
**KOHINOOR**  
Waldes Kohinoor, Inc.  
**KOLD-PAK**  
Tenney Engineering, Inc.  
**KOLORDISK**  
Centralab Div., Globe Union Inc.  
**KONAL**  
Westinghouse Electric Corp.  
**KON-NEC-TOR**  
General Electric Co.  
**KOOL KLAMPS**  
Birtcher Corp.  
**KOOLOHM**  
Sprague Electric Co.  
**KOOL-SEL**  
Pyramid Electric Co.  
**KOROSEAL**  
Goodrich Industrial Products Co., B. F.  
A Div. of The B. F. Goodrich Co.  
**KOTAK**  
Amperite Co., Inc.  
**KOTOL**  
U. S. Rubber Co.  
**KOVARALLOY**  
Stupakoff Ceramic & Mfg. Co.  
Div. of The Carborundum Co.  
**KOVAR**  
Westinghouse Electric Corp.  
**KOVER-ZIP**  
Waldes Kohinoor, Inc.  
**KRECO**  
Kreckman Co., Herb.  
**KRENE**  
Bakelite Co., A Div. of Union  
Carbide & Carbon Corp.  
**KRISTON**  
Goodrich Chemical Co., B. F.  
**KROME KOAT**  
General Cement Mfg. Co.  
**KRONOLUME**  
Electronic Assembly Co., Inc.  
**KRYSTAL KOAT**  
General Cement Mfg. Co.  
**K-TRAN**  
Automatic Mfg. Div. of General In-  
strument Corp.  
**KUPEC**  
Centralab Div., Globe Union, Inc.  
**KULGRID**  
Sylvania Electric Products, Inc.  
**KUM-KLEEN**  
Avery Adhesive Label Corp.  
**KURMELEC**  
Kurman Electric Co., Inc.  
**K-V-O**  
Sprague Electric Co.  
**K-VOLT STANDARD**  
Avien, Inc.  
**K/W**  
Kaiser Aluminum & Chemical Sales, Inc.  
**KWIK**  
Dunton Co., M. W.  
**KWIKFLUX**  
Special Chemicals Co.  
**KWIKITS**  
University Loudspeakers, Inc.  
**KWIK-KALL**  
Loge Sound Engineers, J. M.  
**KWIK-TEST**  
Sprague Electric Co.  
**KYLON**  
Mystik Adhesive Products Co.

**"L" NICKEL**  
International Nickel Co., Inc.  
**LB**  
Design Tool Corp.  
**LB**  
Louis Bros.  
**L-2 AUTOPILOT**  
Lear, Inc.  
**LAB-BILT**  
Specialty Battery Co.

**LABCASE**  
Berkshire Laboratories  
**LABCHECK**  
Berkshire Laboratories  
**LAB-CREST**  
Fischer & Porter Co.  
**LAB-LINE**  
Dunlap Electronics.  
**LABMARKER**  
Berkshire Laboratories  
**LABMASTER**  
General Nuclear Corp.  
**LABOHM**  
Berkshire Laboratories  
**LABPEAK**  
Berkshire Laboratories  
**LABRECT**  
Berkshire Laboratories  
**LABSTROBE**  
Berkshire Laboratories  
**LABTEST**  
Berkshire Laboratories  
**LABSTRANS**  
Berkshire Laboratories  
**LABVAR**  
Berkshire Laboratories  
**LABVOLT**  
Berkshire Laboratories  
**LABVOLT**  
Electrodyne Co.  
**LACKON**  
U. S. Radium Corp.  
**LA-CO FLUXES**  
Lake Chemical Co.  
**LACQUER-STIK**  
Lake Chemical Co.  
**LADDER LINE**  
Illumitronic Engineering.  
**LAMCO**  
La Magna Mfg. Co., Inc.  
**LAMICOID**  
Mica Insulator Co.  
**LAMICOID**  
Insulating Fabricators, Inc.  
**LAMICORES**  
Magnetic Metals Co.  
**LAMINAC**  
American Cyanamid Co.  
**LAMIPACKS**  
Magnetic Metals Co.  
**LAMITEX**  
Franklin Fibre-Lamitex Corp.  
**LAPMASTER**  
Crane Packing Co.  
**LAQUA**  
Fidelity Chemical Products Corp.  
**LARGO**  
Permoflux Corp.  
**LATTICE BRAID**  
Garlock Packing Co., The.  
**LAUBSCHER**  
American Laubscher Corp.  
**LAURETT**  
Laurehk Radio Mfg. Co.  
**LAUXEIN**  
Monsanto Chemical Co.  
**LAUXITE**  
Monsanto Chemical Co.  
**LAVA**  
Kirchberger & Co., Inc., M.  
**LAVA**  
Maryland Lava Co.  
**LAVITE**  
Steward Mfg. Co., D. M.  
**LAVOLAIN**  
Star Porcelain Co.  
**LAYTEX**  
U. S. Rubber Co.  
**LAZY-X**  
Radiart Corp.  
**L-C CHECKER**  
Aerovox Corp.  
**LEAD CUTTER**  
Design Tool Corp.  
**LEAD FORMER**  
Design Tool Corp.  
**LEAD-STRAIGHTENER**  
Design Tool Corp.  
**LEAK**  
British Industries Corp.  
**LEARADIO**  
Lear, Inc.  
**LEARAVIAN**  
Lear, Inc.  
**LEARMATIC**  
Lear, Inc.  
**LEARSTAR**  
Lear, Inc.  
**LEARSTEER**  
Lear, Inc.  
**LEARSYN**  
Lear, Inc.  
**LEARTRAN**  
Lear, Inc.  
**LEATHAFLEX**  
Paisley Products, Inc.  
**LEATHEROID**  
National Vulcanized Fibre Co.  
**LECTRODRYER**  
Pittsburgh Electrodryer Div. of McGraw-  
Edison Co.  
**LECTROFLASH**  
Telegraph Condenser Co., Ltd.  
**LECTROFILTER**  
Pittsburgh Electrodryer Co.  
**LECTRON**  
du Pont de Nemours & Co., Inc., E. I.

**LECTROPACK**  
Telegraph Condenser Co., Ltd.  
**LECTROVISION**  
Transvision, Inc.  
**LECTURN**  
J. M. Loge Sound Engineers.  
**LEDEX**  
Leland, Inc., G. H.  
**LEESONA**  
Universal Winding Co.  
**LEETRONICS**  
Lee Spring Co.  
**LEKTRO**  
Conn., Ltd., C. G.  
**LEKTROTUNER**  
Conn., Ltd., C. G.  
**LE-LAND**  
Leland Electric Co. Div. of American  
Machine & Foundry Co.  
**LENITE**  
Lab-Tronics, Inc.  
**LENSCOTE**  
Metavac, Inc.  
**LEROY**  
Keuffel & Esser Co.  
**LEVEL**  
White Rodgers Electric Co.  
**LEVELOMETER**  
Liquidometer Corp.  
**LEVELRATOR**  
Fischer & Porter Co.  
**LEVERPAK**  
Continental Can Co., Inc.  
**LF**  
Design Tool Corp.  
**LGP-30**  
Libroscope, Inc.  
**LIFE-LINE**  
Westinghouse Electric Corp.  
**LIFETONE**  
Duotone Co., Inc.  
**LIGHT WATCHMAN**  
Ripley Co., Inc.  
**LIGHTNING BUG**  
Vibroflex Co., Inc.  
**LIGHTNING SENTRY**  
JFD Mfg. Co., Inc.  
**LIGNA-SWEEP**  
Kay Electric Co.  
**LIGNOTITE**  
Paisley Products, Inc.  
**LIGNOTOX**  
Paisley Products, Inc.  
**LIMITEMP**  
Westinghouse Electric Corp  
**LIMITROL**  
Barber-Colman Co.  
**LINAGRAPH**  
Eastman Kodak Co.  
**LINCOLN**  
Sangamo Electric Co.  
**LIN-DE**  
Linde Air Products Co.  
Unit of Union Carbide & Carbon Corp.  
**LINDOX**  
Linde Air Products Co.  
Unit of Union Carbide & Carbon Corp.  
**LINEAR STANDARD**  
United Transformer Corporation.  
**LINEARSYN**  
Control Components Co.  
**LINEATOR**  
Airborne Accessories, Inc.  
**LINE-LOK**  
I. E. Manufacturing  
**LINE-O-FLO**  
Barber-Colman Co.  
**LINE-O-LIFE**  
Carter Motor Co.  
**LINE-O-METER**  
Simpson Electric Co. Div. of  
American Gage & Machine Co.  
**LINE-O-POWER**  
Foote Brothers Gear & Machine Corp.  
**LINE STARTER**  
Westinghouse Electric Corp.  
**LINE-TITE**  
Paul & Stein Bros., Inc., F. H.  
**LINICON**  
United Condenser Corp.  
**LINIOMETER**  
Bourns Laboratories, Inc.  
**LINIPOP**  
Benson-Lehner Corp.  
**LINK-LOCK**  
Simmons Fastener Corp.  
**LINVAR**  
Muirhead & Co., Ltd.  
**LION**  
Southco Division, South Chester  
Corp.,  
**LIPSTIK**  
Altec Lansing Corp.  
**LIQUIDENSTTOMETER**  
Liquidometer Corp.  
**LITE-GAGE**  
Photocon Research Products.  
**LITESTRIP**  
Circon Component Co.  
**LITHALOID**  
Haloid Co., The  
**LITHOFAX**  
Western Union Telegraph Co.  
**LITHOFORM**  
American Chemical Paint Co.

**LITTLE DEVIL**  
Ohmite Mfg. Co.

**LITTLEPHONE**  
Hallcrafters Co.

**LITTLE GEM**  
Sickles Co., F. W. Div. General Instrument Corp.

**LITTLE GIANT**  
Crucible Steel Co. of America.

**LITTLE GIANT**  
JFD Mfg. Co., Inc.

**LITTLE MAJOR**  
Arro Expansion Bolt Co.

**LITTL-LYTIC**  
Sprague Electric Co.

**LIVERMONT**  
Richmont, Inc.

**LLOYD'S**  
Johnson Mfg. Co., Inc.

**LNERICSSON**  
Star Stainless Screw Co.

**LOABOND**  
Catalin Corp. of America.

**LOADED-X**  
Radiart Corp., The

**LOALIN**  
Catalin Corp. of America.

**LO-C**  
Eastern Precision Resistor Corp.

**LOCALITE**  
Fostoria Pressed Steel Corp.

**LOCKFOAM**  
Nopco Chemical Co.

**LOCKNUT**  
Klincher Locknut Corp

**LOCK-ON**  
I. E. Manufacturing

**LOCK-O-SEAL**  
Wolfe Co., Inc., Franklin C., Div. of The Parker Appliance Co.

**LOCKSEAM**  
Superior Tube Co.

**LOCK-TITE**  
Continental Screw Co.

**LOCK-TITE**  
Thomas & Betts Co.

**LOFYLD**  
Millivac Instrument Corp.

**LOGGER**  
Audio Instrument Co., Inc.

**LOGIBLOC**  
Computer Control Co., Inc.

**LOGIPAC**  
Computer Control Co., Inc.

**LOGRINC**  
Logistics Research Co., Inc.

**LOHM**  
Driver-Harris Co.

**LOKUTS**  
Shakeproof Div. of Illinois Tool Works.

**LOMU**  
Magnetic Metals Co.

**LONG LIFE**  
Marathon Battery Co.

**LONG RANGER**  
Ward Products Corp. Div. of The Gabriel Co.

**LO-OHM**  
Bradford Components, Inc.

**LO-OHM**  
Workman TV, Inc.

**LOOPHOM**  
Ward Leonard Electric Co.

**LOOPSTICK**  
Superex Electronics Corp.

**LOS GATOS**  
Lewis & Kaufman, Ltd.

**LOTAN**  
Associated American Trading Division.

**LOTEMP**  
Mico Instrument Co.

**LO-VOLT**  
Industrial Devices, Inc.

**LOXIT**  
Scovill Mfg. Co.

**L. P.**  
Hickok Electrical Instruments Co.

**L-R**  
Ripley Co., Inc.

**LS**  
Design Tool Corp.

**L-T**  
Lab-Tronics, Inc.

**L'TATRO**  
Eckstein Radio & Television Co.

**LUCERO**  
Driver-Harris Co.

**LUCITE**  
du Pont de Nemours & Co., Inc., E. I.

**LUCKY STRIKE**  
Precision Radiation Instruments, Inc.

**LUDOX**  
du Pont de Nemours & Co., Inc., E. I.

**LUG-CLIP**  
Littelfuse, Inc.

**LUMISCRIP**  
Epic, Inc.

**LUMARITH**  
Celanese Corp. of America Plastics Div.

**LUMATROL**  
Micro Balancing, Inc.

**LUMETRON**  
Photovolt Corp.

**LUSTERIZED**  
American Electric Cable Co.

**LUSTERLAC**  
American Electric Cable Co.

**LUSTREX**  
Monsanto Chemical Co.

**LUSTROM**  
Monsanto Chemical Co.

**LUXAN**  
Rauland Corp.

**LUXIDE**  
Celanese Corp. of America.

**LUXIFLUX**  
Special Chemicals Co.

**LUXOLENE**  
Deluxe Coils, Inc.

**LUXTAR**  
Viewlex, Inc.

**LUXTRON**  
Bradley Labs., Inc.

**LVSYN**  
Control Components Co.

**LYN-A-SYN**  
Minatron Corp.

**LYNN LIGHTNING**  
Vaco Products Co.

**LYONS**  
Boulin Instrument Corp.

**LYRIC**  
Rauland-Borg Corp.

**LYTICAP**  
Planet Mfg. Corp.

**LYTRON**  
Monsanto Chemical Co.

**MC-126**  
Specific Products.

**M-C-R-W-S**  
Stevens Mfg. Co., Inc.

**MM**  
A&P Metal Products Mfg Corp.

**M-10**  
Hudson American Corp.

**M-15**  
Hudson American Corp.

**M-20**  
Hudson American Corp.

**M-24**  
Hudson American Corp.

**MACADIE**  
British Industries Corp.

**MAESTRO**  
Reeves Soundcraft Corp.

**MAG**  
Associated American Trading Division.

**MAG-AMP**  
Magneto, Inc.

**MAGIC GENIE**  
JFD Manufacturing Co., Inc.

**MAGIC-HAND**  
Peerless Photo Products, Inc.

**MAGIC MIND**  
Webcor, Inc.

**MAGIC RIBBON**  
Brush Electronics Co.

**MAGIC TIPS**  
Hunter Tool Co.

**MAGIC WAND**  
Ward Products Corp. Div. of The Gabriel Co.

**MAGIFLEX**  
Transradio, Ltd.

**MAGMETER**  
Airpax Products Co.

**MAGMOTOR**  
Carter Motor Co.

**MAGNABOND**  
Fischer & Porter Co.

**MAG-NAC**  
Magnetic Devices, Inc.

**MAGNA-DIE**  
Whistler & Sons, Inc., S. B.

**MAGNADUR**  
Ferroxcube Corp. of America.

**MAGNAPHONIC**  
Magnasync Manufacturing Co.

**MAGNASHIELD**  
Perfection Mica Co.

**MAGNASTIGHT**  
Fischer & Porter Co.

**MAGNA-STRIP**  
Organic Development Corp.

**MAGNA-STRIPE**  
Reeves Soundcraft Corp.

**MAGNATELE**  
Electro Engineering & Mfg. Co.

**MAGNATONE**  
Magna Electronics Co.

**MAGNATORC**  
Hansen Mfg. Co., Inc.

**MAGNEBRAKE**  
Vickers, Inc.

**MAGNECLUTCH**  
Vickers, Inc.

**MAGNECORDER**  
Magnecord, Inc.

**MAGNECORDETTE**  
Magnecord, Inc.

**MAGNEDISC**  
Texas Instruments, Incorporated

**MAGNEFILE**  
Electronics Corporation of America.

**MAGNEFLUX**  
Lear, Inc.

**MAGNE-GAGE**  
American Instrument Co., Inc.

**MAGNELOOP**  
Amplifier Corp. of America.

**MAGNE-PROBE**  
American Instrument Co., Inc.

**MAGNEMITE**  
Amplifier Corp. of America.

**MAGNEMUSE**  
Amplifier Corp. of America.

**MAGNE MUSIC**  
Magnecord, Inc.

**MAGNEPAINT**  
Micro-Circuits Co.

**MAGNEPASTE**  
Micro-Circuits Co.

**MAGNERAMA**  
Amplifier Corp. of America.

**MAGNERASER**  
Amplifier Corp. of America.

**MAGNERIBBON**  
Amplifier Corp. of America.

**MAGNESCOPE**  
Amplifier Corp. of America.

**MAGNESIL**  
Magnetics, Inc.

**MAGNASPEED**  
Magnetic Amplifiers, Inc.

**MAGNESTAT**  
Magnetic Research Corp.

**MAGNESYN**  
Eclipse-Pioneer Div. Bendix Aviation Corp.

**MAGNETAPE**  
Amplifier Corp. of America.

**MAGNETER**  
Airpax Products Co.

**MAGNETMATIC**  
Amplifier Corp. of America.

**MAGNETONE**  
Brush Electronics Co.

**MAGNETREATER**  
Radio Frequency Labs., Inc.

**MAGNETRONIC**  
Cook Electric Co.

**MAGNETTE**  
Heinemann Electric Co.

**MAGNETWIN**  
Amplifier Corp. of America.

**MAGNILASTIC**  
Cook Electric Co.

**MAGNISET**  
Bristol Co., Inc.

**MAGNISTOR**  
Potter Instrument Co., Inc.

**MAGNITYPER**  
Potter Instrument Co., Inc.

**MAGNIVIDER**  
Magnetics Research Co.

**MAGNO**  
Driver-Harris Co.

**MAGNOCARB**  
Driver Co., Wilbur B.

**MAGNOGRAPH**  
Offner Electronics, Inc.

**MAGNORITE**  
Norton Co.

**MAGOHM**  
Electric Regulator Corp.

**MAGSEAL**  
Glennini & Co., Inc., G. M.

**MAIL-A-VOICE**  
Brush Electronics Co.

**MAILTENNAS**  
Insuline Corp. of America.

**MALLOCENE**  
Mallory & Co., Inc., P. R.

**MALLOSL**  
P. R. Mallory & Co., Inc.

**MALLOTRO**  
Mallory & Co., Inc., P. R.

**MALTESE**  
Bache & Co., Semon.

**MAMCO**  
Master Appliance Mfg. Co.

**MANGANIN**  
Driver Co., Wilbur B.,

**MANGRID**  
Driver Co., Wilbur B.

**MANHATTAN**  
Raybestos-Manhattan, Inc.

**MANU-MATIC**  
Kato Engineering Co.

**MAPICO**  
Columbian Carbon Co.

**MARASET**  
Marblette Corp.

**MARBELITE**  
CBC Electronics Co., Inc.

**MARBELITE**  
Good-All Electric Mfg. Co.

**MARCO**  
Celanese Corp. of America Plastics Div.

**MARCOL**  
Esso Standard Oil Co.

**MARCONITE**  
Marconi Wireless Telegraph Co., Ltd.

**MARI-GUIDE**  
Bludworth Marine Div., Kearfott Co., Inc.

**MARINER**  
Hudson American Corp.

**MARINER**  
JFD Mfg. Co., Inc.

**MARINERS PATHFINDER**  
Raytheon Mfg. Co.

**MARK I**  
Avco Mfg. Corp., Crosley Div.

**MARK II**  
Technical Devices Co.

**MARK-TIME**  
Rhodes, Inc., M. H.

**MARKA-SWEEP**  
Kay Electric Co.

**MARK-N-COUNT**  
May Engineering Co.

**MARKER-PULSER**  
Brubaker Mfg. Co., Inc.

**MARKER-SWEEPER**  
Brubaker Mfg. Co., Inc.

**MARK TWAIN**  
Raytheon Mfg. Co.

**MARKSMAN**  
West Instrument Corp.

**MARRISON-CATHERALL**  
Barker Sales Co.

**MARS**  
Staedtler, Inc., J. S.

**MARS-LUMOGRAPH**  
Staedtler, Inc., J. S.

**MARVELCO**  
National Aircraft Corp.

**MARVELITE**  
CBC Electronics Co., Inc.

**MARVELPAK**  
Marvellum Co.

**MASCO**  
Simpson Mfg. Co., Inc., Mark.

**MASS**  
Massachusetts Gear & Tool Div. of Geartronics Corp.

**MASTERLINE**  
Blonder-Tongue Laboratories, Inc.

**MASTERLOUIT**  
Kellogg Switchboard & Supply Co.

**MASTER MARINER**  
Hudson American Corp.

**MASTER MET**  
Cannon-Muskegon Corp.

**MASTERPHONE**  
Kellogg Switchboard & Supply Co.

**MASTERPRO**  
Rek-O-Kut Co.

**MASTERTAPE**  
Audio-Master Corp.

**MAT**  
Lansdale Tube Co., Div. of Philco Corp.

**MATCH BOX**  
Johnson Co., E. F.

**MATCHSTICK**  
Johnson Co., E. F.

**MAVERICK**  
Channel Master Co.

**MAXICON**  
British Electronics Sales Co., Inc.

**MAXIMAG**  
Adler Electronics, Inc.

**MAXIMAR**  
X-Ray Dept. of General Electric Co.

**MAXI-POWER**  
Foote Brothers Gear & Machine Corp.

**MAXISERVICE**  
X-Ray Dept. of General Electric Co.

**MAXISCOPE**  
X-Ray Dept. of General Electric Co.

**MAXITONE**  
Maico Co., Inc.

**MAXEVICK**  
Channel Master Co.

**MAX MIXER**  
Special Products Co.

**M. B. C.**  
Ray-O-Vac Co.

**MC-504SLL**  
Photocon Research Products

**MC-505AS**  
Photocon Research Products

**MCA**  
Molding Corp. of America

**MEASURAY**  
Sheffield Corp., The

**MEASURTEST**  
Marconi Instruments Ltd.

**MECATORN**  
Torngren Co., Inc., C. W.

**MECATORN-SPYN**  
Torngren Co., Inc., C. W.

**MECHA**  
Servomechanisms, Inc.

**MECHANIPAK**  
Garlock Packing Co., The

**MECHANI-SEAL**  
Fafnir Bearing Co.

**MECHANOPHASE**  
Electro-Voice, Inc.

**MEDALIST**  
Marion Electrical Instrument Co.

**MEDIQUARTZ**  
Dallons Labs.

**MEDISCANNER**  
NRD Instrument Co.

**MEDI-SINE**  
Dallons Labs.

**MEDI-SONAR**  
Dallons Labs.

**MEDI-SURGICAL**  
Dallons Labs.

**MEDITHERM**  
Dallons Labs.

**MEGA-CHARTS**  
Kay Electric Co.

**MEGADIAL**  
Avonex Electronics Corp.

**MEGALUME**  
Nems-Clark, Inc.

**MEGA-MARKER**  
Kay Electric Co.

**MEGA-MATCH**  
Kay Electric Co.

**MEGA-NODE**  
 Kay Electric Co.  
**MEGA-PIPPER**  
 Kay Electric Co.  
**MEGA-PIX**  
 Kay Electric Co.  
**MEGA-PULSER**  
 Kay Electric Co.  
**MEGA-SWEEP**  
 Kay Electric Co.  
**MEGALIGNER**  
 Kay Electric Co.  
**MEGALYZER**  
 Kay Electric Co.  
**MEGALYZER JR.**  
 Kay Electric Co.  
**MEGASTYRENE**  
 Transradio, Ltd.  
**MEGATENNA**  
 Kay Electric Co.  
**MEGAVAC**  
 Central Scientific Co.  
**MEGA-X**  
 Kay Electric Co.  
**MEGGER**  
 Biddle Co., James G.  
**MEG-METER**  
 Winslow Co., Inc., The.  
**MEGA-MARKER SR.**  
 Kay Electric Co.  
**MEGOHMER**  
 Sticht Co., Inc., Herman H.  
**MEG-O-MAX**  
 Sprague Electric Co.  
**MEGOSTAT**  
 Sprague Electric Co.  
**MEGOT**  
 General Hermetic Sealing Corp.  
**MEGPOT**  
 General Hermetic Sealing Corp.  
**MEL**  
 Measurement Engineering, Ltd.  
**MELACON**  
 Photocircuits Corp.  
**MELEOR**  
 Astron Corp.  
**MELLOTONE**  
 Electron Enterprises  
**MELMAC**  
 American Cyanamid Co.  
**MELODIST**  
 Altec Lansing Corp.  
**MELODY MIKE**  
 Audio Equipment Co., Inc.  
**MEMOSCOPE**  
 Millvac Instrument Corp.  
**MEMOSTAT**  
 Minnesota Electronics Corp.  
**MEMOTAPE**  
 Technical Associates  
**MEMOTRON**  
 Hughes Products Division,  
 Hughes Aircraft Co.  
**MENLOLAB**  
 Menlo Research Laboratory.  
**MERC-O-SEAL**  
 Mercury Contacts, Inc.  
**MERCU-TROL**  
 Mack Electrical Devices, Inc.  
**MERCURY**  
 Electro-Voice, Inc.  
**MERCURY**  
 Vulcan Electric Co.  
**MERCURYSTAT**  
 Westinghouse Electric Corp.  
**MERITONE**  
 Autocrat Electronics Co.  
**MERITONE**  
 American Laubscher Corp.  
**MERITONE-LAUBSCHER**  
 American Laubscher Corp.  
**MERITUNE**  
 Polytech Devices, Inc.  
**MERL**  
 Miller Research Laboratories  
**MERLIN**  
 Mohawk Electronic Research Labs., Inc.  
**MERLON**  
 Monsanto Chemical Co.  
**MESSAGE REPEATER**  
 Mohawk Business Machines Corp.  
**MESSAGE REPEATER JR**  
 Mohawk Business Machines Corp.  
**MESURFLO**  
 Hays Mfg. Co.  
**META-BASAL PORTABLE**  
 Electro-Physical Laboratories, Inc.  
**METAGRAPHIC**  
 Bristol Co., The  
**METAL-CAL**  
 C & H Supply Co.  
**METALLIZED**  
 Astron Corp.  
**METAL MIKE**  
 Sperry Gyroscope Co.  
 Div. of the Sperry Corp.  
**METAL SHIELD WIRE**  
 Uniform Tubes  
**METALASTIC**  
 Cook Electric Co.  
**METALASTIC**  
 Metal Textile Corp.  
**METALBOSS**  
 Telegraph Condenser Co., Ltd.  
**METAL-CELL**  
 Topatron, Inc.

**METALCLAD**  
 Burgess Battery Co.  
**METALGUILD**  
 Fidelity Chemical Products Corp.  
**METALITE**  
 Astron Corp.  
**METALIX**  
 North American Philips Co., Inc.  
**METALMITE**  
 Telegraph Condenser Co., Ltd.  
**METAL MONITOR**  
 Brush Electronics Co.  
**METALPACK**  
 Telegraph Condenser Co., Ltd.  
**METALSEAL**  
 Brush Electronics Co.  
**METAMETER**  
 Bristol Co., The  
**METAPHONE**  
 Bristol Co., The  
**METAPLATING**  
 Metaplast Process, Inc.  
**METAVANE**  
 Bristol Co., The  
**METCLAD**  
 I-T-E Circuit Breaker Co.  
**METEOR**  
 Associated American Trading Division.  
**METEOR**  
 Astron Corp.  
**METER**  
 Metal Textile Corp.  
**METER-MATIC**  
 Leitch Engineering Corp.  
**METERMATIC**  
 International Register Co.  
**METERMAX**  
 Leeds & Northrup Co.  
**METEROL**  
 Automatic Temperature Control Co.  
**METEX**  
 Metal Textile Corp.  
**METL-CAN**  
 Pyramid Electric Co.  
**MET-L-FLEX**  
 Robinson Aviation, Inc.  
**METLOHM**  
 British Electronics Sales Co., Inc.  
**METLOHM**  
 Litton Industries.  
**METRIX**  
 American Metrix Corp.  
**METRO-LITE**  
 Viewlex, Inc.  
**METROPOLITON**  
 Radion Corp.  
**METROSCOPE**  
 Photocon Research Products.  
**METROTHERM**  
 General Controls Co.  
**METSO**  
 Philadelphia Quartz Co.  
**MEX**  
 U. S. Graphite Co., Div. of  
 The Wickes Corp.  
**MEXACOTE**  
 U. S. Graphite Co., Div. of  
 The Wickes Corp.  
**MEXALOY**  
 U. S. Graphite Co., Div. of  
 The Wickes Corp.  
**MEXATOP**  
 U. S. Graphite Co., Div. of  
 The Wickes Corp.  
**MEXICAN**  
 U. S. Graphite Co., Div. of  
 The Wickes Corp.  
**MEXITE BRIQUETTES**  
 U. S. Graphite Co., Div. of  
 The Wickes Corp.  
**MIC**  
 Molded Insulation Co.  
**MICABOND**  
 Continental-Diamond Fibre Corp.  
**MICADISC**  
 Telegraph Condenser Co., Ltd.  
**MICAFIL**  
 Cosa Corp.  
**MICA-GLAS**  
 National Electric Coil Co.  
**MICANITE**  
 Mica Insulator Co.  
**MICARTA**  
 Westinghouse Electric Corp.  
**MICO**  
 Mica Insulator Co.  
**MICRELAY**  
 Ebert Electronics Corp.  
**MICRO**  
 Minneapolis-Honeywell Regulator Co.  
**MICRO**  
 New Hampshire Ball Bearings, Inc.  
**MICROACT**  
 Bristol Co., The  
**MICRO-CAL**  
 Cubic Corp.  
**MICROCAST**  
 Austenal Laboratories, Inc.  
 Microcast Div.  
**MICRO CIRCLE**  
 Precise Measurements Co.  
**MICROCLUTCH**  
 Magtrol, Inc.  
**MICROCON**  
 British Electronics Sales Co., Inc.  
**MICROCORES**  
 Magnetic Metals Co.

**MICKODIAL**  
 Borg Equipment Div.  
 The George W. Borg Corp.  
**MICRODRILL**  
 Teletronics Laboratory, Inc.  
**MICRODUAL**  
 Transradio, Ltd.  
**MICRODYNE**  
 Audak Co.  
**MICROFINISH**  
 American Silver Co., Inc.  
**MICROFLASH**  
 General Radio Co.  
**MICROFLEX**  
 Eagle Signal Corp.  
**MICROFUSION**  
 Cook Laboratories  
**MICROGAP**  
 Shure Brothers, Inc.  
**MICROLAC**  
 Reeves Soundcraft Corp.  
**MICROLATOR**  
 Kay Electric Co.  
**MICROLINE**  
 Sperry Gyroscope Co., Div. of  
 The Sperry Rand Corp.  
**MICROLITE**  
 LOF Glass Fibers Co.  
**MICROLLON**  
 DeMornay-Bonardi, Inc.  
**MICROLTER**  
 Kay Electric Co.  
**MICROLYTIC**  
 Micamold Electronics Mfg. Corp.  
**MICROMAG**  
 Magnetic Research Corp.  
**MICROMATCH**  
 Jones Electronics Co., Inc., M. C.  
**MICROMAX**  
 Leeds & Northrup Co.  
**MICRO-MIKER**  
 Kay-Lab, Inc.  
**MICROMITE**  
 Telegraph Condenser Co., Ltd.  
**MICROMOTORS**  
 Redmond Co., Inc.  
**MICRONAIRE**  
 Raytheon Mfg. Co.  
**MICRO-NAMIC**  
 Micro Balancing, Inc.  
**MICRONIC**  
 Audivox, Inc.  
**MICROPACK**  
 Telegraph Condenser Co., Ltd.  
**MICROPADS**  
 Telewave Labs., Inc.  
**MICROPAINT**  
 Micro-Circuits Co.  
**MICRO-PIN**  
 Techtron Corp.  
**MICROPOINT**  
 Duotone Co., Inc.  
**MICROPOSITIONER**  
 Barber-Colman Co.  
**MICROPOT**  
 Borg Equipment Div.,  
 George W. Borg Corp.  
**MICRO-PROCESSED**  
 Instrument Specialties Co., Inc.  
**MICRO-PULSER**  
 Kay Electric Co.  
**MICRO-RELAY**  
 Terado Co.  
**MICROSEN**  
 Manning, Maxwell & Moore, Inc.  
**MICRO-SET MANOSTAT**  
 Precision Scientific Co.  
**MICROSIL**  
 Magnetic Metals Co.  
**MICRO SURFIT**  
 Saratoga Scientific.  
**MICROTESTERS**  
 Simpson Electric Co. Div.,  
 American Gage & Machine Co.  
**MICROTHERM**  
 Barber-Colman Co.  
**MICROTHERM**  
 Raytheon Mfg. Co.  
**MICROTORQUE**  
 Giannini & Co., Inc., G. M.  
**MICROTROL**  
 Airborne Instruments Lab., Inc.  
**MICRO-TROLLER**  
 Westinghouse Electric Corp.  
**MICROTRONIC**  
 Fischer & Porter Co.  
**MICROVAC**  
 Stokes Machine Co., F. J.  
**MICROVOLT**  
 Ferris Instrument Co.  
**MICROWALL**  
 Rex Corp.  
**MID**  
 Hudson American Corp.  
**MIDDLESEX**  
 Bogen Co., Inc., David  
**MIDGET**  
 Sprague Electric Co.  
**MIDGETALK**  
 Simpson Mfg. Co., Inc., Mark  
**MIDGETAPE**  
 Mohawk Business Machines Corp.  
**MIDGETROL**  
 Mallory & Co., Inc., P. R.  
**MIDGTESTER**  
 Simpson Electric Co., Div. of  
 American Gage & Machine Co.

**MIDGI-LYTIC**  
 Standard Condenser Co.  
**MIDJET**  
 Electro Devices Co., Inc.  
**MIDOHM**  
 Driver-Harris Co.  
**MID-KIP**  
 General Cable Corp.  
**MIDWAY**  
 Cardwell Mfg. Corp., Allen D.  
**MIJAKON**  
 Fast & Co., John E.  
**MIKASUB**  
 Fast & Co., John E.  
**MIKE**  
 Cornell-Dubilier Electric Corp.  
**MIK-O-METER**  
 Sprague Electric Co.  
**MILCAPS**  
 Dumont-Airplane & Marine  
 Instruments, Inc.  
**MILCO**  
 Miller Mfg. Co., M. A.  
**MIL-LINE**  
 Radell Corp.  
**MILLISADIC**  
 Consolidated Electrodynamics Corp.  
**MILLISEC**  
 Stevens-Arnold, Inc.  
**MILLISU**  
 Stevens-Arnold, Inc.  
**MILOMATIC**  
 Wilton Tool Mfg. Co.  
**MILWAUKEE WROT**  
 Wrought Washer Mfg. Co.  
**MILWROT**  
 Wrought Washer Mfg. Co.  
**MINALITE**  
 Westinghouse Electric Corp.  
**MINATROL**  
 Westinghouse Electric Corp.  
**MIN-CAPS**  
 Centralab Div., Globe-Union, Inc.  
**MIN-E-A-PHONE**  
 Stromberg-Carlson Co.,  
 Div. of General Dynamics Corp.  
**MINI-AMP**  
 Industrial Devices, Inc.  
**MINI-BEAMS**  
 Telrex, Inc.  
**MINIBOX**  
 Bud Radio, Inc.  
**MINI-CHOKE**  
 Superex Electronics Corp.  
**MINI-CHOPPER**  
 Servomechanisms, Inc.  
**MINICON-X**  
 Nugent Electronics Co.  
**MINICUBE**  
 Sanders Associates, Inc.  
**MINIDATRAC**  
 Epsco, Incorporated  
**MINIFORMER**  
 Gramer-Halldorson Transformer Corp.  
**MINIGANG**  
 Giannini & Co., Inc., G. M.  
**MINI-GATOR**  
 Mueller Electric Co.  
**MINIGRAIN**  
 American Silver Co., Inc.  
**MINIGRAPH**  
 Westinghouse Electric Corp.  
**MINI-LINE**  
 Bailey Meter Co.  
**MINILYTICS**  
 Pyramid Electric Co.  
**MINI MAX**  
 National Carbon Division,  
 Union Carbide & Carbon Corp.  
**MINI-MIKE**  
 Telrex, Inc.  
**MINIMITE**  
 Astron Corp.  
**MINI-NOISE**  
 Microdot, Inc.  
**MINI-OHM**  
 Sprague Electric Co.  
**MINIPAK**  
 Radio Specialty Mfg. Co.  
**MINIRELAY**  
 Ebert Electronics Corp.  
**MINISEL**  
 Electronic Devices, Inc.,  
 Precision Rectifier Div.  
**MINI-SHIELD**  
 Staver Co., Inc.  
**MINI-SIGNAL**  
 Premier Crystal Labs., Inc.  
**MINI-SPRING**  
 Staver Co., Inc.  
**MINITAPE**  
 Stancil-Hoffman Corp.  
**MINITORQUE**  
 Giannini & Co., Inc., G. M.  
**MINI-VOLT**  
 Industrial Devices, Inc.  
**MIN-KAPS**  
 Centralab Div. of Globe-Union, Inc.  
**MINSUA**  
 Keuffel & Esser Co.  
**MINUTE MAN**  
 Ward Products Corp.,  
 Div. of The Gabriel Co.  
**MIP**  
 Amphenol Electronics Corp.  
**MIRACLE-X**  
 Good-All Electric Mfg. Co.

**MIRADO**  
Eagle Pencil Co.

**MIRAGLAS**  
Mitchell-Rand Insulation Co., Inc.

**MIRALITE**  
Mitchell-Rand Insulation Co., Inc.

**MIRALLOY**  
Texas Instruments Incorporated

**MIROC**  
Mitchell-Rand Insulation Co., Inc.

**MIROPOINT**  
Duotone Co., Inc.

**MIRROSCOPE**  
Simpson Electric Co., Div.,  
American Gage & Machine Co.

**MI-TEE-RAY**  
Fretco, Inc.

**MIX-N-WHIP**  
Howard Industries, Inc.

**M. L. S.**  
Paisley Products, Inc.

**M M M**  
Midwest Molding & Manufacturing Co.

**MOBILPHONE**  
Mobile Electronics Mfg. Co.

**MOBIL-MIKE**  
Electro-Voice, Inc.

**MOBILTONE**  
Mobil Electronics Mfg. Co.

**MODAC**  
Airborne Instruments Lab., Inc.

**MODELEC**  
Modelectric Products Corp.

**MODIFIED HILO**  
Driver Co., Wilbur B.

**MODUFLOW**  
Minneapolis-Honeywell Regulator Co.

**MODUCELL**  
Topatron, Inc.

**MODULE**  
ACF Electronics

**MODULENE**  
Sprague Electric Co.

**MODULITE**  
Berndt-Bach, Inc.

**MODULITE**  
Electronic Control Corp.

**MODU-RAK**  
Premier Metal Products Co.

**MODUTROL**  
Minneapolis-Honeywell Regulator Co.

**MODUTRONIC**  
Bill Jack Scientific Instrument Co.

**MODU-WAVE**  
Sciaky Bros., Inc.

**MOHICAN**  
Sangamo Electric Co.

**MOISTEMP**  
Rockbestos Products Corp.

**MOLARC**  
Mole-Richardson Co.

**MOLDARTA**  
Westinghouse Electric Corp.

**MOLDEX**  
Neesil Products Div. of Rubber  
Associates, Inc.

**MOLDITE**  
National Moldite Co.

**MOLD-KAP**  
Centralab Div. of Globe-Union, Inc.

**MOLDLOCK**  
American Brass Co.

**MOLDTEX**  
Racon Electric Co.

**MOLDTITE**  
United Condenser Corp.

**MOLECU DRYER**  
Hayes, Inc., C. I.

**MOLECULE SQUEEZER**  
Robinetto Co., W. C.

**MONARCH**  
Birmingham Sound Reproducers Ltd.

**MONEL**  
International Nickel Co., Inc.

**MONISEAL**  
Magnetic Metals Co.

**MONISEAL "444"**  
Carpenter Steel Co.

**MONITORADIO**  
I. D. E. A., Inc.

**MONITORADIO**  
Radio Apparatus Corp.

**MON-KEY**  
Electric Eye Equipment Co.

**MONOBLOC**  
Winchester Electronics Co.

**MONOCELL**  
Fortiphone Ltd.

**MONOCOIL**  
Kupfrian Mfg. Co.

**MONOLYTHIC**  
Sprague Electric Co.

**MONOMATIC**  
Pentron Corp.

**MONOMOTORS**  
Redmond Co., Inc.

**MONO-PAC**  
Beltone Hearing Aid Co.

**MONOPLEX**  
Shure Brothers, Inc.

**MONOSET**  
Bristol Co., The.

**MONOSET**  
Telex, Inc.

**MONOSTRIP EP**  
Mona Industries, Inc.

**MONOTUBE**  
Tuttle & Kift

**MORNINGSTAR**  
Paisley Products, Inc.

**MORSE EUREKA**  
Morse Co., Frank W.

**MOTO-MAGS**  
Keystone Products Co.

**MOTO-MITE**  
Globe Industries, Inc.

**MOTORLITE**  
Ward Leonard Electric Co.

**MOTOR-MIKE**  
Electro Capacitors Co.

**MOTOR WATCHMAN**  
Westinghouse Electric Corp.

**MOT-O-TROL**  
Westinghouse Electric Corp.

**MOTRON**  
Robinetto Co., W. C.

**MOYNO**  
Robbins & Myers, Inc.

**MPB**  
Miniature Precision Bearings, Inc.

**M-R-C**  
Marlin-Rockwell Corp.

**MSRD**  
Menlo Research Laboratory.

**M-SCOPE**  
Fisher Research Lab, Inc.

**MU**  
Acro Mfg. Co.

**MUCHROHM**  
Magnetic Metals Co.

**MUFAX**  
Muirhead & Co., Ltd.

**MUGWUMP**  
Radio Merchandise Sales, Inc.

**MULLARD**  
International Electronics Corp.

**MUL-TEL**  
Brach Mfg. Corp.

**MULTI-ANALYST**  
Electronic Instrument Co., Inc.

**MULTICARDIOTRON**  
Electro-Physical Labs.

**MULTI-CELL**  
Shielding, Inc.

**MULTICON**  
British Electronics Sales Co., Inc.

**MULTICON**  
Standard Electronics Corp.

**MULTICORE**  
British Industries Corp.

**MULTICOUNTER**  
Atomic Instrument Co.

**MULTI-ELMAC**  
Multi-Products Co.

**MULTIFLEX**  
Eagle Signal Corp.

**MULTI-GATE**  
Hammarlund Mfg. Co.

**MULTI-LOW-RANGE**  
Dillon & Co., Inc., W. C.

**MULTI-MASTER**  
Precision Apparatus Co., Inc.

**MULTIMETER**  
Rawson Electrical Instrument Co.

**MULTIPAC**  
Dubrow Development Co.

**MULTIPLANE**  
Lord Mfg. Co.

**MULTIPOT**  
Ford Engineering Co.

**MULTIPRESS**  
Denison Engineering Div., American  
Brake Shoe Co.

**MULTI-PULSER**  
Kay Electric Co.

**MULTI-RECTIFIER**  
Green Electric Co., Inc.

**MULTISCOPE**  
Acme Teletronix Div.  
Nea Service Inc.

**MULTISOURCE**  
Applied Research Labs.

**MULTI-SPEED**  
Pentron Corp.

**MULTI-SWAGE**  
Bead Chain Mfg. Co.

**MULTITROL**  
Ward Leonard Electric Co.

**MULTI-VENT**  
Pyle-National Co.

**MULTIVIDEO**  
Industrial Television, Inc.

**MULTIVISION**  
Industrial Television, Inc.

**MULTIVOLT**  
Ohmite Mfg. Co.

**MUL-TV**  
Jerrold Electronics Corp.

**MUMETAL**  
Telegraph Construction &  
Maintenance Co., Ltd.

**MU NET**  
Sickles, F. W. Div.  
General Instrument Corp.

**MURFAX**  
Muirhead & Co., Ltd.

**MUROSCOPE**  
Simpson Electric Co. Div. of  
American Gage & Machine Co.

**MUSIC LOVER**  
Shure Brothers, Inc.

**MUSIC MASTER**  
M. P. Engineering Co.

**MUSITRON**  
Waters Conley Co., Inc.

**MUTED-STYLUS**  
Shure Brothers, Inc.

**MVR**  
Sorensen & Co., Inc.

**M/W GAIN SET**  
Kay Electric Co.

**MYERS LABELSTIK**  
Ellis & Sons, Inc., George D.

**MYKAPLAST**  
Film Capacitors, Inc.

**MYKAPLAST**  
United Condenser Corp.

**MYKE-A-TROL**  
Industrial Electronics, Inc.

**MYKROY**  
Electronic Mechanics, Inc.

**MYLAR**  
du Pont de Nemours & Co., Inc.,  
E. I.

**NPC**  
Nucleonic Products Co.

**NS**  
National Semiconductor Products  
Div. of Hoffman Electronics Corp.

**NA-ALD**  
Alden Products Co.

**NAFLI**  
Lear, Inc.

**NALCO**  
National Lead Co.

**NALCO**  
North American Electric Lamp Co.

**NALCOBRITE**  
North American Electric Lamp Co.

**NAMCO**  
National Acme Co.

**NAPSEAL**  
Johns-Manville

**NARCO**  
National Aeronautical Corp.

**NARCO OMNIGATOR**  
National Aeronautical Corp.

**NARCO OMNIHOMER**  
National Aeronautical Corp.

**NARCO AERONAUTICAL**  
National Aeronautical Corp.

**NARCO SIMPLEXER**  
National Aeronautical Corp.

**NARCOIL**  
NRC Equipment Corp.

**NARESCOIL**  
NRC Equipment Corp.

**NARL**  
North American Research Labs., Inc.

**NARLINER**  
NRC Equipment Corp.

**NASAT**  
Westinghouse Electric Corp.

**NATCO**  
National Tel-Tronics Corp.

**NATFAB**  
National Fabricated Products  
Div. of Hoffman Electronics Corp.

**NATIONAL**  
Valco Mfg. Co.

**NATIONAL-HOLLYWOOD**  
Standard Record Mfg. Co.

**NATITE 150**  
National Ceramic Co.

**NAUGAHYDE**  
U. S. Rubber Co.

**NAUTILUS**  
Hudson American Corp.

**NAVAJO**  
Sangamo Electric Co.

**NAVASEAL**  
Johns-Manville

**NAVCOR**  
Navigation Computer Corp.

**N-CAP**  
Eastern Precision Resistor Corp.

**N-CASE**  
Epoxy Products, Inc.

**NEBROC**  
Hitemp Wires, Inc.

**NEC**  
Navigation Electronics Corp.

**NEG'ATOR**  
Hunter Spring Co.

**NELCO**  
Chemical Products Corp.

**NEOLAC**  
U. S. Stoneware Co.

**NEMCO**  
National Electronic Mfg. Corp.

**NEO-CURK**  
Auburn Mfg. Co., The

**NEOFLOW**  
Peerless Photo Products, Inc.

**NEOLAY**  
U. S. Rubber Co.

**NE-O-LITE**  
General Cement Mfg. Co.

**NEOMITE**  
Elgin National Watch Co.,  
Electronics Div.

**NEOTEL**  
General Cable Corp.

**NEPCO**  
National Electric Products Co.

**NEPEC**  
Centralab Div.,  
Globe Union Inc.

**NESA**  
Pittsburgh Plate Glass Co.

**NESTIER**  
Doepke Mfg. Co., Inc., Chas. Wm.

**NET**  
New England Transformer Co.

**NETIC**  
Perfection Mica Co.

**NETCO**  
New England Tope Co.

**NEURON**  
Autron Engineering, Inc.

**NEUTRASEAL**  
Cook Electric Co.

**NEVA TIP**  
Radio Merchandise Sales, Inc.

**NEVERSLIP**  
Philadelphia Steel & Wire Corp.

**NEYDIUM**  
Ney Co., J. M.

**NEY-ORO**  
Ney Co., J. M.

**NICAD**  
Nickel Cadmium Battery Corp.

**NIAGRITE-ASBESTOMENT**  
Johns-Manville

**NICHROME**  
Driver-Harris Co.

**NICORO**  
Western Gold & Platinum Co.

**NICUSIL**  
Western Gold & Platinum Co.

**NIFER**  
Metals & Controls Corp.,  
General Plate Div.

**NIKROTHAL**  
Kanthal Corp.

**NILSTAIN**  
Driver Co., Wilbur B.

**NILVAR**  
Driver-Harris Co.  
999 "PLUS"  
Handy & Harman.

**NIRO**  
Western Gold & Platinum Co.

**NIREX**  
Driver-Harris Co.

**NITELIGHTER**  
Fisher-Pierce Co., Inc.

**NITE-T-LITE**  
Littelfuse, Inc.

**NITRATE-ASBESTOMENT**  
Johns-Manville.

**NITREMANG**  
Foote Mineral Co.

**NITRON**  
Monsanto Chemical Co.

**NITRONEAL**  
Baker & Co., Inc.

**NIVAC-P**  
Vacuum Metals Corp.

**NIXIE**  
Burrroughs Corp.

**NOARK**  
Federal Electric Products Co.

**NO-BATT**  
Bristol Co., The.

**NOBATRON**  
Sorensen & Co., Inc.

**NOBLELOY**  
Continental Carbon, Inc.

**NOBLETTE**  
Continental Carbon, Inc.

**NOBLEWEST**  
Noble & Westbrook Mfg. Co.

**NOBL-OHM**  
Fairchild Controls Corp., Components  
Div.

**NOBRUSH**  
Georator Corp.

**NODRSEAL**  
Johns-Manville.

**NOFLAME-COR**  
Cornish Wire Co.

**NOISERASER**  
Minnesota Electronics Corp.

**NOKORODE**  
Dunton Co., M. W.

**NO LEAK**  
Marathon Battery Co.

**NOMU**  
Magnetic Metals Co.

**NON-LINK**  
Positive Lock Washer Co.

**NONSTRIP**  
Rex Corp., The.

**NO-OX**  
Walsco Electronics Corp.

**NOPOFOAM**  
Nopco Chemical Co.

**NORBIDE**  
Norton Co.

**NORCO**  
Nortronics Co., Inc.

**NORELCO**  
Philips Electronics, Inc.

**NORPLEX**  
Northern Plastics Corp.

**NORTHAM**  
North American Instruments, Inc.

**NORWOOD**  
Control Engineering Corp.

**NO SPAT**  
Midland Paint & Varnish Co.

**NO-TOX**  
Electrovox Co., Inc.

- NOX-TARNISH  
Daubert Chemical Co.
- NTC  
Keystone Carbon Co., Inc.
- N. U.  
National Union Electric Corp.
- NU-BLAC  
Star Porcelain Co.
- NU-BLOK  
United Mfg. & Service Co.
- NU BLOK, JR.  
United Mfg. & Service.
- NU-BRAZEE  
American Silver Co., Inc.
- NU CAP  
Set Screw Mfg. Co.
- NUCLEOMETER  
Radiation Counter Laboratories, Inc.
- NUCOR  
Nuclear Corp. of America, Inc.
- NUMAR  
Nuclear Magnetics Corp.
- NUSO  
Esso Standard Oil Co.
- NU TIP  
Mallory & Co., Inc., P. R.
- NU-TRONIC  
Nuclear-Electronics Corp.
- NU-TWIST  
Mallory & Co., Inc., P. R.
- NWL  
Nothelfer Winding Labs.
- NU-WAY  
Marshall Associates, Inc., John.
- NU WRINKLE CAP  
Mallory & Co., Inc., P. R.
- NW 25  
Kellogg Co., M. W.
- NYCO  
New York Coil Co.
- NYFORM  
Acme Wire Co.
- NYGRIP  
Weckesser Co.
- NYLAFLOW  
Polymer Corp., The
- NYLASINT  
Polymer Corp., The.
- NYLATINT  
Polymer Corp., The.
- NYLATRON  
Polymer Corp., The.
- NYLAWELD  
Polymer Corp., The
- NYLEX  
Boston Insulated Wire & Cable Co.
- NYLINED  
Thomson Industries, Inc.
- NYLOCLIP  
Burndy Corp.
- NYLO-FAST  
Anti-Corrosive Metal Products Co.
- NYLON  
du Pont de Nemours & Co., Inc., E. I.
- NYLON-ZIP  
Waldes Kohinoor Inc.
- NYLONITE  
Plastic Wire & Cable Corp.
- NYPOT  
Associated Research, Inc.
- NYTRAN  
New York Transformer Co., Inc.
- NYVAR  
Acme Wire Co.
- 101  
Continental Communications, Inc.
- 110  
Continental Communications, Inc.
- OAKWOOD  
Osborn Products
- OBSERVER  
Blonder-Tongue Laboratories, Inc.
- OCCO  
Ohio Crankshaft Co.
- OCTOHL  
Eastman Kodak Co.
- OFC  
Ortho Filter Corp.
- OFHC  
American Metal Co., Ltd., The.
- OH10M  
Ohio Carbon Co.
- OHMAX  
Driver-Harris Co.
- OHMOID  
Wilmington Fibre Specialty Co.
- OHM-SPUN  
States Co.
- OHMSTONE  
Johns-Manville
- OILDAG  
Acheson Colloids Co.
- OILMITE  
Tobe Deutschmann Corp.
- "O. K."  
General Cable Corp.
- OKLIP  
Burndy Corp.
- OKOBESTOS  
Okonite Co.
- OKOGLASS  
Okonite Co.
- OKOLENE  
Okonite Co.
- OKOLITE  
Okonite Co.
- OKOPRENE  
Okonite Co.
- OKOSEAL  
Okonite Co.
- OMNI-GLOW  
Industrial Devices, Inc.
- OMNIMATIC  
Lear, Inc.
- OMNIMETER  
Lear, Inc.
- OMNIOMETER  
Radiation Counter Laboratories, Inc.
- OMNIPACK  
Lear, Inc.
- OMNISCOPE  
Lear, Inc.
- OMNITENNA  
Lear, Inc.
- OMNITENNA  
Tennalab
- O-PAC  
Opad Electric Co.
- OPALON  
Monsanto Chemical Co.
- OPCO  
Onondaga Pottery Works
- OPENACTOR  
Jeffers Electronics Div. of  
Speer Carbon Co.
- OPTIMATIC  
Minneapolis-Honeywell Regulator Co.
- OPTIMIKE  
Instrument Development  
Laboratories, Inc.
- OPTO-MATIC  
Trico Fuse Mfg. Co.
- OPTOSIL  
Amersil Co., Inc.
- ORATRON  
OMCO
- ORI-FLORATOR  
Fischer & Porter Co.
- ORIENTED  
Armco Steel Corp.
- ORIENTER  
Lear, Inc.
- ORIZON  
Monsanto Chemical Co.
- ORPHEUS  
International Research Associates.
- ORLON  
du Pont de Nemours & Co., Inc., E. I.
- ORTHONIK  
Armco Steel Corp.
- ORTHONIK  
Westinghouse Electric Corp.
- ORTHONOL  
Magnetics, Inc.
- ORTHOSIL  
Thomas & Skinner, Inc.
- ORYX  
Television Accessories Co.
- OSAGE  
Sangamo Electric Co.
- OSCAR  
Benson-Lehner Corp.
- OSCILLATRON  
Vectron, Inc.
- OSCILLO-RECORD  
Fairchild Camera & Instrument Corp.
- OSISO  
Westinghouse Electric Corp.
- OSTUCO  
Ohio Seamless Tube Div. of Copperweld  
Steel Co.
- OUNCER  
United Transformer Corporation.
- OVALTUBE  
Plastoid Corp.
- OXLEY  
British Radio Electronics, Ltd.
- OXWELD  
Linde Air Products Co.  
Unit of Union Carbide & Carbon Corp.
- OXYHEMOGRAPH  
Photocon Research Products.
- OYLITE-STIK  
Lake Chemical Co.
- OZALID  
General Aniline & Film Corp.
- OZAMATIC  
Ozalid Div. General  
Aniline & Film Corp.
- P. A.  
Aerovox Corp.
- P-A-B-X  
Automatic Electric Sales Corp.
- P & B  
Potter & Brumfield.
- P-28  
Cook Ceramic Mfg. Co.
- PAC  
Erie Resistor Corp.
- PACE  
Electronic Associates, Inc.
- PACE  
Precision Apparatus Co., Inc.
- PACEMAKER  
Johnson Co., E. F.
- PACER  
Sprague Electric Co.
- PACE-SETTER  
J F D Mfg. Co., Inc.
- PACIFIC  
Transformer Engineers.
- PACITRON  
Simmonds Aeroccessories, Inc.
- PACKMASTER  
Radio Specialty Mfg. Co.
- PAD-KAGING  
Peters-Dalton, Inc.
- PAGEMASTER  
Electronic Control Systems, Inc.
- PAGEMASTER  
Scantlin Electronics.
- PAGEMASTER  
Stromberg-Carlson Co. Div. of General  
Dynamics Corp.
- PAINSTIKS  
Markal Co.
- PAINTON  
British Electronics Sales Co., Inc.
- PAINTON-WINKLER  
British Electronics Sales Co., Inc.
- PAISOL  
Paisley Products, Inc.
- PAISTEX  
Paisley Products, Inc.
- PAISTIC  
Paisley Products, Inc.
- PAISTICK  
Paisley Products, Inc.
- PAKAP  
Audio Products Corp.
- PAK-FONE  
Industrial Radio Corp.
- PAL  
J F D Mfg. Co., Inc.
- PAL  
Palnut Co., Inc.
- PALINEY  
Ney Co., J. M.
- PAMCO  
Paraplegics Mfg. Co., Inc.
- PANADAPTOR  
Panoramic Radio Products, Inc.
- PANALYZOR  
Panoramic Radio Products, Inc.
- PANARAMA  
JFD Mfg. Co., Inc.
- PANARAMIC EXPOSURE SHIELD  
Technical Operations, Inc.
- PANDEX  
Westinghouse Electric Corp.
- PANDUX  
Pacific Transducer Corp.
- PANEL  
Pan-Electronics Corp.
- PANDRAMA  
J F D Mfg. Co., Inc.
- PANEL  
Dzus Fastener Co., Inc.
- PANEL-CHANNEL  
Stahlin Brothers, Inc.
- PANELOC  
Scovill Mfg. Co.
- PANELSCOPE  
Waterman Products Co., Inc.
- PANELYTE  
St. Regis Paper Co.
- PAN-I-LITE  
Alden Products Co.
- PANORADIO  
Panoramic Radio Products, Inc.
- PANORAMIC  
Radio Merchandise Sales, Inc.
- PANORAMOSCOPE  
Panoramic Radio Products, Inc.
- PANOSCOPE  
Panoramic Radio Products, Inc.
- PANTO  
Preis Engraving Machine Co., H. P.
- PAPERITE  
Acme Wire Co.
- PARA-CON  
Ward Products Corp.,  
Div. of The Gabriel Co.
- PARACORE  
U. S. Rubber Co.
- PARA-FLUX  
Radio Music Corp.
- PARAFORMED  
Paramount Paper Tube Corp.
- PARAGON  
Keuffel & Esser Co.
- PARALEAD  
Chester Cable Corp.
- PARATEX  
Blocksom & Co.
- PAR GYRO  
Summers Gyroscope Co.
- PARISIANOID  
Parisian Novelty Co.
- A. B. PARKER  
Television Accessories Co.
- PARLON  
Hercules Powder Co., Inc.
- PARTRIDGE  
British Electronics Sales Co., Inc.
- PATHFINDER  
Sangamo Electric Co.
- PATRICIAN  
Electro-Voice, Inc.
- PATTERSON  
du Pont de Nemours & Co., Inc., E. I.
- PAWNEE  
Sangamo Electric Co.
- PAYOFFPAK  
Continental Can Co., Inc.
- P-A-X  
Automatic Electric Sales Corp.
- PDCP  
Phelps Dodge Copper Products Co.
- P. E. C.  
Centralab Div.  
Globe Union Inc.
- P.E.C.  
Precision Electronic Components, Ltd.
- PEAK-METER  
Control Devices, Inc.
- PEAKTROL  
Control Corp.
- PECKMASTER  
Radio Specialty Mfg. Co.
- PECO  
Pacific Electriccord Co.
- PECO  
Pomona Electronics Co., Ino.
- PEDASINE  
Fisher & Co., R. A.
- PEDIGREE  
George Co., P. D.
- PEE-CEE  
Printed Cellophane Tape Co.
- PEERAGE  
Electro-Voice, Inc.
- PEERLESS  
Altec Lansing Corp.
- PEERLESS  
General Cable Corp.
- PEERLESS  
National Vulcanized Fibre Co.
- PEE-WEE  
Mueller Electric Co.
- PEG-BOARD  
Butler Mfg. Co., Inc., B. B.
- PEM  
Penn Engineering & Mfg. Corp.
- PENACOLITE  
Koppers Co., Inc.
- PENCO  
Pacific Electro-Nuclear Co.
- PENDET  
Centralab Div. of  
Globe-Union, Inc.
- PEPCO  
Peerless Electrical Products Div.  
of Altec Lansing Corp.
- PERCEPTOSCOPE  
Sonotone Corp.
- PERFECTION  
National Felt Co.
- PERFECT-O-CUT  
Tablet & Ticket Co.
- PERIDYNAMIC  
Jensen Mfg. Co.
- PERKINS  
Westinghouse Electric Corp.
- PERMA-A-CAPS  
Chicago Condenser Corp.
- PERMACELL  
U. S. Rubber Co.
- PERMA-CODE  
Brady Co., W. H.
- PERMACODE  
Revere Corp. of America, Sub. of  
Neptune Meter Co.
- PERMAGRID  
Driver Co., Wilbur B.
- PERMA-GRIP  
Avery Adhesive Label Corp.
- PERMADINE  
American Chemical Paint Co.
- PERMAKAY  
Motorola Communications &  
Electronics, Inc.
- PERMALINE  
Columbia Wire & Supply Co.
- PERMALLOY  
Arnold Engineering Co.
- PERMALLOY  
Standard Telephones & Cables, Ltd.
- PERMA-MOLD  
Randall, Inc., Douglas.
- PERMANICKEL  
International Nickel Co., Inc.
- PERMANITE  
Foot Mineral Co.
- PERMANITE  
I-T-E Circuit Breaker Co.
- PERMA-NUTS  
Tubular Rivet & Stud Co.
- PERMAPAPER  
Sanborn Co.
- PERMAPLAST  
Richardson Co., The
- PERMA-POWER  
General Transformer Corp.
- PERMASEAL  
Sprague Electric Co.
- PERMA-SWITCH  
Centralab Div. of  
Globe-Union, Inc.
- PERMATAGS  
Actioncraft Products.
- PERMATORQ  
Cambridge Thermionic Corp.
- PERMENDUR  
Arnold Engineering Co.
- PERMENDUR  
Standard Telephones & Cables, Ltd.
- PERMENDUR  
Telegraph Construction &  
Maintenance Co., Ltd.
- PERMERMOM  
Arnold Engineering Co.
- PERMERON  
I-T-E Circuit Breaker Co.

PERMI-CAL  
Topflight Corp.

PERMO  
Fidelitone, Inc.

PERMOCARB  
Driver Co., Wilbur B.

PERMO COMPOUNDS  
Hardman Co., Inc., H. V.

PERMOGRAPH  
Electro-Physical Labs., Inc.

PERMO POINT  
Fidelitone, Inc.

PERMO-SWITCH  
Centralab Div. of Globe-Union, Inc.

PESCO  
Borg-Warner Corp.

PETITE  
Mitchell Industries, Inc.

PETTI-SEL  
Radio Receptor Co.

PFAN-TONE  
Pfanstiehl Chemical Corp.

PFAN-WOOD  
Pfanstiehl Chemical Co.

P-50  
Superior Tube Co.

PHALOCORD  
Phalo Plastics Corp.

PHALON  
Phalo Plastics Corp.

PHANTOM  
Ward Products Corp. Div. of  
The Gabriel Co.

PHASATROL  
Mallory & Co., Inc., P. R.

PHASEFORMER  
Eastern Specialty Co.

PHASEOMETER  
Winco Electronics

PHAZOR  
Industrial Test Equipment Co.

PHENOCEL  
Plastilight, Inc.

PHENOFLEX  
Dielectric Materials Co.

PHENOL FIBRE  
Taylor Fibre Co.

PHENOLITE  
National Vulcanized Fibre Co.

PHENOWELD  
Hardman Co., Inc., H. V.

PHILHARMONIC  
Espey Mfg. Co., Inc.

PHILLIPS  
Harper Co., H. M.

PHIL-TROL  
Phillips Control Corp.

PHONE AID  
Remler Company

PHONOLA  
Waters Conley Co.

PHONOPHRAGMS  
Magnetic Metals Co.

PHONOSTROBE  
Berkshire Laboratories.

PHOS-COPPER  
Westinghouse Electric Corp.

HOSON  
United Wire & Supply Corp.

HOSNIC  
Chase Brass & Copper Co., Inc.

HOSTUBE  
All-State Welding Alloys, Co., Inc.

HOTOPINISH #4  
Photocircuits Corp.

HOTOSWITCH  
Electronics Corporation of America.

HOTACT  
Keuffel & Esser Co.

HOTELOMETER  
Central Scientific Co.

HOTO-ARC  
Peerless Photo Products

HOTOLINE  
Bruning Co., Inc., Charles

HOTOLUX  
Westinghouse Electric Corp.

HOTO-MARK PROCESS  
Precision Marking Co.

HOTOPHONE  
Radio Corporation of America.

HOTO-TROLLER  
Westinghouse Electric Corp.

HOTOTRON  
Thomas Electronics, Inc.

HOTOTRONIC  
Weston Electrical Instruments Co.

HOTOX  
Westinghouse Electric Corp.

HOTRONIC  
Weston Electrical Instruments Co.

HOZOR  
Industrial Test Equipment Co.

I-CAPS  
Chicago Condenser Corp.

CBOOST  
CBC Electronics Co., Inc.

COPACK  
Telegraph Condenser Co., Ltd.

C-SYNC  
Falchchild Recording Equipment Co.

CK-A-SHAFT  
Clarostat Mfg. Co., Inc.

I. D.  
Burnell & Co.

EZO-RAY  
Commercial Research Labs., Inc.

PIG-TAILOR  
Bruno-New York Industries Corp.

PILOSTAT  
Minneapolis-Honeywell Regulator Co.

PILOTONE  
Pilot Radio Corp.

PILOTROL  
Bailey Meter Co.

PILOTUNER  
Pilot Radio Corp.

PINCOR  
Pioneer Gen-E-Motor Corporation.

PINHEAD  
Sprague Electric Co.

PINK PEARL  
Eberhard Faber Pencil Co.

PIN-POINTER  
Radio Merchandise Sales, Inc.

PIONEER  
Bendix Aviation Corp.

PIONEER  
Chase Mfg. Co.

PIP  
Heli-Coil Corp.

PIP-A-ROO  
JFD Mfg. Co., Inc.

PIPETITE-STIK  
Lake Chemical Co.

PIP-JET  
JFD Mfg. Co., Inc.

PIROUETTE  
Presto Recording Corp.

PISTOGRIIP  
Wall Mfg. Co.

PITLOG  
Pitometer Log Corp.

PIX-EYE  
Radio Merchandise Sales, Inc.

PIXIE  
Cook Electric Co.

PIXIE  
Burroughs Corp.

PIXIE  
Wells & Winegard

P-K  
Parker Kalon Division of  
General American Transportation Corp.

PL  
Penta Laboratories, Inc.

PLANOFAX  
Times Facsimile Corp.

PLASCAP  
Mallory & Co., Inc., P. R.

PLASCENE  
Chester Cable Corp.

PLA-CIR  
Motorola Communications &  
Electronics, Inc.

PLASCET  
Fischer & Porter Co.

PLASKOIL  
Gramer-Halldorson Transformer Corp.

PLASKON  
Barrett Div., Allied Chemical  
& Dye Corp.

PLASTACELE  
du Pont de Nemours & Co., Inc., E. I.

PLASTAPACK  
Telegraph Condenser Co., Ltd.

PLASTIBOND  
National Engineering Products, Inc.

PLASTICON  
Condenser Products Div. New Haven  
Clock & Watch Co.

PLASTICON  
Plastic Wire & Cable Corp.

PLASTICORD  
Chester Cable Corp.

PLASTICORE  
Chester Cable Corp.

PLASTICOTE  
Chester Cable Corp.

PLASTI-FLEX  
Auburn Mfg. Co., The.

PLASTIFLEX  
Calresin Corp.

PLASTI-GROMMETS  
Fastex Div. of Illinois Tool Works

PLASTIK-707  
United Technical Laboratories.

PLASTIK-TUL  
Industrial Development & Mfg. Corp.

PLASTILOKT  
Precision Paper Tube Co.

PLASTINITE  
Fastex Div. of Illinois  
Tool Works.

PLASTI-PAK  
Centralab Div. of Globe-Union, Inc.

PLASTIPEEL  
Protective Coatings Corp.

PLASTI-PLUGS  
Fastex Div. of Illinois Tool Works

PLASTI-RINGS  
Fastex Div. of Illinois  
Tool Works.

PLASTI-RIVETS  
Fastex Div. of Illinois  
Tool Works.

PLASTISEL  
Electronics Devices, Inc.,  
Precision Rectifier Div.

PLASTI-SUPPORTS  
Fastex Div. of Illinois Tool Works

PLASTITE  
Whitney Blake Co.

PLASTOK  
Richardson Co., The

PLASTOLYTIC  
Condenser Manufacturers, Inc.

PLASTO-PAK  
Standard-Toch Chemicals, Inc.

PLASTRONICS  
Maico Co., Inc.

PLASTURBO  
Master Appliance Mfg. Co.

PLATE-LOK  
Boots Aircraft Nut Co.

PLATO  
Raytheon Mfg. Co.

PLAYAL  
Sonotone Corp.

PLAYBOY  
Carbonneau Industries, Inc.

PLENCO  
Plastics Engineering Co.

PLENTI-POWER  
Westinghouse Electric Corp.

PLEXICON  
Erie Resistor Corp.

PLIABOOK  
Paisley Products, Inc.

PLIASTIC  
Paisley Products, Inc.

PLIATAS  
Paisley Products, Inc.

PLICA  
Flexaust Co., The

PLIOBOND  
Goodyear Tire & Rubber Co.

PLIOFLEX  
Goodyear Tire & Rubber Co., The

PLIOGRIP  
Goodyear Tire & Rubber Co.

PLIOLITE  
Goodyear Tire & Rubber Co.

PLIOTHERM  
Goodyear Tire & Rubber Co.

PLIO-TUF  
Goodyear Tire & Rubber Co.

PLIOVIC  
Goodyear Tire & Rubber Co.

PLUG BOTTOMS  
United-Carr Fastener Corp.

PLUG-IN  
JFD Mfg. Co., Inc.

PLUG-IN-LINE  
Alden Systems Co.

PLUGLINES  
Jacobs Instrument Co.

PLUG-STAT  
Control Products, Inc.

PLUMBER KRAK-STIK  
Lake Chemical Co.

PLUS MODULE  
Ansley Mfg. Co., Arthur

PLUS SOUND  
Pentron Corp., Inc.

PLYACIEN  
Reichhold Chemicals, Inc.

PLYAMINE  
Reichhold Chemicals, Inc.

PLYAMUL  
Reichhold Chemicals, Inc.

PLYMASTER  
Rubber & Asbestos Corp.

PLYMOUTH  
Colortone Electronics, Inc.

PLYOPHEN  
Reichhold Chemicals, Inc.

PLYPAK  
Hinde & Dauch

PLYTUBULAR  
Tennalab

PM  
Electro-Mechanical Div. of  
General Riveters, Inc.

PN  
Brush Electronics Co.

P-N  
Pyle-National Co.

PNR  
Rockbestos Products Co.

PNEUMATROL  
Fischer & Porter Co.

POCKET POWER  
Cook Co., Frank R.

POCKETSCOPE  
Waterman Products Co., Inc.

PODROMETER  
Branson Instruments, Inc.

POINTARC  
Western Union Telegraph Co.

POLAROID  
Pioneer Scientific Corp.

POLAR PATH  
Eclipse-Pioneer Div., Bendix  
Aviation Corp.

POLECTRON  
Antara Chemicals Div., General  
Aniline & Film Corp.

POLEX  
Union Plastics Corp.

POLICALARM  
Radio Apparatus Corp.

POLICARB  
Driver Co., Wilbur B.

POLINEAR RECORDER  
Sound Apparatus Co.

POLYCO  
Borden Co., The, Chemical Div.

POLYCO  
Polymer Corp., The

POLYCOUPLER  
C. G. S. Laboratories, Inc.

POLYFILM  
Extruders, Inc.

POLYIRON  
Aerovox Corp.

POLYLITE  
Reichhold Chemicals, Inc.

POLY-METER  
Sylvania Electric Products, Inc.

POLYOHM  
Polytechnic Research & Development  
Co., Inc.

POLY-PEDANCE  
Chicago Standard Transformer Corp.

POLYPENCO  
Polymer Corp., The

POLYPHANE  
Technical Tape Corp.

POLYRAD  
Intersearch, Inc.

POLYRANGER  
Sensitive Research Instrument Corp.

POLYTAPE  
Extruders, Inc.

POLYTHENE  
du Pont de Nemours & Co., Inc., E. I.

POLYTHERM  
Dielectric Materials Co.

POLY-V  
Raybestos-Manhattan, Inc.

POLYVAR  
Acme Wire Co.

POLY-VISO  
Sanborn Co.

POLYWELD  
Amphenol Electronics Corp.

PONGOMETER  
Acton Laboratories, Inc.

PONOGOMETER  
Technology Instrument Corp.

POP  
United Shoe Machinery Corp.

PORO TUBE  
Lamtex Industries, Inc.

PORTA-FLEXER  
Miskella Infra-Red Co.

PORTAFONE  
Stewart Warner Electric Div.,  
Stewart-Warner Corp.

PORT-A-PHONE  
Feiler Engineering & Mfg. Co.

PORTA-KALL  
Loge Sound Engineers, J. M.

PORTAPOWER  
Cornell-Dubilier Electric Corp.

PORTAPOWER  
Electronic Labs., Inc.

PORTA-POWER  
General Transformer Corp.

PORTENTIOTROL  
Barber-Colman Co.

PORTOCO  
Taller & Cooper Co.

PORTOMASTER  
Peck & Harvey

PORT-O-REEL  
Industrial Electrical Works

PORTOVENT  
Flexaust Co., The

PORTRAYA  
Haloid Co., The

POST-DRYER  
Bar-Ray Products, Inc.

POSI TEMP  
Bar-Ray Products, Inc.

POST-LITE  
Littelfuse, Inc.

POSTLITE  
Drake Mfg. Co.

POTENTIALS  
Barber-Colman Co.

POTPOT  
Clarostat Mfg. Co., Inc.

POTTERMETER  
Potter Aeronautical Corp.

POWDERMET  
Yale & Towne Mfg Co.,  
Powdered Metal Products Div.

POWERCHARGER  
Fox Products Co.

POWEREEL  
Industrial Electrical Works

POWERFAC  
Schweitzer, Inc., Peter J.

POWER FIREBALL  
JFD Mfg. Co., Inc.

POWER-FLEX  
Dumore Co., The

POWER HELIX  
JFD Mfg. Co., Inc.

POWERLOID  
Guardian Electric Mfg. Co.

POWERMASTER  
Hupp Electronics Co.,  
A Div. of Hupp Corp.

POWER-O-MATIC  
Blue M Electric Co.

POWERPILE  
Minneapolis-Honeywell Regulator Co.

POWERSEL  
Electronic Devices, Inc.,  
Precision Rectifier Div.

POWERSPAN  
Videon Electronic Corp.

POWERSTAT  
Superior Electric Co.

POWER STREAK  
American Electric Cable Co.



POWER-TENNA  
G-C Electronics Mfg. Co., Div. of  
G-C Textron, Inc.

POWRARM  
Wilton Tool Mfg. Co.

POWRLOCK  
Wilton Tool Mfg. Co.

POWRPAGE  
University Loudspeakers, Inc.

POWRMIKE  
University Loudspeakers, Inc.

POWR-PAKT  
Alliance Mfg. Co.

POWR-RIB  
Ohmite Mfg. Co.

PPG  
Pittsburgh Plate Glass Co.

PRAMS  
Jordan Electronics, Inc.

PRC  
Pacific Resistor Co.

P.R.C.  
Precision Resistor Co.

PRD  
Polytechnic Research & Development  
Co., Inc.

PRECEDENT  
Radio Engineering Labs., Inc.

PRECEPTRON  
Sonotone Corp.

PRECIPITRON  
Westinghouse Electric Corp.

PRECISE-OHM  
Precision, Inc.

PRECISIONER  
Malco Co., Inc.

PRECISION-GAUGED  
Precision Products Co.

PRECOPTIC  
Edmund Scientific Corp.

PREDICO  
Beam Instruments Corp.

PRE-FAB  
Wiegand Co., Edwin L.

PREGWOOD  
Formica Co.

PREMAX  
Chisholm-Ryder Co., Inc.

PRESET  
Bristol Co., The

PRESS-FIT  
Seaelectro Corp.

PRESS-I-CELL  
Fischer & Porter Co.

PRESSITE  
West Virginia Pulp & Paper Co.

PRESSOVAC  
Central Scientific Co.

PRES-SURE  
Buchanan Electrical Products Corp.

PRESSURE BLAST  
Cro-Plate Co., Inc.

PRESSUREGRAPH  
Electro Products Labs., Inc.

PRES-SURE-SPLICE  
Buchanan Electrical Products Corp.

PRES-SURE-TOOL  
Buchanan Electrical Products Co.

PRESSURETROL  
Minneapolis-Honeywell Regulator Co.

PRESTEEL  
Worcester Pressed Steel Co.

PRESTEST  
Miller Mfg. Co., M. A.

PRESTIGE  
Bud Radio, Inc.

PRESTITE  
Westinghouse Electric Corp.

PREST-O-LITE  
Linde Air Products Co.,  
Unit of Union Carbide & Carbon Corp.

PREST-O-WELD  
Linde Air Products Co.,  
Unit of Union Carbide & Carbon Corp.

PRINTMASTER  
Ozalid Div.  
General Aniline & Film Corp.

PRINTATE  
American Printed Circuits Co.

PRINTOHM  
Sprague Electric Co.

PRINT-STIK  
Topflight Corp.

PRIVATE-EYE  
American Photocopy Equipment Co.

PRIVATE EYE  
Television Utilities Corp.

PRIVATE LINE  
Connecticut Telephone & Electric  
Corp.

PRIVATEER  
Hudson American Corp.

PRIVATEL  
North Electric Co.

PROCESS INK  
Markwik Mfg. Co., Inc.

PRODAG  
Acheson Coloids Co.

PRODUCTIMETERS  
Durant Manufacturing Co.

PRODUCTS OF MERIT  
Coil & Transformer Corp.

PROFESSIONAL  
Precision Radiation Instruments, Inc.

PROGAR  
Langevin Mfg. Co.

PROKAR  
Sprague Electric Co.

PROMATIC  
General Control Company

PROMCO  
Progressive Mfg. Co.

PROTECTOGL  
Minneapolis-Honeywell Regulator Co.

PROTECTORELAY  
Minneapolis-Honeywell Regulator Co.

PROTECT-O-VANE  
Minneapolis-Honeywell Regulator Co.

PROTECTOX  
Technic, Inc.

PROTELGRAM  
North American Phillips Co., Inc.

PROTOMAKA  
Printed Electronics Corp.

PROTOTYPE  
Phillips Process Co., Inc.

PROVAC  
Electronic Designs, Inc.

PRYCRYSTAL  
Catalin Corp. of America

PSI  
Pacific Semiconductors, Inc.

PTF  
Minnesota Mining & Mfg. Co.

PUEBLO  
Sangamo Electric Co.

PULSESCOPE  
Waterman Products Co., Inc.

PULSER-SWEEPER  
Brubaker Mfg. Co., Inc.

PULSIGNAL  
A. R. F. Products, Inc.

PULSITE  
Airtax Products Co.

PULSITOMETER  
Electronic Specialty Co.

PULSOLITE  
Electronic Control Corp.

PULTEC  
Pulse Techniques, Inc.

PURETONE  
Sonotone Corp.

PURGERATOR  
Fischer & Porter Co.

PURIFIL  
Electric Eye Equipment Co.

PUROMATIC  
Barnstead Still & Sterilizer Co., Inc.

PUROX  
Linde Air Products Co.,  
Unit of Union Carbide & Carbon Corp.

PUSH-LOK  
Sprague Electric Co.

PUSHNUTS  
Palnut Co., Inc.

PUSH-PULL  
James Vibrapowr Co.

PWC  
Plastic Wire & Cable Corp.

PY-CAPS  
Chicago Condenser Corp.

PYCNORATOR  
Fischer & Porter Co.

PYGMY  
Vulcan Electric Co.

PYLE-O-FLEX  
Pyle-National Co.

PYLETS  
Pyle-National Co.

PYNACCORD  
Pentron Corp.

PYRALIN  
du Pont de Nemours & Co., Inc., E. I.

PYRANOL  
General Electric Co.

PYRA SHELL  
Auburn Button Works, Inc.

PYREX  
Corning Glass Works

PYROCON  
Illinois Testing Labs., Inc.

PYROHM  
Aerovox Corp.

PYROLANCE  
Illinois Testing Labs., Inc.

PYROMARK  
Tempil Corp.

PYROMASTER  
Bristol Co., The

PYROMIC  
Telegraph Construction &  
Maintenance Co., Ltd.

PYROTROL  
Bristol Co., The

PYROTRON  
Bailey Meter Co.

PYROVAC  
Eitel-McCullough, Inc.

PYR-O-VANE  
Minneapolis-Honeywell Regulator Co.

PYROVISOR  
Bristol Co., The

Q-BESTUN  
Auburn Mfg. Co., The.

Q FASTENERS  
Fastex Div. of Illinois Tool Works.

Q-LACE  
Guthman Div. of Essex Wire Corp.

Q-MAX  
Communication Products Co., Inc.

Q METER  
Boonton Radio Corp.

"Q"-PROBE  
Transitron, Inc.

QM 136  
Barrett Varnish Co.

QIKLUG  
Burndy Corp.

QIKTAP  
Burndy Corp.

Q STANDARD  
Boonton Radio Corp.

Q-SWEEP  
Kay Electric Co.

Q-T  
Superex Electronics Corp.

Q. U. A. O.  
Beam Instruments Corp.

QUAD  
Barker Sales Co.

QUAD-EX  
Telrex, Inc.

QUADRALINE  
Radio Engineering Labs., Inc.

QUADREX  
Westinghouse Electric Corp.

QUAD RING  
Minnesota Rubber & Gasket Co.

QUADROCONDEX  
Westinghouse Electric Corp.

QUAD-TRONIC  
Wappler, Inc.

QUANTOGRAPH  
Applied Research Labs.

QUANTOMETER  
Applied Research Laboratories

QUARTET  
Califone Corp.

QUARTZ Q  
Millen Mfg. Co., James

QUEEN  
Gray Instrument Co.

QUELARC  
Pyle-National Co.

QUICK GRIP  
Perfection Mica Co.

QUICKLAG  
Westinghouse Electric Corp.

QUICK-LOCK  
Simmons Fastener Corp.

QUICK-PIVOT  
JFD Mfg. Co., Inc.

QUIETONE  
Cornell-Dubilier Electric Corp.

QUIK-CALL  
Motorola, Inc.

QUIK-CONNECT  
Aircraft-Marine Products, Inc.

QUIK-LABEL  
Brady Co., W. H.

QUIK-MASKS  
Brady Co., W. H.

QUIK-RIG  
JFD Mfg. Co., Inc.

QUIK-SHOT  
Kemode Mfg. Co., Inc.

QUIK-SIGN  
Brady Co., W. H.

QUILON  
du Pont de Nemours & Co.,  
Inc., E. I.

QUINORGO  
Johns-Manville

QUINORGOBORD  
Johns-Manville

QUINTENNA  
Tennalab

QUINTERRA  
Johns-Manville

QUINTERRABORD  
Johns-Manville

QUINTETTE  
Radio Merchandise Sales, Inc.

QWIK  
Amphenol Electronics Corp.

QX CHECKER  
Boonton Radio Corp.

R-313  
Biggs Co., Carl H.

"R" MONEL  
International Nickel Co., Inc., The.

RCP  
Radio City Products Co., Inc.

RFC  
Radio Frequency Co.

RACON BROADBAND  
Racon Electric Co.,

RADACOL  
Magnetic Core Corp.

RAD-A-COR  
Magnetic Core Corp.

RADALIGNER  
Kay Electric Co.

RADALYZER  
Kay Electric Co.

RADA-PULSER  
Kay Electric Co.

RADAIR  
Bassett Inc., Rex.

RADALARM  
Communications Co., Inc.

RADAMETER  
Raytheon Mfg. Co.

RADA-NODE  
Kay Electric Co.

RADARANGE  
Raytheon Mfg. Co.

RADA SWEEP  
Kay Electric Co.

RADAX  
Electro-Voice, Inc.

RADAX SUPER  
Electro-Voice, Inc.

RADECTOR  
Jordan Electronics, Inc.

RADELIN  
U. S. Radium Corp.

RADELL  
I.D.E.A., Inc.

RADENE  
Reed-Curtis Nuclear Industries, Inc.

RADEX  
Birnback Radio Co., Inc.

RADIX  
Boston Insulated Wire & Cable Co.

RADIAC  
Arnhold Ceramics, Inc.

RAD-I-ACC  
Pratt & Whitney Co., Inc.

RADI-AIRE  
Reynolds Electric Co.

RADIALLOY-TIPPED  
Radial Cutter Corp.

RADIAMATIC  
Minneapolis-Honeywell Regulator Co.

RADICOM  
Crosby Labs., Inc.

RADIFLOW  
Reed-Curtis Nuclear Industries, Inc.

RADIGRAPH  
NRD Instrument Co.

RADIMAX  
NRD Instrument Co.

RADIO ALLOY  
Driver Co., Wilbur B.

RADIOCARB  
Driver Co., Wilbur B.

RADIOCRAFTER  
Technicraft Co.

RADIOEAR  
Myers & Sons, E. A.

RADIOFOCAL  
Lord Mfg. Co.

RADIOHM  
Driver-Harris Co.

RADIOHM  
Centralab Div. of  
Globe-Union, Inc.

RADIOLA  
Radio Corp. of America.

RADIOMARINE  
Radio Corp. of America.

RADIOMETAL  
Telegraph Construction &  
Maintenance Co., Ltd.

RADIOPAK  
Kaar Engineering Co.

RADIO-PILOT  
Fisher Research Lab.

RADIOSTAT  
Allen-Bradley Co.

RADIOTECHNIC  
Peirce Wire Recorder Corp.

RADIOTHERM  
Westinghouse Electric Corp.

RADIOTRON  
Radio Corp. of America.

RAFAX  
Haller, Raymond & Brown, Inc.

RAKSCOPE  
Waterman Products Co., Inc.

RAMS  
Jordan Electronics, Inc.

RANAREX  
Permutit Co.

RAN GUARDS  
Northern Metal Products Co.

RAN RACKS  
Northern Metal Products Co.

RAN TOTES  
Northern Metal Products Co.

RANCHOPRENE  
Western Insulated Wire Co.

RANCHO  
Western Insulated Wire Co.

RANGELUG  
Frankel Connector Co.

RANGER  
JFD Mfg. Co., Inc.

RANGER  
Johnson Co., E. F.

RANGER  
Sorensen & Co., Inc.

RANGER  
Westinghouse Electric Corp.

RANGERCORD  
Rangertone, Inc.

RANGEREORDER  
Rangertone, Inc.

RANGERETTE  
Rangertone, Inc.

RANGESPLICES  
Frankel Connector Co.

RANGETAPS  
Frankel Connector Co.

RANJOLA  
Rangertone, Inc.

RATIOTRAN  
Gertsch Products, Inc.

RATOG ATE  
Fischer & Porter Co.

RATOGATE  
Fischer & Porter Co.

**RATOGRAPHIC**  
Fischer & Porter Co.

**RATOLARM**  
Fischer & Porter Co.

**RATOMATIC**  
Fischer & Porter Co.

**RATOSIGHT**  
Fischer & Porter Co.

**RATOSLEEVE**  
Fischer & Porter Co.

**RATOTRONIC**  
Fischer & Porter Co.

**RATOWEIR**  
Fischer & Porter Co.

**RAYBOULD**  
Scovill Manufacturing Co.

**RAYCHRONIX**  
Radioactive Products, Inc.

**RAYCHRONOMETER**  
Radioactive Products, Inc.

**RAYDIST**  
Hastings-Raydist, Inc.

**RAYFUSER**  
Radioactive Products, Inc.

**RAYMERISION**  
Trumbull Dept. of General Electric Co.

**RAYOFLEX**  
Schott Co., Walter L.

**RAYONIC**  
Waterman Products Co., Inc.

**RAYOTUBE**  
Leeds & Northrup Co.

**RAYPHOTO**  
Times Facsimile Corp.

**RAYSONDE**  
Friez Instrument Div.,  
Bendix Aviation Corp.

**RAYTECTOR**  
Miller Associates

**RAYTHERM**  
Raytheon Mfg. Co.

**RAYTOMIC**  
Atomic Research Corp.

**RAYTRAN**  
Raypar, Inc.

**RAY-X**  
Raytheon Mfg. Co.

**R B & W**  
Russell, Burdsall &  
Ward Bolt & Nut Co.

**R/C**  
Radio Condenser Co.

**RCA**  
Radio Corp. of America.

**RCA VICTOR**  
Radio Corp. of America.

**RCL**  
Radiation Counter Laboratories, Inc.

**RdF STIKON**  
Ruge Associates, Inc., Arthur C.

**REAC**  
Reeves Instrument Corp.

**REACONVERTER**  
Rea Co., J. B.

**REACTRON**  
United Condenser Corp.

**REACTRON**  
Ward Leonard Electric Co.

**READIX**  
Rea Co., J. B.

**READY COUNT**  
Alden Systems Co.

**REAPAK**  
Rea Magnet Wire Co., Inc.

**REATHERM**  
Rea Co., J. B.

**RECARB-X**  
U. S. Graphite Co.  
Div. of The Wickes Corp.

**RECIPIOT**  
Giannini & Co., Inc., G. M.

**RE-CIRK-IT**  
Heineman Electric Co.

**RECITALIST**  
Rek-O-Kut Co. Inc.

**RECO**  
Rectifier Engineering Co.

**RECO**  
Reynolds Electric Co.

**RECORDALL**  
Miles Reproducer Co., Inc.

**RECORD-FLOW**  
Watson Mfg. Co., Inc.

**RECORDOMATIC**  
Precision Scientific Co.

**RECORDOSCOPE**  
Aremac Associates.

**RECOSTAT**  
Regulator Equipment Corp.

**RECTALLOY**  
Union Switch & Signal Div. of Westinghouse Air Brake Co.

**RECTICHARGER**  
Raytheon Mfg. Co.

**RECTIFILTER**  
Raytheon Mfg. Co.

**RECTIGON**  
Westinghouse Electric Corp.

**RECTIGRAPH**  
Haloid Co., The

**RECTI-RINGER**  
Raytheon Mfg. Co.

**RECTIRITER**  
Texas Instruments Incorporated

**RECTISEL**  
Electronic Devices, Inc.,  
Precision Rectifier Div.

**RECTODYNE**  
Christie Electric Corp.

**RECTOMATIC**  
Westinghouse Electric Corp.

**RECTOPLATER**  
Mallory & Co., Inc., P. R.

**RECTOPOWER**  
Mallory & Co., Inc., P. R.

**RECTOSTARTER**  
McColpin-Christie Corp.

**RECTOSTARTER**  
Mallory & Co., Inc., P. R.

**RECTOTRUCK**  
Mallory & Co., Inc., P. R.

**RECTOX**  
Westinghouse Electric Corp.

**RED-D**  
Diamond Wire & Cable Co.

**REDDOT**  
International Rectifier Corp.

**REDIFON**  
Beam Instruments Corp.

**REDI-RIG**  
Radio Merchandise Sales, Inc.

**REDIVUE**  
Bar-Ray Products, Inc.

**RED LETTER**  
Ruby Chemical Co.

**RED SEAL**  
Radiart Corp.

**RED SEAL**  
Radio Corporation of America

**REDSKIN**  
Sangamo Electric Co.

**RED-WOOD**  
JFD Mfg. Co., Inc.

**REDEER**  
Reeder Co., Charles M.

**REEVELEC**  
Reeve Electronics, Inc.

**REFLECTOGAGE**  
Sperry Products, Inc.

**REFLECTOSCOPE**  
Sperry Products, Inc.

**REFLEX TRUMPETS**  
University Loudspeakers, Inc.

**REFRACTALLOY**  
Westinghouse Electric Corp.

**REFRASIL**  
Thompson Fiberglass Co., H. L.

**REGATRON**  
Electronic Measurements Co.

**REGENCY**  
Electro-Voice, Inc.

**REGENCY**  
I.D.E.A., Inc.

**REGENT**  
Birmingham Sound Reproducers Ltd.

**REGENT**  
Duo-tone Co., Inc.

**REGOHM**  
Electric Regulator Corp.

**REGOMATIC**  
CBC Electronics Co., Inc.

**REGOVAC**  
Technical Apparatus Builders

**REGULAR**  
Paramount Paper Tube Corp.

**REGULITE**  
Ward Leonard Electric Co.

**REGULOMETER**  
Electronic Specialty Co.

**REGUMATIC**  
CBC Electronics Co., Inc.

**REJAFIX**  
Popper & Sons, Inc.

**REJUVAESTER**  
Teletest Instrument Corp.

**REL**  
Radio Engineering Labs., Inc.

**RELAYMATIC**  
Kellogg Switchboard & Supply Co.

**RELIABLE MAILERS**  
Corrugated Paper Products, Inc.

**RELIACAP**  
Sanders Associates, Inc.

**RELIACUBE**  
Sanders Associates, Inc.

**RELIAPAK**  
Sanders Associates, Inc.

**RELIAPLATE**  
Sanders Associates, Inc.

**RELIATRON**  
Westinghouse Electric Corp.

**RELIO**  
U. S. Rubber Co.

**RELIOHM**  
Sanders Associates, Inc.

**RELOID**  
Guardian Electric Mfg. Co.

**REMLLOY**  
Arnold Engineering Co.

**REMCON**  
Pyramid Instrument Corp.

**REMOTE-O-CABLE**  
JFD Mfg. Co., Inc.

**REN**  
Nebel Lab., R. E.

**REO-D**  
Diamond Wire & Cable Co.

**REPAIRACK**  
JFD Mfg. Co., Inc.

**RESERVISOR**  
Teleregister Corp.

**RESIGUM**  
Paisley Products, Inc.

**RESIMENE**  
Monsanto Chemical Co.

**RESIN-FIVE**  
Kester Solder Co.

**RESINITE**  
Precision Paper Tube Co.

**RESINITE**  
Borden Co.

**RESINITE**  
Resin Industries

**RESINOX**  
Monsanto Chemical Co.

**RESI-RAP**  
Paisley Products, Inc.

**RESISTOL**  
Collyer Insulated Wire Co.

**RESLOOM**  
Monsanto Chemical Co.

**RESOMAX**  
Link Aviation, Inc.

**RESTORNIC**  
Fischer & Porter Co.

**RETMA #770**  
Stone City Machine & Tool Co., Inc.

**RETTAX**  
Roanwell Corp.

**REVCOTHENE**  
Revere Corporation of America  
Sub. of Neptune Meter Co.

**REVERSO-MISSION**  
Airborne Accessories, Inc.

**REVMASTER**  
Opad Electric Co.

**REVOLUTE-4**  
Paragon-Revolute Corp.

**REVOLUTE COMET**  
Paragon-Revolute Corp.

**REVOLUTE JUMBO**  
Paragon-Revolute Corp.

**REVOLUTE METEOR**  
Paragon-Revolute Corp.

**REVOLUTE ROCKET**  
Paragon-Revolute Corp.

**REVOLUTE STAR**  
Paragon-Revolute Corp.

**REX**  
Crucible Steel Company of America.

**REX**  
Shure Brothers, Inc.

**REX-FLEX**  
Flexonics Corp.

**REX-KF**  
Rex Corp., The

**REXLAGE**  
Rex Corp., The

**REX NON-STRIP**  
Rex Corp., The

**REXOLITE**  
Rex Corp., The

**REXSELEN**  
Knopp, Inc.

**REXTRUDE**  
Rex Corp., The

**REX-TUBE**  
Flexonics Corp.

**REXVANE**  
Westinghouse Electric Corp.

**REXWELD**  
Crucible Steel Company of America.

**REX-WELD**  
Flexonics Corp.

**REZISTAL**  
Crucible Steel Company of America.

**REZSEAL**  
Sprague Electric Co.

**REHOTROL**  
Barber-Colman Co.

**RFI**  
Ace Engineering & Machine Co., Inc.

**RHINOBESTOS**  
Westinghouse Electric Corp.

**RHODEX**  
Sel-Rex Corp., Precious Metals Div.

**RHOMAX**  
Magnetic Metals Co.

**RHOMETAL**  
Telegraph Construction &  
Maintenance Co., Ltd.

**RHOMIZED**  
Rho Engineering Co.

**RHOMU**  
Magnetic Metals Co.

**RHYTHMASTER**  
Rek-O-Kut Co., Inc.

**RIBBON HEAT**  
Cox & Co., Inc.

**RIBFLEX**  
Ward Leonard Electric Co.

**RIBOHN**  
Ward Leonard Electric Co.

**RICAP**  
Radio Industries, Inc.

**RICHELAIN**  
Richardson Co., The

**RIGHT OFF THE SHELF**  
Star Stainless Screw Co.

**R.I.G.**  
United Mineral & Chemical Corp.

**R. I. P.**  
Westinghouse Electric Corp.

**RING-JET**  
Stokes Co., F. J.

**RINKELOID**  
Standard-Toch Chemicals, Inc.

**RITEOHM**  
Ohmite Mfg. Co.

**RITRAN**  
Radio Industries, Inc.

**RIVER EDGE**  
British Industries Corp.

**RIV-O-SEAL**  
Wolfe Co., Franklin, Div. of the  
Parker Appliance Co.

**R-J**  
British Industries Corp.

**RK**  
Raytheon Mfg. Co.

**R/M**  
Raybestos-Manhattan, Inc.

**R & M**  
Robbins & Myers, Inc.

**R M B**  
Landis & Gyr, Inc.

**RMC**  
Radio Materials Corp.

**R. M. C.**  
Radio Music Corp.

**RME**  
Electro Voice Mfg. Co., Inc.

**RME**  
Radio Mfg. Engineers, Inc.

**RMS**  
Radio Merchandise Sales, Inc.

**ROBARN**  
Rome Cable Corp.

**ROBOLITES**  
Universal Microphone Co.

**ROBOMATIC REFRACTOMETER**  
Precision Scientific Co.

**ROBOT-EYE**  
Standard Instrument Corp.

**ROBOTROL**  
Reliance Automatic Lighting Co.

**ROCKET**  
Olympic Radio & Television Co.

**ROCKLOID**  
Standard-Toch Chemical, Inc.

**ROCKSHAFT**  
Cook Electric Co.

**ROCKTEMP**  
Rockbestos Products Corp.

**RODAR**  
Driver Co., Wilbur B.

**ROEBX**  
Roebing's Sons Corp., John A.

**ROECLAD**  
Roebing's Sons Corp., John A.

**ROECORD**  
Roebing's Sons Corp., John A.

**ROEGLAS**  
Roebing's Sons Corp., John A.

**ROEPLASTIC**  
Roebing's Sons Corp., John A.

**ROEPRENE**  
Roebing's Sons Corp., John A.

**ROESHEATH**  
Roebing's Sons Corp., John A.

**ROETEMP**  
Roebing's Sons Corp., John A.

**ROEVAR**  
Roebing's Sons Corp., John A.

**ROEWELD**  
Roebing's Sons Corp., John A.

**RO FLEX**  
Rome Cable Corp.

**ROMER**  
Roanwell Corp.

**ROL-DEX**  
Watson Mfg. Co., Inc.

**RO LENE**  
Rome Cable Corp.

**ROLLIN**  
BJ Electronics Div. of  
Borg-Warner Corp.

**ROLLOCON**  
Circon Component Co.

**ROLLPINS**  
Elastic Stop Nut Corp.

**ROLOX**  
Hardman Co., Inc., H. V.

**ROL-TOP**  
Boots Aircraft Nut Corp.

**RO MARINE**  
Rome Cable Corp.

**ROME C**  
Lear, Inc.

**ROMEX**  
General Cable Corp.

**RONDINE**  
Rek-O-Kut Co.

**RO NEON**  
Rome Cable Corp.

**RO PRENE**  
Rome Cable Corp.

**ROTABRAKE**  
Lear, Inc.

**ROTALYZER**  
Kay Electric Co.

**ROTASEAL**  
General Hermetic Sealing Corp.

**ROTO BEAM**  
Kings Electronics Co.

**ROTOBRIDGE**  
Communication Measurements  
Lab., Inc.

**ROTO FORMER**  
Westinghouse Electric Corp.

**ROTO-KING**  
JFD Mfg. Co., Inc.

**ROTO-LOCK**  
Simmons Fastener Corp.

**ROTOLOK**  
Airborne Accessories, Inc.

**ROTO MASTER**  
 Master Appliance Mfg. Co.  
**RO TOMATIC**  
 Johnson Co., E. F.  
**ROTO-MERC**  
 Brach Div. Electronic Research, General Bronze Corp.  
**ROTO-MERC**  
 General Bronze Corp.  
**RO TOMOUNT**  
 Premax Products Div., Chisholm-Ryder, Inc.  
**ROTORAC**  
 Airborne Accessories, Inc.  
**ROTO RANGER**  
 Simpson Electric Co., Div. American Gage & Machine Co.  
**RO TORETTE**  
 Airborne Accessories Corp.  
**ROTOROID**  
 Burnell & Co., Inc.  
**RO TOSIL**  
 Amersil Co., Inc.  
**RO TO-SPEED**  
 General Devices, Inc.  
**RO TO STEPPER**  
 Giannini & Co., Inc., G. M.  
**RO TO TIMER**  
 Farmer Electric Products Co., Inc.  
**RO TO-TORK**  
 Havdon Co., A. W., The.  
**RO TO TROL**  
 Westinghouse Electric Co.  
**RO-TRAN**  
 Rome Cable Corp.  
**ROV-A-LITE**  
 Terado Co.  
**ROWEX**  
 Rowe Engravers  
**ROYAL**  
 Permoflux Corp.  
**ROYAL**  
 Precision Radiation Instruments, Inc.  
**ROYAL**  
 U. S. Rubber Co.  
**ROYAL II**  
 Electro-Voice, Inc.  
**ROYAL CORD**  
 U. S. Rubber Co.  
**ROYAL GOLD**  
 Kaiser Aluminum & Chemical Sales, Inc.  
**ROYAL JEWEL**  
 Jensen Industries, Inc.  
**ROYAL MASTER**  
 U. S. Rubber Co.  
**ROYALITE**  
 U. S. Rubber Co.  
**ROYALITIC**  
 Industrial Condenser Corp.  
**RO ZONE**  
 Rome Cable Corp.  
**ROZONE-ROPRENE**  
 Rome Cable Corp.  
**ROZONE-ROSEAL**  
 Rome Cable Corp.  
**R P C**  
 Resistance Products Co.  
**R S M C**  
 Radio Specialty Mfg. Co.  
**R T L**  
 Peirce Wire Recorder Corp.  
**RTV**  
 Clarostat Mfg. Co., Inc.  
**RUBAL**  
 Ruby Chemical Co.  
**RUBBON**  
 All-State Welding Alloys Co., Inc.  
**RUBCORD**  
 U. S. Rubber Co.  
**RUB-EROK**  
 Richardson Co., The  
**RUBKLEEN**  
 Eberhard Faber Pencil Co.  
**RUBSEC**  
 U. S. Rubber Co.  
**RUB-TEX**  
 Richardson Co., The  
**RUBYFLUID**  
 Ruby Chemical Co.  
**RUBYTS**  
 Ruby Chemical Co.  
**RUCCO**  
 Ruby Chemical Co.  
**RUF KOAT**  
 General Cement Mfg. Co.  
**RULAN**  
 du Pont de Nemours & Co., Inc., E. I.  
**RULON**  
 Dixon Corp.  
**RUNT**  
 Eastern Precision Resistor Corp.  
**RURALAY**  
 General Cable Corp.  
**RUSH**  
 Eraser Co., Inc.  
**RUST-BAN**  
 Esso Standard Oil Co.  
**RX**  
 Instru-Lec Corp.  
**RX**  
 Raytheon Mfg. Co.  
**RX METER**  
 Bonton Radio Corp.  
**RX TIMER**  
 Lermer Plastics, Inc.  
**RYCOM**  
 Railway Communications, Inc.

**RYERTEX**  
 Ryerson & Son, Inc., Joseph T.  
**SBT**  
 Lansdale Tube Co. Div. of Philco Corp.  
**S.E.C.**  
 Standard Electronics Corp.  
**SBI**  
 Television Zoomar Corp.  
**SERC**  
 Standard Electronics Research Corp.  
**SIE**  
 Southwestern Industrial Electronics Co.  
**S & J**  
 Shands & Jurs Co., Sub. of General Precision Equipment Corp.  
**SK**  
 Skottie Electronics, Inc.  
**SPX**  
 Technic, Inc.  
**SRX**  
 Hupp Electronics Co., A Div. of Hupp Corp.  
**SADIC**  
 Consolidated Electrodynamics Corp.  
**SAFE-HED**  
 Matthews & Co., James H.  
**SAFE-T-GLOW**  
 Brach Mfg. Corp.  
**SAFE-T-KLIP**  
 Industrial Devices, Inc.  
**SAFE-T-PLUG**  
 Industrial Devices, Inc.  
**SAFE-T-PLUG**  
 Littelfuse, Inc.  
**SAFE-T-SPARKY**  
 Littelfuse, Inc.  
**SAFETY M I**  
 General Cable Corp.  
**SAFETY MARGIN**  
 Astron Corp.  
**SAFETY PLUS**  
 Chicago Screw Co., The.  
**SAFE-R-WIPE**  
 Redmond Company, Inc.  
**SAFE TV GUARD**  
 JFD Mfg. Co., Inc.  
**SAFLEX**  
 Monsanto Chemical Co.  
**SAL BRICK**  
 American Solder & Flux Co.  
**SALESOMATIC**  
 West Coast Electronics Co.  
**SANACOUSTIC**  
 Johns-Manville  
**SAND-MEX**  
 U. S. Graphite Co., Div. of The Wickes Corp.  
**SANFORD-BENNET**  
 Rubicon Co.  
**SARA**  
 Taller & Cooper Co.  
**SARAH**  
 Simmonds Aerocessories, Inc.  
**SARAN**  
 Bolta Products Div., General Tire & Rubber Co.  
**SARAN**  
 Dow Chemical Co.  
**SARATOGA**  
 Espey Mfg. Co., Inc.  
**SARDAP**  
 Nuclear Research Corp.  
**SAUCERLINE**  
 Fretco Inc.  
**SAUTER**  
 Cramer Controls Corp.  
**SAVOY**  
 Camburn, Inc.  
**SCAICO**  
 Cooper Co., Clark  
**SCALE-O-MATIC**  
 Technical Associates  
**SCALEOMETER**  
 Liquidometer Corp.  
**SCHOTT**  
 Walsco Electronics Mfg. Co.  
**SCHUYLERNIT**  
 Schuyler Mfg. Corp.  
**SCINFLEX**  
 Scintilla Div., Bendix Aviation Corp.  
**SCINTILLATOR**  
 Precision Radiation Instruments, Inc.  
**SCINTIMETER**  
 Reed-Curtis Nuclear Industries, Inc.  
**SCINTIMONITOR**  
 Reed-Curtis Nuclear Industries, Inc.  
**SCINTISCALER**  
 Reed-Curtis Nuclear Industries, Inc.  
**SCINTISCANNER**  
 Reed-Curtis Nuclear Industries, Inc.  
**SCINTISCOPE**  
 Reed-Curtis Nuclear Industries, Inc.  
**SCINTISTAND**  
 Reed-Curtis Nuclear Industries, Inc.  
**SCOTTIE**  
 Remler Company.  
**SMATCO**  
 Stone City Machine & Tool Co.  
**SCOTCH**  
 Minnesota Mining & Mfg. Co.  
**SCOTCHCAST**  
 Minnesota Mining & Mfg. Co.  
**SCOTCH KOTE**  
 Minnesota Mining & Mfg. Co.  
**SCOTCHLOK**  
 Minnesota Mining & Mfg. Co.  
**SCOTTIE**  
 Remler Co., Ltd.

**SCOUT**  
 Gangamo Electric Co.  
**SCPULUG**  
 Burdy Corp.  
**SCREWBALL**  
 Fretco Inc.  
**SCREW-LOCK**  
 Heli-Coil Corp.  
**SCRIBE**  
 Permoflux Corp.  
**SEAFONE**  
 Hallicrafters Co.  
**SEAL SILICATE**  
 Philadelphia Quartz Co.  
**SEALBRITE**  
 London Chemical Co.  
**SEALDOHM**  
 Daven Co.  
**SEALEX**  
 General Ceramics Corp.  
**SEALNUT**  
 Radio Frequency Labs, Inc.  
**SEAL-O-FLANGE**  
 Communication Products Co., Inc.  
**SEALSTIX**  
 Central Scientific Co.  
**SEALVAC A**  
 Vacuum Metals Corp.  
**SEA SCOUT**  
 Lavoie Laboratories  
**SECO**  
 Stewart Engineering Co.  
**SECODE**  
 Electrical Communications Co.  
**SECRETER**  
 Maico Co., Inc.  
**SEEL**  
 Automatic & Precision Mfg. Co.  
**SEELBOLT**  
 Automatic & Precision Mfg. Co.  
**SEELRIUIT**  
 Automatic & Precision Mfg. Co.  
**SEELSKREW**  
 Automatic & Precision Mfg. Co.  
**SEEZAK**  
 U. M. & F. Mfg. Corp.  
**SEGMISTOR**  
 Consolidated Resistance Co. of America  
**SEISMAC**  
 Texas Instruments Incorporated  
**SEISMATION**  
 Texas Instruments Incorporated  
**SELECTO-CALL**  
 Federal Telephone & Radio Co.,  
**SELECT-O-MATIC**  
 Seeburg, J. P., A Div. of Fort Pitt Industries, Inc.  
**SELECTOPHON**  
 Audio-Master Corp.  
**SELECT-O-PHONE**  
 Kellogg Switchboard & Supply Co.  
**SELECTOVISION**  
 Communication Measurements Lab. Inc.  
**SELECTRON**  
 Pittsburgh Plate Glass Co.  
**SELECTRO-PLATERS**  
 Green Electric Co., Inc.  
**SELEKTA**  
 Associated American Trading Division  
**SELENIFER**  
 American Rectifier Corp.  
**SELETRON**  
 Radio Receptor Co.  
**SELF CHECKING**  
 Sensitive Research Instrument Corp.  
**SELFLUBE**  
 Keystone Carbon Co., Inc.  
**SELF SERVICE**  
 American Scientific Development Co.  
**SELKAR**  
 Sprague Electric Co.  
**SEL-LOK**  
 Standard Pressed Steel Co.  
**SEMINOLE**  
 Sangamo Electric Co.  
**SEMITRON**  
 Westinghouse Electric Corp.  
**SEMS**  
 Lamson & Sessions Co.  
**SEMS**  
 Shakeproof Div. of Illinois Tool Works.  
**SENCO**  
 Service Instrument Co.  
**SENECA**  
 Sangamo Electric Co.  
**SENNTRONIC**  
 Senn Corp.  
**SENSATHERM**  
 Mercoid Corp.  
**SENSICON**  
 Motorola Inc.  
**SENSITROL**  
 Weston Electrical Instrument Corp.  
**SENSITON**  
 Scientific Specialties Corp.  
**SENSITRON**  
 Weston Electrical Instrument Corp.  
**SENSORY**  
 Sturtevant Co., P. A.  
**SEN TER CEL**  
 Standard Telephones & Cables, Ltd.  
**SENTERLET**  
 Standard Telephones & Cables, Ltd.  
**SENTINEL**  
 Ingraham Co., E., Bristol, Conn.

**SENTINEL**  
 Johnson-Williams, Ltd.  
**SENTINEL**  
 Photobell Company, Inc.  
**SENTINEL**  
 Westinghouse Electric Corp.  
**SEPIATONE**  
 Frederick Post Co.  
**SERAMELITE**  
 Good-All Electric Mfg. Co.  
**SERIES X**  
 Astron Corp.  
**SERRASOID**  
 Radio Engineering Labs., Inc.  
**SERVATRON**  
 Raytheon Mfg. Co.  
**SERVICE SPOOL**  
 Alpha Wire Corp.  
**SERVISLIDE**  
 Remler Co., Ltd.  
**SERVICE-MIKE**  
 Cornell-Dubilier Electric Corp.  
**SERVE-A-UNIT**  
 Alden Products Co.  
**SERVOBOARD**  
 Servo Corp. of America  
**SERVOCON**  
 Servo Corp. of America  
**SERVOFLASS**  
 Servo Corp. of America  
**SERVOFLEX**  
 Servo Corp. of America  
**SERVOFLIGHT**  
 Servo Corp. of America  
**SERVOFRAX**  
 Servo Corp. of America  
**SERVOGRAPH**  
 Servo-Tek Products Co.  
**SERVOMATION**  
 Servo Corp. of America  
**SERVO-MISSION**  
 Airborne Accessories, Inc.  
**SERVOSCOPE**  
 Servo Corp. of America  
**SERVO SPEED**  
 Electro Devices, Inc.  
**SERVO SYNC**  
 Servo Corp. of America  
**SERVO SYNTH**  
 Servo Corp. of America  
**SERVOTHERM**  
 Servo Corp. of America  
**SERVOTRON**  
 Raytheon Mfg. Co.  
**SEVEN LEAGUES AHEAD**  
 Thermador Electric Mfg. Co.  
**SHADOWCONTROL**  
 Autotron Co., The  
**SHADOWCOUNTE**  
 Autotron Co., The  
**SHADOWMASTER**  
 Autotron Co., The  
**SHAKEPROOF**  
 Illinois Tool Works  
**SHAWNEE**  
 Sangamo Electric Co.  
**SHEARCUTTER**  
 Shearcut Tool Co.  
**SHELF-PAK**  
 Central Div. of Globe-Union, Inc.  
**SHIELD BRAND**  
 Mitchell-Rand Insulation Co., Inc.  
**SHOCK-BILT MAILERS**  
 Corrugated Paper Products, Inc.  
**SHOCKPROOF**  
 Industrial Transformer Co.  
**SHOK-LOK**  
 Automatic Electric Sales Corp.  
**SHOP-PACK**  
 Heli-Coil Corp.  
**SHU-ELD**  
 Atmosphere Control Co.  
**SHUNTRATOR**  
 Fischer & Porter Co.  
**SHUREHEAT**  
 Kwikheat Mfg. Co.  
**SHURFLO**  
 Anchor Metal Co.  
**SHUR-FLO**  
 Hays Mfg. Co.  
**SHUR GRIP**  
 Parker-Kalon Corp.  
**SHUT-OUT**  
 JFD Mfg. Co., Inc.  
**SHURE-STAKE**  
 Thomas & Betts Co.  
**SHUVEE**  
 Entron Inc.  
**F. W. SICKLES**  
 General Instrument Corp.  
**SICO**  
 Superior Instrument Co.  
**SICON**  
 Midland Industrial Finishes Corp.  
**SIE**  
 Southwestern Industrial Electronics Co.  
**S.I.E.C.O.**  
 Southwestern Industrial Electronics Co.  
**S.I.E.C.O.**  
 Sherman Industrial Electronics Co.  
**SIERRALITE**  
 Sierra Electric Corp.  
**SIERRAPLEX**  
 Sierra Electric Corp.  
**SIGHT METER**  
 Weston Electrical Instrument Co.

**SIGNA FLO**  
Buffalo Electronics Corp.

**SIGNA-GLOW**  
Industrial Development Labs., Inc.

**SIGNALATOR**  
Kay Electric Co.

**SIGNALINER**  
Feiler Engineering & Mfg. Co.

**SIGNAL SENTRY**  
Johnson Co., E. F.

**SIGNAL-SPLITTER**  
McLaughlin Corp., J. L. A.

**SIGNA-MATCHER**  
Centralab Div. of Globe Union, Inc.

**SIGNATURE**  
Lansing Sound, Inc., James B.

**SILANEAL**  
Dow Corning Corp.

**SILASTIC**  
Dow Corning Corp.

**SILBESTOS**  
Electro-Technical Products Div. of Sun Chemical Corp.

**SIL BOND**  
United Wire & Supply Corp.

**SILCAD**  
Yardney Electric Corp.

**SILCLOTH**  
Jensen Industries, Inc.

**SILCOBEST**  
Silicone Insulation, Inc.

**SILECTRON**  
Arnold Engineering Co.

**SILENTBLOC**  
General Tire & Rubber Co., The

**SILENT SENTINEL**  
Westinghouse Electric Corp.

**SILERTEX**  
Erie Resistor Corp.

**SIL-FLUX**  
United Wire & Supply Corp.

**SILICOHM**  
Dale Products, Inc.

**SILICOHM**  
Sage Electronics Corp.

**SILIC-O-NETIC**  
Heinemann Electric Co.

**SILCORO**  
Western Gold & Platinum Co.

**SILICONDUCTORS**  
National Semiconductor Products Div. of Hoffman Electronics Corp.

**SILFLEX**  
Varflex Corp.

**SIL-FOS**  
Handy & Harman

**SILKENITE**  
Acme Wire Co.

**SILON**  
Pacific Moulded Products

**SIL-THIN-BESTOS**  
Electro Technical Products Div. of Sun Chemical Corp.

**SIL-THIN-GLASS**  
Electro Technical Products Div. of Sun Chemical Corp.

**SILTUBE**  
All-State Welding Alloys Co., Inc.

**SILVALOY**  
American Platinum Works

**SILVALOY**  
Linde Air Products Co.  
Unit of Union Carbide & Carbon Corp.

**SILVER ARROW**  
Fretco Inc.

**SILVERCEL**  
Yardney Electric Corp.

**SILVERCOTE**  
Little Falls Alloys, Inc.

**SILVERLINE**  
General Instrument Corp.

**SILVERSTAT**  
Westinghouse Electric Corp.

**SILVERTEX**  
Erie Resistor Corp.

**SILVER WAND**  
Peerless Products Industries

**SILVREX**  
Sel-Rex Corp., Precious Metals Div.

**SIMPAC**  
Westinghouse Electric Corp.

**SIMPLATROL**  
Hobbs Mfg. Co.

**SIMPLEX**  
Wenco Mfg. Co.

**SIMPLI-FLEX**  
Radiart Corp., The

**SIMPLYTROL**  
Assembly Products, Inc.

**SINCOMAX**  
Murex, Ltd.

**SIJOUX**  
Sangamo Electric Co.

**SISCO**  
Scientific Instruments Service Co.

**49**  
Bentley-Harris Mfg. Co.

**IXTY**  
Shure Brothers

**O LINE**  
G-C Electronics Mfg. Co., Div. of G-C Textron, Inc.

**KAN**  
G-M Laboratories

**KL**  
Spencer-Kennedy Labs., Inc.

**S. K. S.**  
Paisley Products, Inc.

**SKY-CASTER**  
Hy-Lite Antennae Inc.

**SKY CHAMPION**  
Hallicrafters Co.

**SKYCHIEF**  
Camburn, Inc.

**SKYCHIEF**  
Hallicrafters Co.

**SKYFONE**  
Hallicrafters Co.

**SKYGUIDE**  
Philco Corp.

**SKY-KING**  
J. F. D. Mfg. Co., Inc.

**SKY-LOK**  
J. F. D. Mfg. Co., Inc.

**SKYMASTER**  
Communication Products Co., Inc.

**SKYPLY**  
Skydyne, Inc.

**SKY RANGER**  
Hallicrafters Co.

**SKY-STREAK**  
J. F. D. Mfg. Co., Inc.

**SKY-TOP**  
J. F. D. Mfg. Co., Inc.

**SKY TRAK**  
Radio Merchandise Sales, Inc.

**SKY-WEIGHT**  
Continental Electronics, Ltd.

**S. L.**  
Mallinckrodt Chemical Works.

**SLENDYNE**  
Shure Brothers, Inc.

**SLIDE OHM**  
Aerovox Corp.

**SLIDERITE**  
Grant Pulley & Hardware Corp.

**SLIMAIR**  
Electro-Voice, Inc.

**SLIM-TRIM**  
Electro-Voice, Inc.

**SLIM-X**  
Shure Brothers, Inc.

**SLIPSYN**  
Westinghouse Electric Corp.

**SLIP-SYNC**  
Chadwick Helmuth Co.

**SLO-BLO**  
Littelfuse, Inc.

**SLUG RETRIEVERS**  
Hunter Tool Co.

**SMC**  
St. Marys Carbon Co.

**SMALL UNIDYNE**  
Shure Brothers, Inc.

**SMART SET**  
Calbest Engineering & Electronics Co.

**SMITH-NATHANIEL BALDWIN**  
Consolidated Radio Products Co.

**SMOG-FREE**  
Radex Corp.

**SMOKE-EYE**  
Standard Instrument Corp.

**SMOKGAGE**  
Ess Specialty Corp.

**SMUTBATH**  
Special Chemicals Co.

**SNAP-ACTION**  
Buchanan Electrical Products Corp.

**SNAPIT**  
Cable Electric Products, Inc.

**SNAP-LOC**  
Gorn Electric Co., Inc.

**SNAP-LOCK**  
Lercos Electronics, Inc.

**SNAP-LOCK**  
National Acme Co.

**SNAPPER**  
Mueller Electric Co.

**SNAPPER**  
Thermal-Devices Div. of Curtiss-Wright Corp.

**SNAP RINGS**  
Eaton Mfg. Co.

**SNAP-TITE**  
Centralab Div. of Globe-Union, Inc.

**SNIFFER**  
Johnson-Williams, Ltd.

**SNIPPER**  
Johnson-Williams, Ltd.

**SNOOPER**  
Precision Radiation Instruments, Inc.

**SNORKEL**  
Radion Corp.

**SNS**  
Special Products Co.

**SNUPEC**  
Centralab Div. of Globe Union, Inc.

**SODEREZE**  
Phelps Dodge Copper Products Co.

**SOLARSCOPE**  
Solartron Electronic Group, Ltd., The

**SOLAVOLT**  
Sola Electric Co.

**SOLDALOT**  
Mallory & Co., Inc., P. R.

**SOLDALLOY**  
Mallory & Co., Inc., P. R.

**SOLDERFORMS**  
Kester Solder Co.

**SOLDER MASTER**  
Hexacon Electric Co.

**SOLDERLITE**  
Weller Mfg. Co.

**SOLDERSEAL**  
General Ceramics Corp.

**SOLITAIRE**  
Videon Electronic Corp.

**SOL-REX**  
Herzog Miniature Lamp Works, Inc.

**SOLU-BRIDGE**  
Industrial Instruments, Inc.

**SONACTOR**  
Kay Electric Co.

**SONAFONE**  
Sonar Radio Corp.

**SONAGRAM PAPER**  
Kay Electric Co.

**SONA-GRAPH**  
Kay Electric Co.

**SONALATOR**  
Kay Electric Co.

**SONARMETER**  
Raytheon Mfg. Co.

**SONA-STRETCHER**  
Kay Electric Co.

**SONA-SWEEP**  
Kay Electric Co.

**SONAX**  
Electro-Voice, Inc.

**SONISCAN**  
Television Equipment Corp.

**SONITE**  
Smooth-On Mfg. Co.

**SONOBOND**  
Aeroprojects Incorporated

**SONOBRAZE**  
Aeroprojects, Incorporated.

**SONOCLE**  
Sonotone Corp.

**SONODYNE**  
Shure Brothers, Inc.

**SONOGEN**  
Branson Ultrasonic Corp.

**SONOLASTIC**  
Sonneborn Sons, Inc., L.

**SONO-PAD**  
Sonotone Corp.

**SONO-PROBE**  
Advance Electronics, Inc.

**SONORAY**  
Branson Instruments, Inc.

**SONOTONOR**  
Sonotone Corp.

**SONOWEAR**  
Sonotone Corp.

**SONOWELD**  
Aeroprojects, Incorporated.

**SOUND-ABSORB**  
Bill Jack Scientific Instrument Co.

**SOUND CELL**  
Brush Electronics Co.

**SOUNDCRAFT**  
Reeves Soundcraft Corp.

**SOUND ISOLATION BLANKET**  
Johns-Manville

**SOUNDMIRROR**  
Brush Electronics Co.

**SOUNDREEL**  
Simpson Mfg. Co., Inc., Mark

**SOUNDS OF OUR TIMES**  
Cook Laboratories

**SOUNDTRAP**  
Miles Reproducer Co., Inc.

**SOUND-ZORBER**  
Finn & Co., Inc., T. R.

**SOUTHCAST**  
Minnesota Mining & Mfg. Co.

**SOUTHCO**  
South Chester Corp.

**SPACELINE**  
Rego Insulated Wire Co.

**SPANISH PRISON**  
Barnstead Still & Sterilizer Co., Inc.

**SPARK ADVANCE**  
Photocon Research Products

**SPARK PROTRACTOR**  
Photocon Research Products

**SPAULDITE**  
Spaulding Fibre Co., Inc.

**SPAULDO**  
Spaulding Fibre Co., Inc.

**SPECIAL**  
Precision Radiation Instruments, Inc.

**SPECIAL SERIES**  
United Transformer Co.

**SPECO**  
Framstiehl Chemical Co.

**SPECO**  
Special Products Co.

**SPECORAK**  
Special Chemicals Co.

**SPECPLATER**  
Special Chemicals Co.

**SPEC-POWER**  
National Spectrographic Labs., Inc.

**SPECTABLE**  
Special Chemicals Co.

**SPECTAPHONE**  
Sonotone Corp.

**SPECTRACORD**  
Warren Electronics, Inc.

**SPECTRA-TANK**  
Organic Development Corp.

**SPECTRA-STRIP**  
Organic Development Corp.

**SPECTRIFIER**  
Special Chemicals Co.

**SPECTROGAMMEOMETER**  
Radiation Counter Laboratories, Inc.

**SPECTROMET**  
Baird-Atomic, Inc.

**SPECTROMETER**  
Perkin-Elmer Corporation, The

**SPECTROPHOTOMETER**  
Central Scientific Co.

**SPECTROPHOTOMETER**  
Perkin-Elmer Corporation, The

**SPECTRUM**  
Fretco Inc.

**SPEECHMASTER**  
Jensen Mfg. Co.

**SPEED**  
Speedway Mfg. Co.

**SPEED-CHASSIS**  
Specific Products

**SPEED CLAMPS**  
Tinnerman Products Inc.

**SPEED CLIPS**  
Tinnerman Products Inc.

**SPEEDCRAFT**  
Wire Stripper Co.

**SPEE-DEE**  
Peck & Harvey Mfg. Corp.

**SPEE-DEE**  
Radiart Corp.

**SPEEDEX**  
General Cement Mfg. Co.

**SPEED GRIPS**  
Tinnerman Products, Inc.

**SPEED IRON**  
Weller Mfg. Co.

**SPEEDMASTER**  
Peck & Harvey Mfg. Corp.

**SPEED NUTS**  
Tinnerman Products Inc.

**SPEEDOMAX**  
Leeds & Northrup Co.

**SPEEDSORT**  
Associated Research, Inc.

**SPEED TOOLS**  
Speedway Mfg. Co.

**SPEED-X**  
Johnson Co., E. F.

**SPEEDY-CAL**  
North Shore Nameplate Inc.

**SPEEDY-MARX**  
North Shore Nameplate Inc.

**SPEKALUMINITE**  
Special Chemicals Co.

**SPEKLEEN**  
Special Chemicals Co.

**SPEKWITE**  
Special Chemicals Co.

**SPEKYELLO**  
Special Chemicals Co.

**SPENCER**  
American Optical Co.

**SPHEREX**  
Electro-Voice, Inc.

**SPINCO**  
Beckman Instruments, Inc.

**SPIN-HEX**  
Vaco Products Co.

**SPINLAB**  
Special Instruments Laboratory, Inc.

**SPIN-LOCK**  
Russell, Burdsall & Ward Bolt & Nut Co.

**SPIN-PIN**  
Bruno-New York Industries Corp.

**SPINTITE**  
Stevens-Walden Inc.

**SPIRACTOR**  
Permutit Co.

**SPIRAL**  
Dzuz Fastener Co., Inc.

**SPIRAL**  
Phelps Dodge Copper Products Co.

**SPIRALENE**  
Surprenant Mfg. Co.

**SPIRALINE**  
Rego Insulated Wire Co.

**SPIRALON**  
Surprenant Mfg. Co.

**SPIRALPOT**  
Giannini & Co., Inc., G. M.

**SPIRAL TUBING**  
Continental-Diamond Fibre Co.

**SPIRAMEG**  
Sprague Electric Co.

**SPIRASHIELD**  
Muter Co.

**SPIROTALLIC**  
Johns-Manville

**SPLAC**  
Westline Products Div. of Western Lithograph Co.

**SPLICE CAP**  
Buchanan Electrical Products Corp.

**SPONGEX**  
B. F. Goodrich Sponge Products Div. of B. F. Goodrich Co.

**SPORTSMAN**  
Marathon Battery Co.

**SPOT-LITE**  
Canadian Radium & Uranium Corp.

**SPOT-O-GRAPH**  
Audio-Master Corp.

**SPRACO**  
Sprague Electric Co.

**SPRAINT**  
Waldom Electronics Inc.

**SPRAY**  
Paisley Products Inc.

**SPHERETROL**  
Cook Electric Co.

**SPRING-LIFE**  
Cook Electric Co.

**SPRING-LOCK**  
Simmons Fastener Corp.

- SPRING-O-MATIC**  
Industrial Electrical Works
- SPRINGTITES**  
Eaton Mfg. Co.
- SQUARE-OHM**  
Workman TV, Inc.
- SQUARE-OHM**  
Bradford Components, Inc.
- SQUAREX**  
Kennedy & Co., D. S.
- SQUEEZE-LOCK**  
Buchanan Electrical Products Corp.
- SR**  
Shallite, Inc.
- SRC**  
British Radio Electronics, Ltd.
- SRHT**  
Boston Insulated Wire & Cable Co.
- S. R. P.**  
Sonneborn Sons, Inc., L.
- STABELEX**  
Industrial Condenser Corp.
- STABIFLO**  
Foxboro Co.
- STABILINE**  
Superior Electric Co.
- STABILOG**  
Foxboro Co.
- STABILOVOLT**  
Marconi's Wireless Telegraph Co., Ltd.
- STABLVIS**  
Fischer & Porter Co.
- STABLVOLT**  
Magnetic Research Corp.
- STACKOHM**  
Sprague Electric Co.
- STACO**  
Standard Electrical Products Co.
- STA-KON**  
Thomas & Betts Co.
- STANCOR**  
Chicago Standard Transformer Corp.
- STANDARD**  
New York Solder Co.
- STANDARD**  
Precision Radiation Instruments, Inc.
- STANDARD**  
Shure Bros. Inc.
- STANDARD ARROW**  
Bludworth Marine Div.,  
Kearfott Co., Inc.
- STANDARD BINNACLE**  
Bludworth Marine Div.,  
Kearfott Co., Inc.
- STANDARD-ROYAL**  
Standard Electric Time Co.
- STANDARD SIX**  
Bludworth Marine Div.,  
Kearfott Co., Inc.
- STANDATROL**  
Bailey Meter Co.
- STANDCO**  
Sticht Co., Inc., Herman H.
- STANDEE**  
Clarostat Mfg. Co., Inc.
- STANDLAC**  
Standard-Toch Chemicals, Inc.
- STANDOHM**  
Model Engineering & Mfg. Inc.
- STANELCO**  
Standard Telephones & Cables Ltd.
- STANEON**  
General Cable Corp.
- STAN-GARD**  
JFD Mfg. Co., Inc.
- STANTEL**  
Standard Telephones & Cables Ltd.
- STANOFORE**  
Standard Telephones & Cables, Ltd.
- STANTELUM**  
Standard Telephones & Cables, Ltd.
- STANTOX**  
Standard-Toch Chemicals, Inc.
- STAN-TRAN**  
Stanwyck Winding Co.
- STA-PUT**  
Consolidated Wire & Associated  
Companies
- STAR**  
Duotone Co., Inc.
- STAR COMPOUND**  
Acme Wire Co.
- STAR-HELIX**  
JFD Mfg. Co., Inc.
- STAR-LOK**  
Boots Aircraft Nut Corp.
- STATIFLUX**  
Magnaflex Corp.
- STATION MASTER**  
Communication Products Co., Inc.
- STAT-O-SEAL**  
Wolfe Co., Franklin, Div. of the  
Parker Appliance Co.
- STAT-TRAN**  
Pulse Engineering, Inc.
- STAVOLT**  
Christie Electric Corp.
- STBIL-THERM**  
Blue M Electric Co.
- STEACON**  
United Condenser Corp.
- STEDIVOLT**  
Kelik & Co., G. F.
- STEELAGE**  
Corry Jamestown Mfg Co.
- STEEL-SET**  
Paisley Products, Inc.
- STEHEDCO**  
Steel Heddle Mfg. Co.
- STEMAG**  
Arnhold Ceramics, Inc.
- STEMCO**  
Stevens Mfg. Co., Inc.
- STENAFAX**  
Times Facsimile Corp.
- STENTORIAN**  
Standard-Hoch Chemicals, Inc.
- STEP PAK**  
Barker Sales Co.
- STEP PAK**  
Bogen Co., Inc., David.
- STEP-SERVO**  
Bergen Laboratories
- STEREO-MAGNEMITE**  
Amplifier Corp. of America
- STERILAMP**  
Westinghouse Electric Corp.
- STERILZONE**  
Dallons Labs.
- STERLINE**  
Cossor (Canada) Ltd.
- STERLING CABLES**  
Beam Instruments Corp.
- STERLING CABLES**  
Cossor (Canada) Ltd.
- STETHETRON**  
Maico Co., Inc.
- STEWVOX**  
Berlant Associates
- STIBNALON**  
Green Rectifier Co.
- STIKON**  
Ruge-De Forest, Inc.
- STILBEST**  
Linick Chemical Co.
- STIMSONITE**  
A'G'A' Division of Elastic Stop Nut  
Corp. of America
- STM-PLY-TROL**  
Assembly Products, Inc.
- STOCKRATOR**  
Fischer & Porter Co.
- STORAWAY**  
Birdair Structures, Inc.
- STOKATIMER**  
Mercoid Corp.
- STOLLBERG**  
Associated American Trading Division
- STONEHART**  
Titeflex, Inc.
- STRAIN ANALYZER**  
Brush Electronics Co.
- STRAINALYZER**  
Electronic Tube Corp.
- STRAIN RELIEF GROMMETS**  
Fastex Div. of Illinois Tool Works.
- STRAITFLO**  
Hays Mfg. Co.
- S-TRAN**  
General Instrument Corp.
- STRATE-LINE**  
Pyle-National Co.
- STRATE-LINE**  
Radiart Corp.
- STRATOGRAPH**  
Panoramic Radio Products, Inc.
- STRAT-O-LITE**  
Strat-O-Seal Mfg. Co.
- STRATOLLNET**  
Shure Brothers
- STRATO-MATCHED**  
Remler Co.
- STRATOPAX**  
Cook Electric Co.
- STRATO RAY**  
Fretco Inc.
- STRATOSCOPE**  
Panoramic Radio Products, Inc.
- STRATOVISION**  
Westinghouse Electric Corp.
- STREAMLINER**  
Ozalid Div.  
General Aniline & Film Corp.
- STREAMLINER**  
Precision Scientific Co.
- STRING-A-LITE**  
Joy Mfg. Co.
- STRIP-EASE**  
Radix Wire Co.
- STRIPLINE**  
Airborne Instruments Lab., Inc.
- STRIPMASTER**  
Ideal Industries, Inc.
- STRIPPOHM**  
Ward Leonard Electric Co.
- STRIPSOL**  
Paisley Products, Inc.
- STRIP-SPRINGS**  
Instrument Specialties Co., Inc.
- STROBEACON**  
Kemlite Laboratories.
- STROBE-DRIVER**  
Chadwick Helmuth Co.
- STROBE-MAT**  
CBC Electronics Co., Inc.
- STROBESELECTOR**  
Califone Corp.
- STROBOCONN**  
Conn. Ltd., C. G.
- STROBODYNE**  
Sperry Gyroscope Co. Div. of  
The Sperry Corp.
- STROBOFLASH**  
General Radio Co.
- STROBO-LITE**  
Wilcox Research Co.
- STROBOLUX**  
General Radio Co.
- STROBONAR**  
Heiland Div. of Minneapolis-Honeywell  
Regulator Co.
- STROBO-SYNC**  
Winkler Laboratories
- STROBOTAC**  
General Radio Co.
- STROBOTUNER**  
Conn. Ltd., C. G.
- STRUX**  
du Pont de Nemours & Co., Inc., E. I.
- STUPALITH**  
Stupakoff, Div. of The Carborundum Co.
- STURDIBOLT**  
Stronghold Screw Products, Inc.
- STURTEVANT**  
Westinghouse Electric Corp.
- STYCAST**  
Emerson & Cuming, Inc.
- STYMER**  
Monsanto Chemical Co.
- STYRACON**  
Sprague Electric Co.
- STYRALOY**  
Dow Chemical Co.
- STYRAMIC**  
Monsanto Chemical Co.
- STYROFLEX**  
Natvar Corp.
- STYROFLEX**  
Phelps Dodge Copper Products Co.
- STYROFOAM**  
Dow Chemical Co.
- STYRON**  
Dow Chemical Co.
- STYROPHANE**  
Standard-Toch Chemicals, Inc.
- SUBMINAX**  
Amphenol Electronics Corp.
- SUB-MINI-SHIELD**  
Staver Co., Inc.
- SUBOWNER**  
United Transformer Corporation.
- SUBURBAN**  
Radiation Corp.
- SUNSWITCH**  
Ripley Co., Inc.
- SUPER**  
Union Electric & Mfg. Co.
- SUPER**  
Precision Radiation Instruments, Inc.
- SUPER AUTOBOOSTER**  
Industrial Television, Inc.
- SUPER B**  
Ozalid Div.,  
General Aniline & Film Corp.
- SUPER-BEAM**  
JFD Mfg. Co., Inc.
- SUPER-BECKACITE**  
Reichhold Chemicals, Inc.
- SUPER-CAP**  
United Electronic Mfg. Corp.
- SUPER CEPTER**  
Wells & Winegard
- SUPER DAVOHM**  
Daven Co.
- SUPER DODO**  
JFD Mfg. Co., Inc.
- SUPER-DYLAN**  
Koppers Co., Inc.
- SUPEREX**  
Johns-Manville
- SUPER EX.**  
Telrex Inc.
- SUPERFAN**  
Channel Master Co.
- SUPERFLAKE**  
Superior Graphite Co.
- SUPERKIT**  
Superex Electronics Corp.
- SUPER MARKER**  
Scala Radio Co.
- SUPER POWER-HELIX**  
JFD Mfg. Co., Inc.
- SUPER POWERJET**  
JFD Mfg. Co., Inc.
- SUPER ROYAL**  
Permoflux Corp.
- SUPERSERVICE**  
General Cable Corp.
- SUPERSHEATH**  
General Cable Corp.
- SUPER STAR-HELIX**  
JFD Mfg. Co., Inc.
- SUPERIOR**  
Eagle Electric Mfg. Co., Inc.
- SUPERIOR**  
Radiart Corp.
- SUPERIOR**  
Wall Mfg. Co.
- SUPERJET**  
J F D Mfg. Co., Inc.
- SUPERMALLEOY**  
Arnold Engineering Co.
- SUPERMIX**  
X-Ray Dept. of General Electric Co.
- SUPER PRO**  
Hammarlund Mfg. Co.
- SUPERSEC**  
U. S. Rubber Co.
- SUPERSHEATH**  
General Cable Corp.
- SUPERSONIC**  
Dzus Fastener Co., Inc.
- SUPERSONIC REFLECTOSCOPE**  
Sperry Products Inc.
- SUPER SPECTROM**  
Fretco, Inc.
- SUPER-STRUCTURE**  
Radiart Corp.
- SUPERTEL**  
General Cable Corp.
- SUPER-TEM**  
American Super-Temperature Wires, Inc.
- SUPERANTENNA**  
Tennalab
- SUPERTESTER**  
California Technical Industries,
- SUPER TRACER**  
Precision Electronics
- SUPERTROL**  
Control Corp.
- SUPERTUF**  
General Cable Corp.
- SUPERVAC**  
Central Scientific Co.
- SUPER-X**  
Telrex, Inc.
- SUPER VEE**  
Radiart Corp., The
- SUPERWRAP**  
Marvellum Co.
- SUPRAMICA**  
Mycalex Corp. of America
- SU-PR-CIRCUITS**  
Cleveland Metal Specialties Co.
- SUPREME**  
Grant Pulley & Hardware Co.
- SUPRO**  
Valco Mfg. Co.
- SURCO**  
Surprenant Mfg. Co.
- SURFINDICATOR**  
Brush Electronics Co.
- SURFLENE**  
Surprenant Mfg. Co.
- SURFLEX**  
Surprenant Mfg. Co.
- SURFLON**  
Surprenant Mfg. Co.
- SURGELITE**  
Kemlite Laboratories.
- SURGYTHERM, JR.**  
Wappler, Inc.
- SWEATLESS**  
Paisley Products Inc.
- SWEEPALATOR**  
Decade Instrument Co.
- SWEEPMASTER**  
Manufacturers Engineering &  
Equipment Co.
- SWEEP-SYNC**  
Chadwick Helmuth Co.
- SWELTERPROOF**  
Roanwell Corp.
- SWIFTOL**  
Southwest Products, Inc.
- SWING-OVER**  
Tel-A-Ray Enterprises, Inc.
- SWING-WA**  
Trumbull Dept. of General Electric Co.
- SWITCH-LITE**  
Littelfuse, Inc.
- SWITCHMAT**  
Recora Co.
- SWIVEL BEAM**  
Radio Merchandise Sales, Inc.
- SWIVEL BOW**  
Radio Merchandise Sales, Inc.
- SWIVLTOP**  
Moody Machine Products Co., Inc.
- SYLKYD**  
Dow Corning Corp.
- SYLPHON**  
Fulton Sylphon Div.,  
Robertshaw-Fulton Controls Co.
- SYLVALOY**  
Driver Co., Wilbur B.
- SYMBOSTAMP**  
Griffin Co., John
- SYMPHONY MASTER**  
Monitor Products Co.
- SYNASET**  
Telrex, Inc.
- SYNCHRO-METER**  
Bailey Meter Co.
- SYNCHRON**  
Hansen Mfg. Co., Inc.
- SYNCHROSTAT**  
Electric Regulator Corp.
- SYNCHROTROL**  
Westinghouse Electric Corp.
- SYNCHRO-TUNER**  
Cavinton Electron Oscillator Co. Div of  
Short Wave Plastic Forming Co.
- SYNCHRO-VALVE**  
Bristol Co., The
- SYNCHROVERTER**  
Bristol Co., The
- SYNCRGERS**  
U. S. Electrical Motors, Inc.
- SYNCHROGEN**  
Ampltronix Inc.
- SYNCROLL DRIVE**  
Fairchild Recording Equipment Co.
- SYNCHRO-MARKER**  
Electro Products Labs.
- SYNCHROMOUNT**  
Giannini & Co., Inc., G. M.
- SYNCPLEX**  
Television Equipment Corp.
- SYNCPRINTER**  
Analex Corporation

**SYNCTRON**  
 Dormitzer Electric & Mfg. Co., Inc.  
**SYNKOTE**  
 Plastoid Corp.  
**SYNRUB**  
 U. S. Rubber Co.  
**SYNTHAMICA**  
 Mycalex Corp. of America.  
**SYNTHEIZER**  
 Collins Radio Co.  
**SYNTHINOL**  
 Consolidated Wire & Associated  
 Companies  
**SYNTHINOL**  
 Rome Cable Corp.  
**SYNTHOGRAPHIC**  
 Synthane Corp.  
**SYNTHOLVAR**  
 Varflex Corp.

**TECO**  
 Torrance Glass & Color Works.  
**TEECO**  
 Trutone Electronics, Inc.  
**TEE-NUTS**  
 United-Carr Fastener Corp.  
**TEFAP**  
 Union Plastics Corp.  
**TEFIFON**  
 Audio-Master Corp.  
**TEFLACE**  
 Gudebrod Bros. Silk Co., Inc.,  
 Electronics Div.  
**TEFLEX**  
 Boston Insulated Wire & Cable Co.  
**TEFLITE**  
 Boston Insulated Wire & Cable Co.  
**TEFLON**  
 du Pont de Nemours & Co., Inc., E. I.  
**TEFSILON**  
 Boston Insulated Wire & Cable Co.  
**T.E.I.**  
 Thomas Electronics, Inc.  
**TEKAP**  
 Technical Apparatus Builders.  
**TEKLITE**  
 Technical Apparatus Builders.  
**TEKNI**  
 Walsco Electronics Corp.  
**TEK REG**  
 Technical Apparatus Builders.  
**TEKSEL**  
 Technical Apparatus Builders.  
**TEKSIL**  
 Technical Apparatus Builders.  
**TEKTOLOG**  
 Fielden Instrument Div., Robertshaw-  
 Fulton Controls Co.  
**TEKTOR**  
 Fielden Instrument Div., Robertshaw-  
 Fulton Controls Co.  
**TEKTRAN**  
 Technical Apparatus Builders.  
**TELACOL**  
 Magnetic Core Corp.  
**TEL-A-COR**  
 Magnetic Core Corp.  
**TELA-EAR**  
 Telex, Inc.  
**TELAIRATOR**  
 Fischer & Porter Co.  
**TELAMPA**  
 Miles Reproducer Co., Inc.  
**TELCO**  
 General Cement Mfg. Co.  
**TELCOARC**  
 Western Union Telegraph Co.  
**TEL-A-PIPE**  
 Westline Products Div. of Western  
 Lithograph Co.  
**TELE-ATTEN**  
 Vidair Electronics Mfg. Co.  
**TELEBOOSTER**  
 Television Equipment Corp.  
**TELECABLE**  
 Whitney Blake Co.  
**TELECAP**  
 Sprague Electric Co.  
**TELECONTROL**  
 Teletronic Laboratories, Inc.  
**TELECORD**  
 Dictaphone Corp.  
**TELECORD**  
 Whitney Blake Co.  
**TELECORD SYSTEM**  
 Dictaphone Corp.  
**TELECODER**  
 Telecomputing Corp.  
**TELECORDEX**  
 Telecomputing Corp.  
**TELECOUPLER**  
 Television Equipment Corp.  
**TELE-COUPLER**  
 Vidair Electronics Mfg. Co.  
**TELEQUE**  
 Telechrome Inc.  
**TELEDELTA**  
 Western Union Telegraph Co.  
**TELEDUCER**  
 Telecomputing Corp.  
**TELEDUCT**  
 Whitney Blake Co.  
**TELEFAX**  
 Western Union Telegraph Co.  
**TELE-FI**  
 Telex, Inc.  
**TELEFILTER**  
 Kay Electric Co.  
**TELE-FLEX**  
 Telerad Mfg. Corp.  
**TELEFRAME**  
 Whitney Blake Co.  
**TELEFUNKEN**  
 American Elite, Inc., (Telefunken)  
**TELEGLAS**  
 Pittsburgh Plate Glass Co.  
**TELEGUIDE**  
 Telerad Mfg. Corp.  
**TELEHOME**  
 Webster Electric Co.  
**TELEKRYPTON**  
 Western Union Telegraph Co.  
**TELEMAGNET**  
 Mohawk Business Machines Corp.  
**TELEMASTER**  
 Television Equipment Corp.  
**TELEMETROSCOPE**  
 Tobe Deutschmann Corp.

**TELEMIKE**  
 Miles Reproducer Co., Inc.  
**TELEPAGE**  
 Webster Electric Co.  
**TELEPHOTO**  
 Acme Teletronic Div. of  
 NEA Service, Inc.  
**TELEPLATE**  
 Whitney Blake Co.  
**TELE-PLEX**  
 J. F. D. Mfg. Co., Inc.  
**TELEPLOTTER**  
 Telecomputing Corp.  
**TELEPOT**  
 Paul & Stein Bros., Inc., F. H.  
**TELEPRENE**  
 Whitney Blake Co.  
**TELEPULSE**  
 Shand & Jurs Co., Sub. of General  
 Precision Equipment Corp.  
**TELEREADER**  
 Telecomputing Corp.  
**TELEREADDEX**  
 Telecomputing Corp.  
**TELE-ROTOR**  
 Radiart Corp.  
**TELESEAL**  
 Whitney Blake Co.  
**TELESET**  
 DuMont Laboratories, Inc., Allen B.  
**TELESET**  
 Telex, Inc.  
**TELESONIC**  
 U. S. Television Mfg. Corp.  
**TELESPATCH**  
 Webster Electric Co.  
**TELESPEAKER**  
 Telex, Inc.  
**TELESYMPHONIC**  
 U. S. Television Mfg. Corp.  
**TELESYN**  
 Ford Instrument Div.,  
 The Sperry Rand Corp.  
**TELETALK**  
 Webster Electric Co.  
**TELETHERM**  
 Westinghouse Electric Corp.  
**TELE-THERMOMETER**  
 Yellow Springs Instrument Co., Inc.  
**TELETORQUE**  
 Kollsman Instrument Corp.  
**TELE-TROL**  
 Teletronic Laboratories, Inc.  
**TELETRONS**  
 DuMont Laboratories, Inc.  
 Allen B.  
**TELE-TWIN**  
 JFD Mfg. Co., Inc.  
**TELETUNER**  
 Mallory & Co., Inc., P. R.  
**TELEVAC**  
 Fredericks Co., Geo. E.  
**TELEVANES**  
 Ward Products Corp., Div.  
 The Gabriel Co.  
**TELEVERTER**  
 James Vibrapowr Co.  
**TELE-VIDER**  
 Electro-Voice, Inc.  
**TELEVOICE**  
 Edison Inc., Thomas A.  
**TELEVOLT**  
 Sola Electric Co.  
**TELE-VOLTER**  
 Jackson Electrical Instrument Co.  
**TELEVOX**  
 Westinghouse Electric Corp.  
**TEL-EYE**  
 DuMont Laboratories, Inc., Allen B.  
**TELNIC**  
 Chase Brass & Copper Co., Inc.  
**TEL-O-AID**  
 Fisher Research Lab., Inc.  
**TEL-OHMIKE**  
 Sprague Electric Co.  
**TELOJECTOR**  
 Gray Research & Development Co., Inc.  
**TELOP**  
 Gray Research & Development Co., Inc.  
**TEL-ROD**  
 Television Laboratories, Inc.  
**TELSTOR**  
 Field Instrument Div., Robertshaw-Fulton  
 Controls Co.  
**TELVAC**  
 Television Accessories Co.  
**TELVAR**  
 Audar, Inc.  
**TEMFLEX**  
 Irvington Varnish & Insulator  
 Div. of Minnesota Mining & Mfg. Co.  
**TEMP-ALARM**  
 Tempil Corp.  
**TEMPALL**  
 Tobe Deutschmann Corp.  
**TEMP COP**  
 Micro Switch  
**TEMPERATURE COMPENSATOR "30"**  
 Carpenter Steel Co., The  
**TEMPILAQ**  
 Tempil Corp.  
**TEMPILSTIK**  
 Tempil Corp.  
**TEMPULBE**  
 National Engineering Products, Inc.  
**TEMPO**  
 Clear Beam Television Antenna Co.

**TEMPROBE**  
 Victory Engineering Corp.  
**TEMPROOF**  
 Lord Mfg. Co.  
**TEMPRUF**  
 Chatillon & Sons, John,  
**TEMP-R-TAPES**  
 Connecticut Hard Rubber Co.  
**TEMPSEAL**  
 National Engineering Products, Inc.  
**TEMSTART**  
 Synchro Start Products, Inc.  
**TENAROL**  
 Rollan Electric Co.  
**TEN-FI**  
 McGregor Electronic Industries.  
**TENNA-CLAMP**  
 Mueller Electric Co.  
**TENNA CLIP**  
 Industrial Television, Inc.  
**TENNA COUPLER**  
 Industrial Television, Inc.  
**TENNAKITS**  
 Tennalab  
**TENNA-PAK**  
 JFD Mfg. Co., Inc.  
**TENNA-ROTOR**  
 Alliance Mfg. Co.  
**TENNA-SCOPE**  
 Alliance Mfg. Co.  
**TENNA-TIE**  
 Channel Master Co.  
**TENNA-TOP**  
 Electro-Voice, Inc.  
**TENNA-TUBE**  
 Javex  
**TENNEYMITE**  
 Tenney Engineering, Inc.  
**TENNEYZPHERE**  
 Tenney Engineering, Inc.  
**TENSILOK**  
 General Cable Corp.  
**TENSITE**  
 Driver Co., Wilbur B.  
**TENSOLEX**  
 Tensolite Insulated Wire Co., Inc.  
**TENSOLON**  
 Tensolite Insulated Wire Co., Inc.  
**TENS-O-TROL**  
 Dillon & Co., Inc., W. C.  
**TENSULATED**  
 Tensolite Insulated Wire Co., Inc.  
**TEN-TENNA**  
 Waldom Electronics Inc.  
**TERMALINE**  
 Bird Electronic Corp.  
**TERMEND**  
 Buchanan Electrical Products Corp.  
**TERMIN O SEAL**  
 Wolfe Co., Inc., Franklin C.  
**TERVAN**  
 Esso Standard Oil Co.  
**TESA**  
 United Mineral & Chemical Corp.  
**TESAFLEX**  
 United Mineral & Chemical Corp.  
**TESCO**  
 Eastman Specialty Co.  
**TESTLITE-FUSPUL**  
 Dante Electric Mfg. Co.  
**TEST MASTER**  
 Precision Apparatus Co., Inc.  
**TEST-MIKE**  
 Cornell-Dubilier Electric Corp.  
**TEST-MASTER**  
 Precision Apparatus Co., Inc.  
**TETRAFILM**  
 Shamban & Co., W. S.,  
**TETROC**  
 Sprague Electric Co.  
**TEX-CAP**  
 Texas Capacitor Co., Div. of K-C-K  
 Corp.  
**TEXCEL**  
 Permaceel Tape Corp.  
**TEXLITE**  
 United Mineral & Chemical Corp.  
**TEXTOLITE**  
 General Electric Co.  
**THELCO**  
 Precision Scientific Co.  
**THERA-RAY**  
 Edin Co., Inc.  
**THERATHERM**  
 Marconi Instruments  
**THERLO**  
 Driver-Harris Co.  
**THERMAL-CAL**  
 North Shore Nameplate,  
**THERMA-FLEX**  
 Cavitron Electron Oscillator Co. Div.  
 of Short Wave Plastic Forming Co.  
**THERMALARM**  
 Eastern Specialty Co.  
**THERMALEZE**  
 Phelps Dodge Copper Products Corp.  
**THERM-A-NEERING**  
 Westinghouse Electric Corp.  
**THERMATOOL**  
 New Rochelle Tool Corp.  
**THERMATRON**  
 Radio Receptor Co.  
**THERMAX**  
 General Cable Corp.  
**THERMEX**  
 Girdler Co., The,

**THERMISTOL**  
Workman TV, Inc.

**THERMOBESTOS**  
Johns-Manville.

**THERMOCAP**  
Niagara Electron Laboratories

**THERMO-COUSTI**  
Thompson Co., H. I.

**THERMO-CUBE**  
Radio Engineering Labs., Inc.

**THERMO-FLEX**  
Woodwelding, Inc.

**THERMO-GRIP**  
Ideal Industries, Inc.

**THERMOGUARD**  
Westinghouse Electric Corp.

**THERMOHM**  
Leeds & Northrup Co.

**THERMO-HUMIDIGRAPH**  
Bristol Co., The

**THERMOIL-GRANODINE**  
American Chemical Paint Co.

**THERMO-JET**  
General Research & Supply Co.

**THERMOLAIN**  
Star Porcelain Co.

**THERMOLASTIC**  
Cox & Co., Inc.

**THERMOLUGS**  
Burndy Corp.

**THERMOMETAL**  
Wilson Co., The, H. A.

**THERM-O-METER**  
Simpson Electric Co., Div. of  
American Gage & Machine Co.

**THER-MONIC**  
Induction Heating Corp.

**THERMOPATCH**  
Cox & Co., Inc.

**THERMOPLAX**  
Cutler-Hammer, Inc.

**THERMOPRENE**  
Whitney Blake Co.

**THERMOSEN**  
Sorensen & Co.

**THERMOSHEET**  
Cox & Co., Inc.

**THERMO-SNAP**  
Spencer Thermostat Div. Metals &  
Controls Corp.

**THERMOSTAT**  
Fenwal, Inc.

**THERMOSWITCH**  
Fenwal, Inc.

**THERMO-TIP**  
Ideal Industries, Inc.

**THERM-OTROLS**  
Barber-Colman Co.

**THERMOVERTER**  
Bristol Co., The

**THERMOWIRE**  
Cox & Co., Inc.

**THERMYSTAL**  
Knights Co., James, The

**THERVEL**  
Avien, Inc.

**THESAURUS**  
Radio Corp. of America

**THINPLATES**  
Park Nameplate Co., Inc.

**THINSLIDE**  
Grant Pulley & Hardware Corp.

**3C-BLOC**  
Computer Control Co., Inc.

**3C-PACS**  
Computer Control Co., Inc.

**3D-DIMENSION**  
Fretco, Inc.

**3100**  
Eberhard Faber Pencil Co.

**3110**  
Eberhard Faber Pencil Co.

**THRED-LOCK**  
Continental Screw Co.

**3-IN-1**  
J F D Mfg. Co., Inc.

**THREE-PHASE**  
Sciaky Bros., Inc.

**THROTTLECONTROLS**  
Barber-Colman Co.

**THRULINE**  
Bird Electronic Corp.

**THRUPASS**  
Sprague Electric Co.

**THRURAY**  
Sperry Products, Inc.

**THUNDER BIRD**  
Telrex, Inc.

**THYRA-LINE**  
Hanson-Gorrill-Brian, Inc.

**THYRA-PULSE**  
Hanson-Gorrill-Brian, Inc.

**THYRITE**  
General Electric Co.

**TICO**  
Technical Instrument Co.

**TI-CO**  
Thomas Instrument Co.

**TIDLETRIK**  
American Lava Corp.

**TIFFINY SPARKSHIELDS**  
Pearce-Simpson, Inc.

**TIGER**  
American Steel & Wire Div.,  
U. S. Steel Corp.

**TI-MATIC**  
Westinghouse Electric Corp.

**TIME AID**  
Paragon Electric Co.

**TIME-ALL**  
International Register Co.

**TIMEFAX**  
Times Facsimile Corp.

**TIME-IT**  
Precision Scientific Co.

**TIME-MASTER**  
Dictaphone Corp.

**TIME-MINDER**  
International Register Co.

**TIME-O-GRAF**  
Borg Equipment Div.,  
George W. Borg Corp.

**TIME-O-LITE**  
Industrial Timer Corp.

**TIME-O-SWITCH**  
Minneapolis-Honeywell Regulator Co.

**TIM-O-WELD**  
First Electronics Corp., The

**TINOL**  
American Solder & Flux Co.

**TINYFORMER**  
Gramer-Halldorson Transformer Corp.

**TINY-GLOW**  
Industrial Devices, Inc.

**TINYMAX**  
Torwico Electronics, Inc.

**TINYMIKE**  
Cornell-Dubilier Electric Corp.

**TINY TEN**  
Daystrom Pacific Corp.

**TINYMITE**  
Renbrandt, Inc.

**TINY TIM**  
Shure Brothers

**TINYTRAN**  
Standard Transformer Corp.

**TINY TRIM**  
Daystrom Pacific Corp.

**TIOLEKTRIC**  
American Lava Corp.

**TIPS**  
Electronic Products Co.

**TIP-SWITCH**  
Gorn Electric Co., Inc.

**TIP-TOP**  
General Cable Corp.

**TIREX**  
Simplex Wire & Cable Co.

**TITAN**  
Sonotone Corp.

**TITE-BIND**  
Thomas & Betts Co.

**TITEGRIP**  
Dante Electric Mfg. Co.

**TITONE**  
Sonotone Corp.

**TITRLOG**  
Consolidated Electrodynamics Corp.

**TITRIMETER**  
Fisher Scientific Co.

**TITROMETER**  
Precision Scientific Co.

**TMC**  
Technical Materiel Corp.

**T. W.**  
Paisley Products Inc.

**TOBE**  
Tobe Deutschmann Corp.

**TOBEMITE**  
Tobe Deutschmann Corp.

**TOCCO**  
Ohio Crankshaft Co.

**TOCCOTROL**  
Ohio Crankshaft Co.

**TOCCOTRON**  
Ohio Crankshaft Co.

**TOM THUMB**  
Automatic Radio Mfg. Co., Inc.

**TOMAHAWK**  
Sangamo Electric Co.

**TOMAHAWK**  
Stevens-Walden, Inc.

**TONETEX**  
Electro-Voice, Inc.

**TONG TEST**  
Columbia Electric Mfg. Co.

**TONG TEST**  
Martindale Electric Co.

**TONOTRON**  
Hughes Products Division, Hughes  
Aircraft Co.

**TOP HAT**  
Times Facsimile Corp.

**TOP-LAY**  
Metals & Controls Corp., General Plate  
Div.

**TOPHET**  
Driver Mfg. Co., Wilbur B.

**TOPLINER**  
Technical Appliance Corp.

**TOPPER**  
Camburn, Inc.

**TOPPERS**  
Saxton Products Inc.

**TOR-A-COR**  
Magnetic Amplifiers, Inc.

**TORKMASTER**  
Tork Clock Co., Inc.

**TORKOTHERM**  
Tork Clock Co.

**TOROYD**  
Associated American Trading  
Division

**TOROYD**  
Universal Mfg. Co., Inc.

**TORPOT**  
Electro-Mec Laboratory

**TORQUE DRIVE**  
Electro-Voice, Inc.

**TORQUE WATCH**  
Waters Mfg. Inc.

**TORROTHERM**  
Torrance Glass & Color Works

**TORSYN**  
Control Components Co.

**TORSYNATOR**  
Air-Marine Motors, Inc.

**TOUCH-TIMER**  
Kay Electric Co.

**TR2 ROTOR**  
Radiart Corp.

**TRACEMASTER**  
Stacor Equipment Co.

**TRADIO**  
Trad Electronics Corp.

**TRADIOPHONE**  
Trad Electronics Corp.

**TRADIOVISION**  
Trad Electronics Corp.

**TRADITION**  
Staedtler Inc., J. S.

**TRADITION-CHROMA**  
Staedtler, Inc., J. S.

**TRAFF-O-MATIC**  
Automatic Signal Div.,  
Eastern Industries, Inc.

**TRAILBLAZER**  
Channel Master Co.

**TRAILBLAZER**  
Sangamo Electric Co.

**TRAILER-TENNA**  
Clear Beam Television Antenna Co.

**TRAIN EAR**  
Maico Co., Inc.

**TRAK**  
C.G.S. Laboratories, Inc.

**TRAMP**  
Ten Bosch, Inc., M.

**TRAN-COR**  
Armco Steel Corp.

**TRANSCAL**  
Transonic, Inc.

**TRANCORS**  
Lenkurt Electric Co., Inc.

**TRANOLSEAL**  
Johns-Manville

**TRANSAC**  
Philo Corp.

**TRANSCON**  
Creative Electronics Corp.

**TRANS-DEX**  
Watson Mfg. Co., Inc.

**TRANSEAL**  
Johnson Research Corp.

**TRANS-TEL**  
Calbest Engineering & Electronics Co.

**TRANSALYZER**  
Kay Electric Co.

**TRANSALOID**  
Haloid Co., The

**TRANSAMP**  
Electronic Research Associates, Inc.

**TRANS-CITER**  
Multi-Products Co.

**TRANSFAX**  
Eastman Kodak Co.

**TRANSFILTER**  
Brush Electronics Co.

**TRANSFLEX**  
Irvington Varnish & Insulator  
Div. of Minnesota Mining & Mfg. Co.

**TRANSHAILER**  
Pye Telecommunications Ltd.

**TRANS-HORIZON**  
Kennedy & Co., D. S.

**TRANSIDYNE**  
Nader Mfg. Co.

**TRANSI-MAG**  
Magnetic Amplifiers, Inc.

**TRANSI-PAK**  
Red Bank Div., Bendix Aviation Corp.

**TRANSIST-EAR**  
Maico Co., Inc.

**TRANSITE**  
Johns-Manville

**TRANSITONE**  
Philo Corp.

**TRANS-LITE**  
Plasteck, Inc.

**TRANSLUCTANCE**  
Remier Co.

**TRANSMAG**  
California Magnetic Control  
Westinghouse Electric Corp.

**TRANSPAC**  
Electronic Research Associates, Inc.

**TRANSPEC**  
California Magnetic Control

**TRANS-PIX**  
Kay Electric Co.

**TRANSTAT**  
Standard Electronics Corp.

**TRANSVERTER**  
Hertner Electric Co.

**TRAPPER**  
Technical Appliance Corp.

**TRAV-ELECTRIC**  
Terado Co.

**TRAVELLER**  
JFD Mfg. Co., Inc.

**TRAVERTONE**  
Armstrong Cork Co.

**TR CO**  
Richardson Co., The

**TREADMASTER**  
Rubber & Asbestos Corp.

**TREEPLEX**  
Rome Cable Corp.

**TRELCO**  
Transitron Electronic Corp.

**TRENCHLAY**  
General Cable Corp.

**TRENTWELD**  
Crucible Steel Co. of America

**TRENTWELD**  
Trent Tube Co.

**TREPAC**  
Elcor Electronics Corp.

**TRIAD**  
Litton Industries

**TRIAKON**  
Sieler Design Products

**TRIAxIAL**  
Jensen Mfg. Co.

**TRI-BAND**  
Telrex, Inc.

**TRI-FLAT**  
Fischer & Porter Co.

**TRI-CORE**  
Alpha Metals, Inc.

**TRIFLUX**  
Redmond Co., Inc.

**TRIG**  
Rostan Corp.

**TRIG-R-HEAT**  
Wall Mfg. Co.

**TRI-IND-X**  
Triplet & Barton, Inc.

**TRI-LOK**  
Boots Aircraft Nut Corp.

**TRIMOUNTS**  
United-Carr Fastener Corp.

**TRIMR**  
Bourns Laboratories

**TRIM TROL**  
Airborne Accessories, Inc.

**TRIMPOT**  
Bourns Laboratories, Inc.

**TRIMTHERM**  
General Controls Co.

**TRI-NON**  
Perkin-Elmer Corporation, The

**TRINSEEL**  
Tri-Point Plastics, Inc.

**TRI-O-MATIC**  
V-M Corp.

**TRIONODE**  
Walkirt Co.

**TRIONIZED AIR**  
Trion, Inc.

**TRI-O-SPEED**  
V-M Corp.

**TRI-PLATE**  
Sanders Associates, Inc.

**TRIPLAX**  
Plax Corp.

**TRIPLCHEK**  
Fox Products Co.

**TRIPLE-TIE**  
Channel Master Co.

**TRIPLEX**  
Jensen Mfg. Co.

**TRIPLOC**  
Pyle-National Co.

**TRI-SNAP**  
Westinghouse Electric Corp.

**TROJAN**  
Hexacon Electric Co.

**TROMBONE**  
Ward Products Corp.,  
Div. The Gabriel Co.

**TRONEX**  
Wheaton Co., T. C., Electronic Div.

**TRUARC**  
Waldes Kohinor Inc.

**TRUE-BRAND**  
Carboneau Industries, Inc.

**TRU-COPY-PHOTE**  
General Photo Products Co., Inc.

**TRU-FLANGE**  
American Brass Co.

**TRUFLEX**  
Metals & Controls Corp.,  
General Plate Division

**TRU-FLEX**  
Peerless Photo Products, Inc.

**TRU-GRAF**  
Peerless Photo Products, Inc.

**TRU-GROUND**  
Allen Mfg. Co.

**TRU-GUIDE**  
Model Engineering & Mfg., Inc.

**TRU-LAY**  
American Chain & Cable Co., Inc.

**TRU-LOC**  
American Chain & Cable Co., Inc.

**TRULUME**  
Reeves Soundcraft Corp.

**TRU-MATCH**  
Quam Nichols Co.

**TRU-OHM**  
Model Engrg. & Mfg. Co.

**TRU-PASS**  
Sprague Electric Co.

**TRU-RIB**  
Model Engineering & Mfg., Inc.

**TRU-ROUND**  
Allen Mfg. Co.

**TRUSCON**  
Republic Steel Corp.

- TRUSHADE**  
Technic, Inc.
- TRU-SONIC**  
Stephens Mfg. Corp.
- TRUSPEC**  
Scovill Mfg. Co.
- TRU-TORK**  
Resinite Corp., Sub. of Precision Paper Tube Co.
- TRU-VAC**  
Continental Electric Co.
- TRYLON**  
Wind Turbine Co.
- TSI**  
Tri-Point Plastics, Inc.
- TUBE-MASTER**  
Precision Apparatus Co., Inc.
- TUBE-R-CAP**  
Centralab Div. of Globe-Union, Inc.
- TUBE-U-LAR**  
Pyramid Electric Co.
- TUCK**  
Technical Tape Corp.
- TUCK-AWAY**  
J F D Mfg. Co., Inc.
- TUFFERNELL**  
Westinghouse Electric Corp.
- TUFFY**  
Insulation Manufacturers Corp.
- TUFF TUBE**  
Lamtex Industries, Inc.
- TUFLEC**  
Laminated Plastics Inc.
- TUF-ON**  
Brooklyn Paint & Varnish Co., Inc.
- TUNE-O-MATIC**  
Electro-Voice, Inc.
- TUNE-O-MATIC**  
J. F. D. Mfg. Co., Inc.
- TUNE TAPE**  
Miller Electronics
- TUNERCLEAN**  
Walsco Electronics Corp.
- TURBO**  
Brand & Co., Inc., William
- TURBOGLAS**  
Brand & Co., Inc., William
- TURBOLAC**  
Brand & Co., Inc., William
- TURBOLENE**  
Brand & Co., Inc., William
- TURBOLEX**  
Brand & Co., Inc., William
- TURBOSIL**  
Brand & Co., Inc., William
- TURBO PRENE**  
Brand & Co., Inc., William
- TURBO I17**  
Brand & Co., Inc., William
- TURBOTEMP**  
Brand & Co., Inc., William
- TURBOTHERM**  
Brand & Co., Inc., William
- TURBOTRANS**  
Brand & Co., Inc., William
- TURBOTUF**  
Brand & Co., Inc., William
- TURBO TUFFLEX**  
Brand & Co., Inc., William
- TURBOZONE**  
Brand & Co., Inc., William
- TURQUOISE**  
Eagle Pencil Co.
- TV DUETTE**  
Jensen Mfg. Co.
- TWEezer WELD**  
Federal Tool Engineering Co.
- 23 CLIPPER**  
Centralab Div. of Globe-Union, Inc.
- TWILT**  
Electro-Voice, Inc.
- TWIN BLOK**  
United Mfg. & Service Co.
- TWIN FAST**  
Blake & Johnson Co.
- TWIN-LEVER**  
Shure Brothers, Inc.
- TWINPOT**  
Bourns Laboratories
- TWIN-SCREEN HI-LITE**  
DuMont Laboratories, Inc., Allen B.
- TWINTACTS**  
Weston Electrical Instrument Co.
- TWIN-300**  
Microlab
- TWIN-TRAX**  
Amplifier Corp. of America
- TWIN-TILT**  
Electro-Voice, Inc.
- TWINKLER**  
Television Accessories Co.
- TWINKORD**  
Ansonia Wire & Cable Co.
- TWINSET**  
Telex, Inc.
- TWINSULATION**  
U. S. Rubber Co.
- TWIN-V**  
Motorola Communications & Electronics, Inc.
- TWIN-VISO**  
Sanborn Co.
- TWISTAGUIDE**  
Altrion, Inc.
- TWIST-LOCK**  
Harvey-Hubbell, Inc.
- TWIST-LOK**  
Sprague Electric Co.
- TWIST-MOUNT**  
Pyramid Electric Co.
- TWIST-TITE**  
Harvey Hubbell, Inc.
- TWOFOLD**  
Mitchell Industries, Inc.
- TWO-TIMER**  
Bristol Motor Div.
- TY-DOWN**  
Vocaline Company of America, Inc.
- TY-ASSOCIATES**  
Air Associates, Inc.
- TYGON**  
U. S. Stoneware Co.
- TYGORUST**  
U. S. Stoneware Co.
- TYGOTHENE**  
U. S. Stoneware Co.
- TYGOWELD**  
U. S. Stoneware Co.
- TY-LOK**  
Air Associates, Inc.
- TYNISWITCH**  
Sessions Clock Co.
- TYNEE-DRY**  
Pyramid Electric Co.
- TYNI-COUPLE**  
Detroit Controls Corp.
- TYPOTRON**  
Hughes Products Division, Hughes Aircraft Co.
- TYPE-O-WRITER**  
Kellogg Switchboard & Supply Co.
- TYPE "R" RESISTOR**  
Telewave Labs., Inc.
- TY-PLY**  
Marbon Corp.
- TZUCOPY PHOTE**  
General Photo Products Co., Inc.
- U-238**  
Goldak Company, Inc., The
- UASCO**  
Mitchell Industries, Inc.
- UBABOND**  
UBS Chemical Co.
- UBAGRIP**  
UBS Chemical Co.
- UBAPOL**  
UBS Chemical Co.
- UCILON**  
Metal & Thermit Corp.
- UCINITE**  
United Carr Fastener Corp.
- U CON**  
Mucon Corp.
- UIVILECTRIC**  
United Mfg. & Service Co.
- ULTI-MEG**  
Electrovert Inc.
- ULTRA**  
Camburn, Inc.
- ULTRA-BEAM**  
Camburn, Inc.
- ULTRABOOSTER**  
Blonder-Tongue Laboratories, Inc.
- ULTRA-CAL**  
Cubic Corp.
- ULTRACOMPACT**  
United Transformer Corporation.
- ULTRA-FORMER**  
Kay Electric Co.
- ULTRA-GEN**  
Alcar Instruments, Inc.
- ULTRA LINEAR**  
Acro Products Co.
- ULTRA-MARKER**  
Kay Electric Co.
- ULTRAMAX**  
Fischer & Porter Co.
- ULTRA MET**  
Cannon-Muskegon Corp.
- ULTRA-PIX**  
Kay Electric Co.
- ULTRASIL**  
Amersil Co., Inc.
- ULTRA-STABLVIS**  
Fischer & Porter Co.
- ULTRA-SWEEP**  
Kay Electric Co.
- ULTRA-TIE**  
Channel Master Co.
- ULTRATONE**  
Audio Industries, Inc.
- ULTRATUBE**  
Plastoid Corp.
- ULTRAVERTER**  
Blonder-Tongue Laboratories, Inc.
- ULTRA V-BEAM**  
J F D Mfg. Co., Inc.
- ULTRA-VISGOSON**  
Bendix Aviation Corp., Cincinnati Div.
- ULTRON**  
Monsanto Chemical Co.
- UMP**  
Illinois Condenser Co.
- UNBRAKO**  
Standard Pressed Steel Co.
- UNDARK**  
U. S. Radium Corp.
- UNECAP**  
United Electronic Mfg. Corp.
- UNEX**  
Nichols & Clark, Inc.
- UNI-BRIDGE**  
Industrial Electronics, Inc.
- UNICAST**  
Redmond Co., Inc.
- UNICHROME**  
Metal & Thermit Corp.
- UNICLOSED**  
U. S. Electrical Motors, Inc.
- UNICON**  
United Condenser Corp.
- UNI-CORE**  
Alpha Metals, Inc.
- UNI-CRIMP**  
Sherman Mfg. Co., H. B.
- UNIDYNE**  
Shure Brothers, Inc.
- UNIFILTER**  
Ortho Filter Corp.
- UNIFLARE**  
Scovill Mfg. Co.
- UNIGRAIN**  
Somers Brass Co.
- UNILINE**  
Cascade Research Corp.
- UNILOK**  
Burndy Corp.
- UNIMATIC**  
Calbest Engineering & Electronics Co.
- UNIMATIC**  
Unitek Corp.
- UNIMATION**  
Manning, Maxwell & Moore, Inc., Aircraft Products Div.
- UNIMAX**  
Maxson Corp., W. L.
- UNION**  
Jefferson Electric Co.
- UNIONMELT**  
Linde Air Products Co., Unit of Union Carbide & Carbon Corp.
- UNIPAK**  
Sprague Electric Co.
- UNIPLEX**  
Burgess Battery Co.
- UNIPLEX**  
Shure Brothers, Inc.
- UNIPLUG**  
Applegate & Co., C. J.
- UNIPPOINT**  
Shure Brothers, Inc.
- UNIPOLE**  
Andrew Corp.
- UNIPRENE**  
General Cable Corp.
- UNIREG**  
Universal Electronics Co.
- UNISEAL**  
Johns-Manville
- UNI-SHAFT**  
Mallory & Co., Inc., P. R.
- UNITACT**  
Bristol Co., The
- UNIT BREAKER**  
Cutler-Hammer, Inc.
- UNITERM**  
Cook Electric Co.
- UNITIZED**  
Magnatran, Inc.
- UNITONE**  
Duotone Co., Inc.
- UNITROL**  
Cutler-Hammer, Inc.
- UNIVAC**  
Remington Rand Univac Div. of Sperry Rand Corp.
- UNIVERSAL**  
Johns-Manville
- UNIVERSAL**  
Mueller Electric Co.
- UNIVERSAL**  
Brush Electronics Co.
- UNIVERSAL BRIDGE SWITCH**  
Brush Electronics Co.
- UNIVERSAL MASTER**  
Hovis Screwlock Co.
- UNIVERTER**  
Boonton Radio Corp.
- UNIVIS**  
Esso Standard Oil Co.
- UNIVOLT**  
Esso Standard Oil Co.
- UPDOWN**  
Service Instruments Co.
- UPPCO**  
United Pressed Products Co.
- UPSON**  
Republic Steel Corp.
- URAC**  
American Cyanamid Co.
- URBANETTE**  
Videon Electronic Corp.
- URELITE**  
I-T-E Circuit Breaker Co.
- USC**  
U. S. Components Inc.
- USD**  
United States Dynamics Corp.
- U.S.E.**  
U. S. Electronics Corp.
- USECO**  
U. S. Engineering Co., Div. of Litton Industries.
- USG**  
U. S. Graphite Co. Div. of The Wickes Corp.
- US-KON**  
U. S. Rubber Co.
- USRC**  
U. S. Relay Co.
- USALITE**  
Stupakoff Ceramic & Mfg. Co. Div. of The Carborundum Co.
- USCOLITE**  
Chicago Die Mold Div. of U. S. Rubber Co.
- USEMENT**  
U. S. Rubber Co.
- USEX**  
U. S. Rubber Co.
- USEX ABBOSEALD**  
U. S. Rubber Co.
- USKORNA**  
U. S. Rubber Co.
- USPREME**  
U. S. Rubber Co.
- USRUB**  
U. S. Rubber Co.
- USS**  
United States Steel Corp.
- U.S.S. AMERICAN**  
American Steel & Wire Co.
- UTC**  
United Transformer Corp.
- UTE**  
Sangamo Electric Co.
- UTILASTIC**  
Paisley Products, Inc.
- UTILICON**  
Diamond Power Specialty Corp.
- UTILIPHONE**  
National Electronic Labs., Inc.
- UTILISCOPE**  
Diamond Power Specialty Corp.
- UTILITURE**  
Aluminum Co. of America
- UTILIVUE**  
Diamond Power Specialty Corp.
- UVINUL**  
Antara Chemicals Div. of General Aniline & Film Corp.
- UYCOR**  
Corning Glass Works
- V**  
Vitramon, Inc.
- V-2**  
Fretco Inc.
- V-4**  
Fretco Inc.
- V61**  
Voltarc Tubes Inc.
- V/A CELL**  
Fischer & Porter Co.
- V-HEAT**  
Electric Eye Equipment Co.
- VAARO**  
Davis Electronics
- VACDAC**  
Technical Apparatus Builders
- VACOMBO**  
Vaco Products Co.
- VAGABOND**  
Shure Brothers, Inc.
- VALENCO**  
Valley Engineering Co.
- VALIANT**  
Johnson Co., E. F.
- VALVRATOR**  
Fischer & Porter Co.
- VALSEAL**  
Richardson Co., The
- VAN de GRAAFF**  
High Voltage Engineering Corp.
- VAP0**  
Post Co., Frederick
- VAP0FLASH**  
Manning, Maxwell & Moore Inc.
- VAPOR-TEMP**  
Blue-M Electric Co.
- VARBLOK**  
Tobe Deutschmann Corp.
- VARFLO**  
Varflex Corp.
- VARGLAS**  
Varflex Corp.
- VARIAC**  
General Radio Co.
- VARIATEN**  
Shallcross Mfg. Co.
- VARICELL**  
Superior Electric Co., The
- VARI-CHOKE**  
Superex Electronics Corp.
- VARICON**  
Elco Corp.
- VARICON**  
Variable Condenser Corp.
- VARIDOT**  
Simpson Electric Co., Div. of American Gage & Machine Co.
- VARIDRIVES**  
U. S. Electrical Motors, Inc.
- VARIETY**  
Electron Enterprises
- VARIFILE**  
Photographic Products, Inc.
- VARI-FLEX**  
Hammer Electronics Co., Inc.
- VARIJUST**  
Anton Electronic Laboratories, Inc.
- VARI-LOOPSTICK**  
Superex Electronics Corp.
- VARIMATCH**  
United Transformer Corp.
- VARI-MOUNT**  
Foote Brothers Gear & Machine Corp.
- VARIOHM**  
Mallory & Co., Inc., P. R.



**VARI-OHM**  
 Norden-Ketay Corp.  
**VARI/PHASE**  
 Clarostat Mfg. Co., Inc.  
**VARI/PHASE**  
 Dubrow Development Co.  
**VARI/PLLOTTER**  
 Electronic Associates, Inc.  
**VARI/POLE**  
 Califone Corp.  
**VARI/POWER**  
 United Transformer Corp.  
**VARISPEED**  
 Audio-Master Corp.  
**VARI-SPLITTER**  
 McLaughlin Corp., J. L. A.  
**VARI-SWEEP**  
 Kay Electric Co.  
**VARITRAN**  
 United Transformer Corp.  
**VAR-O-POWER**  
 Eclipse-Pioneer Div., Bendix Aviation Corp.  
**VAR PAK**  
 Tobe Deutschmann Corp.  
**VARRO**  
 Davis Electronics  
**VARSIL**  
 New Jersey Wood Finishing Co.  
**VARSLOT**  
 New Jersey Wood Finishing Co.  
**VASCO**  
 Mitchell Industries, Inc.  
**VARTEX**  
 New Jersey Wood Finishing Co.  
**VAV**  
 Fluke Mfg. Co., Inc., John  
**VDA "100"**  
 Eastern Precision Resistor Corp.  
**VECO**  
 Victory Engineering Corp.  
**VECTORGRAPH**  
 DuMont Laboratories, Inc., Allen B.  
**VECTORLYZER**  
 Advance Electronics Co.  
**VECTROHM**  
 Vectron, Inc.  
**VECTROL**  
 Brownthorn Electronics, Inc.  
**VECTROLYER**  
 Advance Electronics Co.  
**VECTROMATIC**  
 Vectron, Inc.  
**VECTRONIC**  
 Vectron, Inc.  
**VEGETOL**  
 Cornell-Dubilier Electric Corp.  
**VEGIMAL**  
 Paisley Products, Inc.  
**VELOMETER**  
 Illinois Testing Labs, Inc.  
**VENDLITES**  
 Drake Mfg. Co.  
**VENTILAIRES**  
 Electric Trading Co.  
**VENTISEL**  
 Electronic Devices, Inc.,  
 Precision Rectifier Div.  
**VENUS**  
 JFD Mfg. Co., Inc.  
**VENTURI-FLO**  
 Barber-Colman Co.  
**VERIFAX**  
 Eastman Kodak Co.  
**VERI-TELL**  
 West Instrument Corp.  
**VERITHERM**  
 Kelk & Co., G. F.  
**VERITHIN**  
 Eagle Pencil Co.  
**VERNIER-SET**  
 Automatic Temperature Control Co., Inc.  
**VERNISTAT**  
 Perkin-Elmer Corporation, The  
**VERSACONE**  
 Radio Merchandise Sales  
**VERSA-LINER**  
 Peck & Harvey  
**VERSALITE**  
 U. S. Rubber Co.  
**VERSALOG**  
 Post & Co., Frederick  
**VERSATEX**  
 Shure Brothers  
**VERSATILE DRAFTSMAN**  
 Chart-Pak, Inc.  
**VERSA-TOOL**  
 Phillips Mfg. Co., Inc.  
**VERSATROL**  
 Assembly Products, Inc.  
**VHS**  
 Assembly Products, Inc.  
**VIBESTON**  
 U. S. Rubber Co.  
**VIBRAGLASS**  
 Glass Fibers, Inc.  
**VIBRALLOY**  
 Arnold Engineering Co.  
**VIBRALYZER**  
 Kay Electric Co.  
**VIBRAPAK**  
 Mallory & Co., Inc., P. R.  
**VIBRASENDER**  
 Motorola Inc.  
**VIBRA-SHOCK**  
 Robinson Aviation, Inc.  
**VIBRASWITCH**  
 Beta Corp.

**VIBRASWITCH**  
 Fielden Instrument Div. of  
 Robertshaw-Fulton Controls Co.  
**VIBRATAB**  
 Telecomputing Corp.  
**VIBRATROL**  
 Pneumafil Corp.  
**VIBREX**  
 General Tire & Rubber Co., The.  
**VIBROGROUND**  
 Associated Research Inc.  
**VIBROMETER**  
 Televiso Products, Inc.  
**VIBROMIKE**  
 Brush Electronics Co.  
**VIBROPACK**  
 Mallory & Co., Inc., P. R.  
**VIBROTEST**  
 Associated Research, Inc.  
**VIBROTRON**  
 BJ Electronics, Borg-Warner Corp.  
**VICALLOY**  
 Arnold Engineering Co.  
**VICO**  
 Video Industries Co.  
**VICTOR**  
 Radio Corp. of America  
**VIC-DAR**  
 Victor Adding Machine Co.  
**VICTORIA**  
 Fretco Inc.  
**VICTROLA**  
 Radio Corp. of America  
**VIDALIGNER**  
 Kay Electric Co.  
**VIDAUTRAN**  
 Electronics Development Co., Inc.  
**VIDEO BEAM**  
 Camburn, Inc.  
**VIDEOCOUPLER**  
 Mallory & Co., Inc., P. R.  
**VIDEOFILM**  
 General Precision Laboratory, Inc.  
**VIDEOGRAM**  
 General Precision Laboratory, Inc.  
**VIDEOMETER**  
 Hickok Electrical Instrument Co.  
**VIDEOPTICS**  
 Burke & James, Inc.  
**VIDEOSTIGMAT**  
 Burke & James, Inc.  
**VIDEOTRON**  
 National Union Electric Corp.  
**VIDIGAGE**  
 Branson Instruments, Inc.  
**VIDI MASTER**  
 Communication Measurements Lab., Inc.  
**VIEWLITE**  
 Viewlex, Inc.  
**VIEWMATIC**  
 Viewlex, Inc.  
**VIEWTALK**  
 Viewlex, Inc.  
**VIKANE**  
 Cornell-Dubilier Electric Corp.  
**VIKING**  
 Jensen Mfg. Co.  
**VIKING**  
 Johnson Co., E. F.  
**VIKING I**  
 Hudson American Corp.  
**VIKING II**  
 Hudson American Corp.  
**VIMLITE**  
 Celanese Corp. of America  
**VINALAK**  
 Reichhold Chemicals, Inc.  
**VINAPEX**  
 Apex Coated Fabrics Co.  
**VINEX**  
 Union Plastics Corp.  
**VINPAK**  
 Protective Coatings Corp.  
**VINYLL**  
 Alpha Wire Corp.  
**VINYLL-CLAD**  
 Paul & Stein Bros., Inc., F. H.  
**VINYLLITE**  
 Bakelite Corp., A Div. of Union Carbide  
 & Carbon Corp.  
**VINYSEAL**  
 Bakelite Corp. A Div. of Union Carbide  
 & Carbon Corp.  
**VINYON**  
 Bakelite Corp. A Div. of Union Carbide  
 & Carbon Corp.  
**VIPOWER**  
 Cornell-Dubilier Electric Corp.  
**VIPOWER**  
 Radiart Corp.  
**VISABLE PROOF**  
 Electric Heat Control Co., The  
**VISCOFILM**  
 Industrial Condenser Corp.  
**VISCONOL**  
 Telegraph Condenser Co., Ltd.  
**VISCOR**  
 Weston Electrical Instruments Co.  
**VISORATOR**  
 Fischer & Porter Co.  
**VISICODE**  
 Westinghouse Electric Corp.  
**VISICORDER**  
 Heiland Div. of Minneapolis-Honeywell  
 Regulator Co.

**VISIFOCUS**  
 Paillard Products Inc.  
**VISION EAR**  
 Nichols & Clark, Inc.  
**VISION MASTER**  
 Antenex Co.  
**VISION MASTER**  
 Clear Beam Television Antenna Co.  
**VISITRON**  
 Rauland Corp.  
**VISO-CARDIETTE**  
 Sanborn Co.  
**VISTEX WITH TEFLON**  
 American Felt Co.  
**VITAMIN Q**  
 Sprague Electric Co.  
**VITAVOX**  
 Radionic Transformer Co.  
**VITREOSIL**  
 Thermal American Fused Quartz Co., Inc.  
**VITRICON**  
 Welwyn International Inc.  
**VITROHM**  
 Ward Leonard Electric Co.  
**VITROLAIN**  
 Star Porcelain Co.  
**VITRON**  
 LOF Glass Fibers Co.  
**VIZ**  
 Molded Insulation Co.  
**V M**  
 Harmon, Lichtenstein & Co.  
**VOCAL-AIRE**  
 Dilks Co., The  
**VOCATRON**  
 Vocaline Company of America, Inc.  
**VOICE OF MUSIC**  
 V-M Corp.  
**VOICE OF THEATRE**  
 Altec Lansing Corp.  
**VOICEWRITER**  
 Edison Inc., Thomas A.  
**VOICON**  
 Radio Frequency Labs., Inc.  
**VOLAN**  
 du Pont de Nemours & Co., Inc., E. I.  
**VOLOCITROL**  
 Barbar-Colman Co.  
**VOLOMETER**  
 Electronic Measurements Corp.  
**VOLSEAL**  
 Johns-Manville  
**VOLTABLOC**  
 Saft Corp. of America  
**VOLTALAC**  
 Standard-Toch Chemicals, Inc.  
**VOLT-AMP**  
 Industrial Devices, Inc.  
**VOLTASCOPE**  
 Polarad Electronics Corp.  
**VOLT-A-TEST**  
 Sittler Corp.  
**VOLTBOX**  
 Superior Electric Co.  
**VOLTBOX A-C**  
 Superior Electric Co.  
**VOLT-OHMATIC**  
 Bergen Laboratories  
**VOLTOHMYST**  
 Radio Corporation of America  
**VOLTROL**  
 Acme Electric Corp.  
**VOLTSTAT**  
 Industrial Transformer Co.  
**VOLUNTEER**  
 Industrial Radio Corp.  
**VORLAC**  
 Vorac Co., The  
**VORNAME L**  
 Vorac Co.  
**VO-TRON**  
 Vokar Corp.  
**VOYCALL**  
 Lake Mfg. Co.  
**V & S**  
 Volkens & Schaffer Mfg. Corp.  
**VTP**  
 Vacuum Tube Products Co., Inc.  
**V-2**  
 Fretco Inc.  
**VUELITE**  
 Monsanto Chemical Co.  
**VUEPAK**  
 Monsanto Chemical Co.  
**VULCATEX**  
 Horn Co., Inc., A. C.  
**VULCOID**  
 Continental-Diamond Fibre Corp.  
**VU MAGNEMITE**  
 Amplifier Corp. of America  
**VYCOR**  
 Corning Glass Works  
**VYNA-KOTE**  
 Organic Development Corp.

**W/B STENTORIAN**  
 Barker Sales Co.  
**WAC-TAC**  
 Wac Line, Inc.  
**WAHLQUIST**  
 Nilsson Electrical Laboratory, Inc.  
**WALCO**  
 Electrovox Co., Inc.  
**WALDEN**  
 Stevens-Walden, Inc.  
**WALDES TRUARC**  
 Waldes Kohinor, Inc.  
**WALKIE-RECORDALL**  
 Miles Reproducer Co., Inc.

**WALLOY**  
 Wall Mfg. Co.  
**WALSCOFLEX**  
 Walsco Electronics Corp.  
**WAMCO**  
 Walnut Machine Co.  
**WARRENEX**  
 Warren Wire Co.  
**WARRENITE**  
 Warren Wire Co.  
**WARRIOR**  
 Sangamo Electric Co.  
**WATCHMASTER**  
 American Time Products, Inc.  
**WATERWITE**  
 Bache & Co., Semon  
**WATERWITE GLASS**  
 Bache & Co., Semon.  
**WATSON**  
 Burke & James, Inc.  
**WATTERSON**  
 Davis & Co., J. W.  
**WAVEFLEX**  
 Titeflex, Inc.  
**WAYNE-KERR**  
 Marconi Instruments  
 W. D. C.  
 Paisley Products Inc.  
**WEATHERITE MAGNEMITE**  
 Amplifier Corp. of America.  
**WEATHERITE VU MAGNEMITE**  
 Amplifier Corp. of America.  
**WEBB**  
 Carpenter Steel Co.  
**WEDGE-GRIP**  
 Sherman Mfg. Co., H. B.  
**WECO**  
 Weinschel Engineering Co., Inc.  
**WEDGE-ON**  
 Thomas & Betts Co.  
**WEDGIE**  
 Insulation Manufacturers Corp.  
**WEIGER-WEED**  
 Fansteel Metallurgical Corp.  
**WELCAP**  
 Welwyn International, Inc.  
**WELDAL**  
 Enthone, Inc.  
**WELDOMATIC**  
 Westinghouse Electric Corp.  
**WELD-O-TIMER**  
 Westinghouse Electric Corp.  
**WELD-O-TROL**  
 Westinghouse Electric Corp.  
**WELDOX**  
 Hardman Co., Inc., H. V.  
**WELDPPOWER**  
 Raytheon Mfg. Co.  
**WELDRAWN**  
 Superior Tube Co.  
**WELMEG**  
 Welwyn International Inc.  
**WELMET**  
 Welwyn International Inc.  
**WEMCALLOY**  
 Westinghouse Electric Corp.  
**WES CO**  
 West Coast Electrical Mfg. Corp.  
**WESGO**  
 Western Gold & Platinum Co.  
**WESGO AL-300**  
 Western Gold & Platinum Co.  
**WESGO AL-1009**  
 Western Gold & Platinum Co.  
**WESLAB**  
 Weston Laboratories, Inc.  
**WESTACH**  
 Westberg Mfg. Co.  
**WEST-CAP**  
 San Fernando Electric Mfg. Co.  
**WESTLINE**  
 Western Lithograph Co.  
**WEST TEST**  
 Automatic Electric Sales Corp.  
**WETOIL**  
 Farrelloy Co.  
**WHARFEDALE**  
 British Industries Corp.  
**WHIPLoad**  
 Johnson Co., E. F.  
**WHIPPET**  
 JFD Mfg. Co., Inc.  
**WHIRLCLAD**  
 Polymer Corporation, The  
**WHIRLSINT**  
 Polymer Corporation, The.  
**WHITE NOISETEST**  
 Sylvania Electric Products Inc.  
**WIDE STRIP**  
 Bristol Co., The.  
**WILCO**  
 Wilson Co., The, H. A.  
**WILCOLEC**  
 Wilcox Electric Co.  
**WILKOR**  
 Aerovox Corp.  
**WILLIAMSON "HALLMARK"**  
 British Radio Electronics Ltd.  
**WILTOMATIC**  
 Wilton Tool Mfg. Co.  
**WINCHESTER**  
 Olin Mathieson Chemical Corp.  
**WINCO**  
 Hudson Wire Co.

**WINCO**  
 Wincharger Corp.  
**WINDSOR**  
 American Felt Co.  
**WIN-TRONIX**  
 Winston Electronics, Inc.  
**WIPERMALLOY**  
 United Transformer Corp.  
**WIRECOM**  
 Cook Electric Co.  
**WIRE-NUT**  
 Ideal Industries, Inc.  
**WIREFONE**  
 Molded Insulation Co.  
**WIRETONE**  
 Molded Insulation Co.  
**WIREWATT**  
 Ohmite Mfg. Co.  
**WIRTCO**  
 Wirt Co.  
**WISSH**  
 Workman TV, Inc.  
**WISSH-JET**  
 Workman TV, Inc.  
**WONDER-BOW**  
 Channel Master Co.  
**WONDERFLUX**  
 American Silver Co., Inc.  
**WONDERLING**  
 Rego Insulated Wire Co.  
**WOOD GLU**  
 Paisley Products Inc.  
**WOOD-RAY**  
 Woodwelding, Inc.  
**WOOD WELDER**  
 Cavitron Electron Oscillator Co. Div. of  
 Short Wave Plastic Forming Co.

**WORBUD ASSOCIATES**  
 Dubrow Development Co.  
**WORK CENTER**  
 Aiden Systems Co.  
**WRINLAY**  
 Photo Chemical Products, Inc.  
**WYD-ANGLE**  
 Ess Specialty Corp.  
**XACTEMP**  
 Gordon Co., **Claud S.**  
**XACTLINE**  
 Gordon Co., **Claud S.**  
**XCEL**  
 Xcelite, Inc.  
**XELA**  
 Klein & Sons, **Mathias**  
**XELON**  
 Times, Wire & Cable Co.  
**XENON**  
 Hanovla Chemical & Mfg. Co.  
**XERNT**  
 Halold Co.  
**XEROX**  
 Haloid Co., **The**  
**XPANDIT**  
 Photo Chemical Products, Inc.  
**X-PRESS**  
 Cook Electric Co.  
**XRD**  
 X-Ray Dept. of General Electric Co.  
**XTALATOR**  
 Kay Electric Co.  
**XTE**  
 Irvington Varnish & Insulator  
 Div. of Minnesota Mining & Mfg. Co.

**X-VAR**  
 Fidelity Chemical Products Corp.  
**X-WASHERS**  
 Standard Locknut & Lockwasher, Inc.  
**XY**  
 Stromberg-Carlson Co., Div. of  
 General Dynamics Corp.  
**YAGI-HELIX**  
 JED Mfg. Co., Inc.  
**YANKEE**  
 Stanley Tools Div., **Stanley Works**  
**YARDARM**  
 Radio Merchandise Sales, Inc.  
**YORKMESH**  
 York Co., Inc., **Otto H.**  
**Z-ANGLE**  
 Acton Laboratories, Inc.  
**Z ANGLE**  
 Technology Instrument Corp.  
**Z-SCOPE**  
 Cascade Research Corp.  
**ZAHODIAKIN**  
 Scovill Mfg. Co.  
**ZENO-KOTE**  
 Zenith Optical Lab.  
**ZEO-DUR**  
 Permutit Co.  
**ZEO-KARB**  
 Permutit Co.  
**ZEPHYR**  
 Trio Mfg. Co.  
**ZEPHYR ROYAL**  
 Trio Mfg. Co.  
**ZEROMATIC**  
 Scientific Instruments Div.,  
 Beckman Instruments, Inc.

**ZERO READER**  
 Sperry Gyroscope Co. Div.  
 of the Sperry Corp.  
**ZERO-START**  
 Phillips Mfg. Co., Inc.  
**ZIFOR**  
 Collins Radio Co.  
**ZIP**  
 JFD Mfg. Co., Inc.  
**ZIPCORD**  
 U. S. Rubber Co.  
**ZIP-GRIP**  
 Set Screw Mfg. Co.  
**ZIP-IN**  
 Amphenol Electronics Corp.  
**ZIPOHMS**  
 Muter Co.  
**ZIPPER**  
 Centralab Div. of Globe-Union, Inc.  
**ZIPSOL**  
 Fidelity Chemical Products Corp.  
**ZIRCALOY**  
 Carborundum Metals Co., **The**  
**ZIRMET**  
 Foote Mineral Co.  
**ZOOMAR**  
 Television Zoomar Corp.  
**ZOOM UP**  
 Camburn, Inc.  
**ZOOM-UP**  
 JFD Mfg. Co., Inc.  
**ZYROX**  
 Bakelite Co. A Div. of Union Carbide  
 & Carbon Corp.  
**ZYTEL**  
 du Pont de Nemours & Co., Inc., **E. I.**

# MANUFACTURERS INDEX

A listing of the companies engaged in the manufacture of all types of electronic components and complete electronic equipment. They are alphabetically arranged for convenient use and quick reference.

## A

- AA Metal Products, Inc., 154 Elliott St., Box 716, Brattleboro, Vt.
- A. C. Transformer Corp., 89 Madison St., Newark, N. J.
- ACF Electronics, 800 N. Pitt St., Alexandria, Va.
- A'G'A' Div. of Elastic Stop Nut Corp. of America, 1027 Newark Ave., Elizabeth, N. J.
- A. P. W. Co., 72 W. Main St., Rockaway, N. J.
- A&P Metal Products Mfg. Corp., 111 Bloomingdale Rd., Hicksville, N. Y.
- A. R. F. Products, Inc., 7627 Lake St., River Forest, Ill.
- Abalon Precision Mfg. Corp., 540 Casanova St., Bronx 59, N. Y.
- Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing 1, Mich.
- Accurate Electronics Corp., 169 Abbe Rd., S., Elyria, Ohio.
- Accurate Insulated Wire Corp., 23 Fox St., New Haven, Conn.
- Accurate Mfg. Co., 44 Hepworth Place, Garfield, N. J.
- Accurate Paper Tube Co., 801 N. Peoria St., Chicago 22, Ill.
- Accurate Specialties Co., Inc., 9-01 43rd Ave., Long Island City, N. Y.
- Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.
- Ace Coil & Electronics Co., 912 Lincoln Highway, Metuchen, N. J.
- Ace Electronics Associates, 99 Dover St., Somerville 44, Mass.
- Ace Engineering & Machine Co., Inc., 3644 N. Lawrence St., Philadelphia 40, Pa.
- Ace Plastic Co., 91-54 Van Wyck Expressway, Jamaica 35, N. Y.
- Ace Spring Mfg. Co., 77 W. Houston St., New York 12, N. Y.
- Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.
- Ackerman Engravers, 458 Broadway, New York, N. Y.
- Ackerman-Gould Co., 92 Bleecker St., New York, N. Y.
- Ackerman-Johnson Co., 625 W. Jackson Blvd., Chicago 6, Ill.
- Acme Battery Co., 200 Henry St., Stamford, Conn.
- Acme Electric Corp., 31 Water St., Cuba, N. Y.
- Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
- Acme Electronix Div. of NEA Service, Inc., West Third & Lakeside, Cleveland 13, Ohio.
- Acme Tool & Specialties Co., 224 N. Loomis St., Chicago 7, Ill.
- Acme Wire Co., New Haven 14, Conn.
- Acme Wire Machine Co., 234 E. 3rd St., New York, N. Y.
- Acoustica Associates, Inc., Shore Rd., Glenwood Landing 2, N. Y.
- Acro Div. of The Robertshaw-Fulton Controls Co., 2040 E. Main St., Columbus 16, Ohio.
- Acro Products Co., 369 Shurs Lane, Philadelphia 28, Pa.
- AcroMag Co., 22519 Telegraph Rd., Detroit 19, Mich.
- Acromark Co., Inc., 323 Morrell St., Elizabeth 4, N. J.
- Actioncraft Products, 8 Sagamore Hill Drive, Port Washington, N. Y.
- Acton Laboratories, Inc., 533 Main St., Acton, Mass.
- Adams & Westlake Co., The, Michigan St., Elkhart, Ind.
- Adcon Corp., 1117 Commonwealth Ave., Boston 15, Mass.
- Adel Precision Products Div. of General Metals Corp., 10777 Vanowen St., Burbank, Calif.
- Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
- Admiral Corp., 3800 Cortland St., Chicago 47, Ill.
- Admiral Tool & Mfg. Co., 2354 N. Clybourn, Chicago 14, Ill.
- Admittance-Namco Corp., Farmingdale, N. Y.
- Advance Electronics Lab., Inc., 249-259 Terhune Ave., Passaic, N. J.
- Advance Instrument Corp., 1709 F St., Belmar, N. J.
- Advanced Electronics, Inc., 94 Silas Deane Highway, Rocky Hill, Conn.
- Advanced Vacuum Products, Inc., Div. of General Ceramics Corp., 122 Liberty St., Stamford, Conn.
- Aemo, Inc., 62 State St., Mankato, Minn.
- Aermotive Equipment Corp., 1632-B Central St., Kansas City 10, Mo.
- Aero Instrument Co., 11423 Vanowen St., North Hollywood, Calif.
- Aero Research Instrument Co., 315 N. Aberdeen St., Chicago 7, Ill.
- Aerocoil, Inc., 24 Cliff St., Jersey City, N. J.
- Aerolab Development Co., 330 W. Holly St., Pasadena, Calif.
- Aerolite Electronics Corp., 507-26th St., Union City, N. J.
- Aerolux Lights Corp., 653 Eleventh Ave., New York 36, N. Y.
- Aeronautical Communications Equipment, Inc., 3090 S.W. 37th Ave., Miami 33, Fla.
- Aeronautical Electric Co., 5656 Northwest Highway, Chicago 30, Ill.
- Aeronautical Electronics Inc., Raleigh-Durham Airport, P.O. Box 6527, Raleigh, N. C.
- Aeroprojects Incorporated, 310 E. Rosedale Ave., West Chester, Pa.
- Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles 44, Calif.
- Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
- Aerovox Corp., Pacific Coast Div., 2724 So. Peck Rd., Monrovia, Calif.
- Ainslie Corp., 312 Quincy Ave., Quincy 69, Mass.
- Air Associates, Inc., Research & Development Div., 511 Joyce St., Orange, N. J.
- Air Control Installations, Ltd., Ruislip, Middlesex, England.
- Airborne Accessories Corp., 1414 Chestnut Ave., Hillside, N. J.
- Airborne Electronics Co., 6813 Troost Ave., North Hollywood, Calif.
- Airborne, Inc., 4868 N. Clark, Chicago 40, Ill.
- Airborne Instruments Lab., Inc., 160 Old Country Rd., Mineola, N. Y.
- Aircorn Inc., 354 Main St., Winthrop 52, Mass.
- Aircorn Inc., 1209 E. Grand St., Elizabeth, N. J.
- Aircraft Armaments, Inc., Cockeysville, Md.
- Aircraft Radio Corp., Boonton, N. J.
- Aircraft Transformer Corp., 234 Creek Rd., Keansburg, N. J.
- Airdesign, Inc., 241 Fairfield Ave., Upper Darby, Pa.
- Aireco, Inc., 2323 Second Ave., Carman, Schenectady 3, N. Y.
- Airfyte Electronics Co., 535-9 Avenue "A", Bayonne, N. J.
- Air-Marine Motors, Inc., 365 Bayview Ave., Amityville, N. Y.
- Airmec, Ltd., High Wycombe, Buckinghamshire, England.
- Airpax Products Co., Middle River, Baltimore 20, Maryland.
- Airtron, Inc., 1101 W. Elizabeth Ave., Linden, N. J.
- Ajax Condenser Corp., 10905 Chandler Blvd., North Hollywood, Calif.
- Aladdin Electronics A Div of Aladdin Industries, Inc., 711 Murfreesboro Rd., Nashville 2, Tenn.
- Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.
- Alco Electronics Mfg. Co., 3 Wolcott Ave., Lawrence, Mass.
- Alcon Metal Products, Inc., 1750 N. Kimball Ave., Chicago 47, Ill.
- Alcor Electronics Corp., 180 Lafayette St., New York 13, N. Y.
- Alden Electronic & Impulse Recording Equipment Co., Box 125, Westboro, Mass.
- Alden Products Co., 112 N. Main St., Brockton 64, Mass.
- Alden Systems, Inc., Alden Research Center, Westboro, Mass.
- Alectric Mfg. Co., 7842 39th Avenue., Kenosha, Wis.
- Alfax Paper & Engineering Co., Washington St., P. O. Box 125, Westboro, Mass.
- Alford Mfg. Co., Inc., 299 Atlantic Ave., Boston, Mass.
- Alfred Electronics, 897 Commercial St., Palo Alto, Calif.
- Algo, Inc., 251 West St., South Hackensack, N. J.
- All American Tool & Mfg. Co., 8027 Lawndale, Skokie, Ill.
- All Star Products, Inc., Defiance, Ohio.
- All-State Welding Alloys Co., Inc., 249 Ferris Ave., White Plains, N. Y.
- All-Tronics, Inc., 45 Bond St., Westbury, N. Y.
- Allard Instrument Corp., 146 E. Second St., Mineola, N. Y.
- Allegheny Instrument Co., Inc., 1091 Willis Mountain, Cumberland, Md.
- Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.
- Allen Co., L. B., Inc., 6751 Bryn Mawr Ave., Chicago 31, Ill.
- Allen-Bradley Co., 136 W. Greenfield Ave., Milwaukee 4, Wis.
- Allen Mfg. Co., Hartford 2, Conn.
- Alliance Mfg. Co., Lake Park Blvd., Alliance, Ohio.
- Allied Allegri Inc., 141 River Rd., Nutley, N. J.
- Allied Control Co., Inc., 2 East End Ave., New York 21, N. Y.
- Allied Industries, Inc., 25th & Woodland Ave., Louisville 10, Ky.
- Allied Plastics Supply Corp., 75 Cliff St., New York 38, N. Y.
- Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
- Allied Radio Corp., 100 North Western Ave., Chicago 80, Ill.
- Allied Recording Products Co., 32-32 Greenpoint Ave., Long Island City 1, N. Y.
- Allied Research & Engineering Div., Allied Record Mfg. Co., 6916 Santa Monica Blvd., Hollywood 38, Calif.
- Allies' Products Corp., P. O. Box 188, Kendall Branch, Miami, Fla.
- Allis-Chalmers Mfg. Co., 935 South 70th St., Milwaukee 3, Wis.
- Allison Laboratories, Inc., 14185 Skyline Drive, Puente, Calif.
- Allmetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N. Y.
- Alloy Metal Wire, Div. of H. K. Porter Co., Inc., Prospect Park, Pa.
- Alloy Precision Casting Co., E. 45th St. & Hamilton Ave., Cleveland 14, Ohio.
- Alloy Tube Div. of The Carpenter Steel Co., Union, N. J.
- Ainor Industries, Inc., 3901 W. 150th St., Cleveland 11, Ohio.
- Alpar Manufacturing Corp., 2910 Spring St., Redwood City, Calif.
- Alpha Instrument Co., 43 Hempstead St., New London, Conn.
- Alpha Metals, Inc., 60 Water St., Jersey City, N. J.
- Alpha Wire Corp., 200 Varick St., New York 14, N. Y.
- Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif.
- Althor Products, 2301 Benson Ave., Brooklyn 14, N. Y.
- Alto Scientific Co., 855 Commercial St., Palo Alto, Calif.
- Aluminum Co. of America, Alcoa Bldg., Pittsburgh 19, Pa.
- Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles 23, Calif.
- Alwac Corp., 13041 S. Cerise Ave., Hawthorne, Calif.
- Amatom Electronic Hardware Co., 122 Sunset Rd., Mamaroneck, N. Y.
- Ambroid Co., Weymouth 88, Mass.
- Amco Engineering Co., 7335 Ainslie St., Chicago 31, Ill.
- Amelco, Inc., 2040 Colorado Ave., Santa Monica, Calif.
- Amerac, Inc., 116 Topsfield Rd., Wenham, Mass.
- American Aluminum Co., Sheffield St., C, Mountaineer, N. J.
- American Blower Div. of American Standard, Detroit 32, Mich.
- American Brass Co., 414 Meadow St., Waterbury 20, Conn.
- American Chain & Cable Co., Inc., 601 Stephenson Bldg., Detroit 2, Mich.
- American Condenser Co., 4410 Ravenswood Ave., Chicago 40, Ill.
- American Cyanamid Co., 38 Rockefeller Plaza, New York 20, N. Y.
- American Diathermy Products, Inc., 11858 Mississippi Ave., Los Angeles 25, Calif.
- American Electrical Heater Co., 6110 Cass Ave., Detroit 2, Mich.
- American Electronics Labs., Inc., 121 N. 7th St., Philadelphia 6, Pa.
- American Electronics Co., 1203-05 Bryant Ave., New York 59, N. Y.

merican Electronics, Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.

merican Elite, Inc., (Telefunken), 7 Park Ave., New York 16, N. Y.

merican Feldmuehle Corp., 11 W. 42nd St., New York 36, N. Y.

merican Felt Co., Glenville, Conn.

merican Gas Furnace Co., 130 Spring St., Elizabeth, N. J.

merican Hard Rubber Co., 11 Mercer St., New York 13, N. Y.

merican Hinge Corp., 206 Wallabout St., Brooklyn 6, N. Y.

merican Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.

merican Laubscher Corp., 250 W. 57th St., Fisk Bldg., New York 19, N. Y.

merican Lava Corp., Cherokee Blvd. & Mfgs. Rd., Chattanooga 5, Tenn.

merican Leonic Mfg. Co., Amber & Hagert Sts., Philadelphia 25, Pa.

merican Machine & Foundry Co., Defense Products Group, 1101 N. Royal St., Alexandria, Va.

merican Machine & Foundry Co., Electronics Div., 1085 Commonwealth Ave., Boston 15, Mass.

merican Metal Co., Ltd., 61 Broadway, New York 6, N. Y.

merican Metrix Corp., 40 Haddon Ave., Camden 2, N. J.

merican Mica Insulation Co., Manasquan, N. J.

merican Microphone Co., 370 S. Fair Oaks Ave., Pasadena 1, Calif.

merican Molded Products Co., 2727 W. Chicago Ave., Chicago 22, Ill.

merican Molding Powder & Chemical Corp., 703 Bedford Ave., Brooklyn 6, N. Y.

merican Optical Co., Instrument Div., Box A., Buffalo 5, N. Y.

merican Pamcor, Inc., Havertown, Pa.

merican Perfit Crystal Corp., 653 Eleventh Ave., New York 36, N. Y.

merican Photocopy Equipment Co., 1920 W. Peterson, Chicago 26, Ill.

merican Plastics Corp., 342 Madison Ave., New York, N. Y.

merican Platinum Works, N.J.R.R. Ave. at Oliver St., Newark 5, N. J.

merican Printed Circuits Co., Forrest St., Metuchen, N. J.

merican Products Mfg. Co., Inc., 8127-33 Oleander St., New Orleans 18, La.

merican Radar Components, Inc., Route 10, Whippany, N. Y.

merican Rectifier Corp., 95 Lafayette St., New York 13, N. Y.

merican Research Corp., Route 6 & New Britain Ave., Farmington, Conn.

merican Research & Mfg. Corp., 920 Halpine Ave., Oakville, Md.

merican Scientific Development Co., 334 S. Main St., Wauson, Wis.

merican Screw Co., Willimantic, Conn.

merican Silver Co., Inc., 36-07 Prince St., Flushing, N. Y.

merican Solder & Flux Co., 19th & Willard Sts., Philadelphia 40, Pa.

merican Speedlight Corp., 63-01 Metropolitan Ave., Middle Village 79, N. Y.

merican Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland 13, Ohio.

merican Super-Temperature Wires, Inc., W. Canal St., Nookis, Vt.

merican Television & Radio Co., 300 E. Fourth St., Paul 1, Minn.

merican Thermo Electric Co., 7269 Santa Monica Blvd., Los Angeles 46, Calif.

merican Time Products, Inc., 580 Fifth Ave., New York 36, N. Y.

merican Tradair Corp., Sub. of Ekco Electronics, Ltd., 501 30th St., Long Island City 6, N. Y.

merican Inc., 2100 Paxton St., Harrisburg, Pa.

merican Inc., Chemicals & Dielectrics Div., 155 Park St., Elizabethtown, Pa.

merican Oil Co., Inc., 685 Ramsey Ave., Hillside 5, N. J.

merican Corp., 4333 N. Ravenswood Ave., Chicago 13, Ill.

merican Electronic Corp., 230 Duffy Ave., Hicksville, N. Y.

merican White Co., 561 Broadway, New York 12, N. Y.

merican Corp., 934 Charter St., Redwood City, Calif.

merican Electronics Corp., 1830 S. 54th Ave., Chicago 50, Ill.

merican Corp. of America, 396 Broadway, New York 13, N. Y.

merican-Vision Div. of The International Telemeter Corp., 100 Stoner Ave., Los Angeles 25, Calif.

merican Corp., 1345 Diversy Parkway, Chicago 14, Ill.

merican Testing Instrument Co., 45-53 Van Sinderen, Brooklyn 7, N. Y.

merican Wire & Cable Co., 25 Broadway, New York 4, N. Y.

merican Controls, Inc., 39 Roselle St., Mineola, N. Y.

merican Measurements, Inc., 585 Main St., Chatham, N. J.

merican Div. of Endevco Corp., 165 E. California St., Pasadena, Calif.

merican Industrial Co., Div. of Anchor Plastics Co., 36-36 36th St., Long Island City 6, N. Y.

merican Metal Co., 966 Meeker Ave., Brooklyn 22, N. Y.

merican Laboratories, Inc., 39 Talcott Rd., West Hartford 10, Conn.

merican Associates, H. V., 239 Park Ave., Berkeley Heights, N. J.

merican Radio Corp., 27-01 Bridge Plaza North, Long Island City 1, N. Y.

merican Corp., 363 E. 75th St., Chicago 19, Ill.

merican Corp., 150 Causeway St., Boston 14, Mass.

merican Adhesives Div. of Interchemical Corp., 120 Essex St., Cambridge 42, Mass.

Annis Co., R. B., 1101 N. Delaware St., Indianapolis, Ind.

Annsley Mfg. Co., Arthur, New Hope, Pa.

Ansonia Wire & Cable Co., 111 Martin St., Ashton, R. I.

Antara Chemicals Div. of General Aniline & Film Corp., 435 Hudson St., New York 14, N. Y.

Antennex Co., 4060 Ocean Park Ave., Venice, Calif.

Anti-Corrosive Metal Products Co., Castleton-on-Hudson, N. Y.

Antlab, 4950 N. High St., Columbus 14, Ohio.

Anton Electronic Laboratories, Inc., 1226 Flushing Ave., Brooklyn 37, N. Y.

Anton Machine Works, 1226 Flushing Ave., Brooklyn 37, N. Y.

Apex Coated Fabrics Co., 12 E. 22nd St., New York 10, N. Y.

Apex Machine Co., 14-13 118th St., College Point 56, N. Y.

Apex Wire & Cable Corp., 237 37th St., Brooklyn 32, N. Y.

Applegate & Co., C. J., 1840 24th St., Boulder, Colo.

Appliance Products, 520 Fifth Ave., New York 36, N. Y.

Applied Dynamics Corp., 32 N. Main St., Natick, Mass.

Applied Electronics Co., Inc., 213 E. Grand Ave., South San Francisco, Calif.

Applied Physics Corp., 362 W. Colorado St., Pasadena 1, Calif.

Applied Radiation Corp., 1210 Spring Brook Rd., Walnut Creek, Calif.

Applied Research Inc., 163-07 Depot Rd., Flushing, N. Y.

Applied Research Labs., 3717 Park Place, Glendale 8, Calif.

Applied Resins Corp., 304 Oraton St., Newark 4, N. J.

Applied Science Corp. of Princeton, P.O. Box 44, Princeton, N. J.

Arch Gear Works, Inc., 97 Holmes St., North Quincy (71), Mass.

Arco Electronics Inc., 64 White St., New York 13, N. Y.

Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.

Arcoelectric Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.

Aremac Associates, 50 S. San Gabriel, Pasadena 10, Calif.

Arenberg Ultrasonic Laboratory, Inc., 94 Green St., Jamaica Plain 30, Mass.

Argos Products Co., 310 Main St., Genoa, Ill.

Aries Laboratories, Inc., 45-33 Davis St., Long Island City 1, N. Y.

Ark-Les Switch Corp., 51 Water St., Watertown 72, Mass.

Arma Div. of American Bosch Arma Corp., Old Country Rd., Garden City, N. Y.

Armo Steel Corp., 703 Curtis St., Middletown, Ohio.

Armel Electronics, Inc., 840 Fifth Ave., Brooklyn 32, N. Y.

Armstrong Cork Co., Lancaster, Pa.

Armstrong Products Co., P.O. Box 1-EB, Warsaw, Ind.

Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N. Y.

Arnold Engineering Co., Marengo, Ill.

Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles 16, Calif.

Arnoux Corp., Box 34628, Los Angeles, Calif.

Arro Expansion Bolt Co., 1522 Boone Ave., Marion, Ohio.

Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.

Arrowhead Products, 2300 Curry St., Long Beach 5, Calif.

Art-Lloyd Metal Products Corp., 2973 Cropsey Ave., Brooklyn 14, N. Y.

Art Wire & Stamping Co., 227 High St., Newark 2, N. J.

Artisan Electronic Corp., 171 Ridgedale Ave., Morris-town, N. J.

Artisan Metal Works Co., 11410 Madison Ave., Cleveland 2, Ohio.

Artos Engineering Co., 2737 S. 28th St., Milwaukee, Wis.

Arvin Industries, Inc., Radio & Television Div., Columbus, Ohio.

Arwood Precision Casting Corp., 75 Washington St., Brooklyn, N. Y.

Ashland Electric Products, Inc., 32-02 Queens Blvd., Long Island City 1, N. Y.

Asco Wire & Cable Co., 2 Burroughs St., Bridgeport 7 Conn.

Asheville-Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.

Askania Regulator Co., 240 E. Ontario St., Chicago 11, Ill.

Assembly Products, Inc., Chesterland 6, Ohio.

Associated American Trading Division, 750 St. Ann's Ave., New York 56, N. Y.

Associated Commodity Corp., Woolworth Bldg., 50th Fl., New York 7, N. Y.

Associated Engineering Corp., 65 Kent St., Brookline 46, Mass.

Associated Engineering & Mfg. Corp., Glen Ridge, N. J.

Associated Research, Inc., 3788 W. Belmont Ave., Chicago 18, Ill.

Associated Specialties Co., 1751 Main St., Orefield, Pa.

Associated Testing Laboratories, Inc., 407 Clinton Rd., Caldwell, N. J.

Astatic Corporation, The, Conneaut, Ohio.

Astron Corp., 255 Grant Ave., East Newark, N. J.

Atlantic Engravers, Inc., 52 Ocean Ave., Amityville, N. Y.

Atlantic India Rubber Works, Inc., Dept. EL, 571 Polk St., Chicago 7, Ill.

Atlantic & Pacific Wire & Cable Co., Inc., 112-01 Northern Blvd., Corona, N. Y.

Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.

Atlantic Wire & Cable Corp., 119-14 14th Rd., College Point, N. Y.

Atlas Coil, Inc., 63 Main St., Ansonia, Conn.

Atlas E-E Corp., 47 Prospect St., Woburn, Mass.

Atlas Engineering Co., 176 Blue Hill Ave., Roxbury, Mass.

Atlas Precision Products Co., 3802 Castor Ave., Philadelphia 24, Pa.

Atlas Resistor Co., 1128 Madison St., Chester, Pa.

Atlas Screw & Specialty Co., Inc., 450 Broome St., New York 13, N. Y.

Atlas Sound Corp., 1443 39th St., Brooklyn 18, N. Y.

Atlee Corp., 47 Prospect St., Woburn, Mass.

Atmosphere Control Co., Inc., 5315 Chester Ave., Philadelphia 43, Pa.

Atomic Research Corp., P. O. Box 205, Colorado Springs, Colo.

Attleboro Refining Co., Inc., Attleboro, Mass.

Auburn Button Works, Inc., Auburn, N. Y.

Auburn Mfg. Co., The, Pease Ave. & Stack St., Middletown, Conn.

Audac Co., 500 Fifth Ave., New York, N. Y.

Audar, Inc., P. O. Box 438M, Pasadena 18, Calif.

Audio Development Co., 2833 13th Ave., S., Minneapolis 7, Minn.

Audio Devices, Inc., 444 Madison Ave., New York 22, N. Y.

Audio Equipment Co., Inc., 805 Middle Neck Rd., Great Neck, N. Y.

Audio Industries Inc., Michigan City, Ind.

Audio Instrument Co., Inc., 133E W. 14th St., New York 11, N. Y.

Audio-Master Corp., 17 E. 45th St., New York 17, N. Y.

Audio Sears Corp., Shepard Hill Rd., Roxbury, N. Y.

Audiomation Laboratories, 7230 Clinton Rd., Upper Darby 15, Pa.

Audivox, Inc., 123 Worcester St., Boston 18, Mass.

Augat Bros., Inc., 33 Perry Ave., Attleboro, Mass.

Aurex Corp., 1117 N. Franklin St., Chicago 10, Ill.

Austenal Laboratories, Inc., Microcast Div., 224 E. 39th St., New York 16, N. Y.

Austin Co., The, Special Devices Div. 76 Ninth Ave., New York 11, N. Y.

Autel Electronics Co., P. O. Box 225, Linden, N. J.

Auto Engraver Co., Ridgefield, Conn.

Autocrat Electronics Co., 5024 Elm St., Skokie, Ill.

Automatic Coil Co., 415 Bedford Ave., Brooklyn, N. Y.

Automatic Electric Sales Corp., 1033 W. Van Buren St., Chicago 7, Ill.

Automatic Mfg. Div. of General Instrument Corp., 65 Gouverneur St., Newark, N. J.

Automatic Metal Products Corp., 315 Berry St., Brooklyn 11, N. Y.

Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers 5, N. Y.

Automatic Processing Corp., 1335 N. Wells St., Chicago, Ill.

Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.

Automatic Signal Division Eastern Industries, Inc., Regent St., East Norwalk, Conn.

Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.

Automatic Timing & Controls, Inc., King of Prussia, Pa.

Automation Instruments, Inc., Aluminum Foil Transformer Div., 401 E. Green St., Pasadena, Calif.

Automation Management, Inc., Westboro, Mass.

Autoscrew Co., 216-222 W. 18th Street, New York, N. Y.

Autotron, Inc., 3629 N. Vermilion St., Danville, Ill.

Autronics, Inc., Route 1, Box 812, Florissant, Mo.

Autron Engineering, Inc., 1254 W. 6th St., Los Angeles 15, Calif.

Avco Mfg. Corp., Crosley Div., 1329 Arlington St., Cincinnati 25, Ohio.

Avery Adhesive Label Corp., 1616 S. California Ave., Monrovia, Calif.

Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.

Avien, Inc., 58-15 Northern Blvd., Woodside 77, N. Y.

Avion Division, ACF Industries, Inc., 11 Park Place, Paramus, N. J.

Avionex Electronics Corp., 10855 Vanowen, North Hollywood, Calif.

Avnet Electronic Supply Co., Inc., 36 N. Moore St., New York 13, N. Y.

Avon Tube Div., Higbie Mfg. Co., Wagner Rd., Rochester, Mich.

Axel Bros. Electronics Div., 134-20 Jamaica Ave., Jamaica, N. Y.

Axler Associates, 102-42 43rd Ave., Corona 68, N. Y.

B

B & C Insulation Products, Inc., Lincoln Highway, Iselin, N. J.

B & F Instruments Inc., 4732 N. Broad St., Philadelphia 41, Pa.

BG Corp., The, 321 Broad Ave., Ridgefield, N. J.

BJ Electronics, Borg-Warner Corp., 3300 Newport Blvd., Santa Ana, Calif.

B & K Mfg. Co., 3726 N. Southport Ave., Chicago 13, Ill.

B & M Electric Co., 838 Fourth Ave., Brooklyn 32, N. Y.

Babcock Radio Engineering Co., P. O. Box 3097, Van Nuys, Calif.

Babcock Relays, Inc., 1640 Monrovia St., Costa Mesa, Calif.

Bache & Co., Semon, 636 Greenwich St., New York 14, N. Y.

Bacon Industries, Inc., 192 Pleasant St., Watertown, Mass.

Baer Co., N. S., 9 Montgomery St., Hillside, N. J.

Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, Ohio.

Baird-Atomic, Inc., 33 University Rd., Cambridge 38, Mass.

Bakelite Co., A Div. of Union Carbide & Carbon Corp., 30 East 42nd St., New York 17, N. Y.  
 Baker & Adamson Products, General Chemical Div. of Allied Chemical & Dye Corp., 40 Rector St., New York, N. Y.  
 Baker & Co., Inc., 113 Astor St., Newark, N. J.  
 Baker Chemical Co., J. T., Phillipsburg, N. J.  
 Balco Research Laboratories, 49-53 Edison Place, Newark 2, N. J.  
 Baldwin Piano Co., 1801 Gilbert St., Cincinnati 2, Ohio  
 Ballantine Laboratories, Inc., Boonton, N. J.  
 Ballastan Corp., Fort Wayne, Ind.  
 Baltic Metal Products Co., 120 Sutton St., Brooklyn, 22, N. Y.  
 Barber-Colman Co., Dept. 766, Rockford, Ill.  
 Barber Labs., Alfred W., 32-44 Francis Lewis Blvd., Flushing, N. Y.  
 Barco Chemical Products Co., 701-703 S. LaSalle St., Chicago 5, Ill.  
 Barco, Inc., Box 1222, Milwaukee 1, Wis.  
 Barden Corp., E. Franklin St., Danbury, Conn.  
 Barlum & Chemicals, Inc., Willoughby, Ohio.  
 Barker & Williamson, 235 Fairfield Ave., Upper Darby, Pa.  
 Barker Sales Co., 996-8 Edgewater Ave., Ridgefield, N. J.  
 Barnes Co., Wallace, Div. of Associated Spring Corp., Bristol, Conn.  
 Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa.  
 Barnes-Gibson-Raymond Division, 40300 Plymouth Rd., Plymouth, Mich.  
 Barnes Metal Products Co., 4425 W. 16th St., Chicago 23, Ill.  
 Barnstead Still & Sterilizer Co., Inc., 84 Lanesville Terrace, Boston 31, Mass.  
 Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.  
 Barrett Co., Leon J., The, 1776 Grafton Rd., Worcester 1, Mass.  
 Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 Barrett Varnish Co., 1532 S. 50th Court, Cicero 50, Ill.  
 Barry Controls, Inc., 711 Pleasant St., Watertown 72, Mass.  
 Bart Mfg. Corp., 227 Main St., Belleville, N. J.  
 Barwood Electronics, Inc., 921 E. Broadway, Glendale 5, Calif.  
 Barwood Mfg. Co., Inc., L. J., 22 Williams St., Everett 49, Mass.  
 Basic Tool Engineering, Inc., 4156 S. Main St., Los Angeles, Calif.  
 Basler Electric Co., 605 Fifth St., Highland, Ill.  
 Bassett Inc., Rex, 1314 N. E. 17th Court P. O. Box 7127, Fort Lauderdale, Fla.  
 Bausch & Lomb Optical Co., 614 St. Paul St., Rochester 2, N. Y.  
 Beach-Russ Co., 50 Church St., New York 7, N. Y.  
 Bead Chain Manufacturing Co., The, 110 Mountain Grove St., Bridgeport 5, Conn.  
 Bean & Co., Morris, Yellow Springs, Ohio.  
 Beaver Gear Works, Inc., 1034 Parmele St., Rockford 11, Ill.  
 Becker Electronics Mfg. Corp., Horton & Rockaway Aves., Valley Stream, N. Y.  
 Beckman Inc., Arnold O., 1020 Mission St., South Pasadena, Calif.  
 Beckman & Whitely, Inc., 913 San Carlos Ave., San Carlos, Calif.  
 Beck's Inc., 298-300 E. Fifth St., Saint Paul 1, Minn.  
 Beede Electrical Instrument Co., Inc., Penacook, N. H.  
 Behlman Engineering Co., 114 S. Hollywood Way, Burbank, Calif.  
 Bekey Electric Co., Inc., 1327 S. Main St., Los Angeles 15, Calif.  
 Bel Fuse Inc., 311 Mountain Road, Union City, N. J.  
 Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.  
 Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.  
 Belltron Mfg. Co., Inc., 400 Hoover Ave., Bloomfield, N. J.  
 Belock Instrument Corp., 111-01 14th Ave., College Point 56, N. Y.  
 Beltone Hearing Aid Co., 2900 W. 36th St., Chicago, 32, Ill.  
 Bendix Aviation Corp., Cincinnati Div., 203 W. Third St., Cincinnati 2, Ohio.  
 Bendix Aviation Corp., Montrose Div., South Montrose, Pa.  
 Bendix Aviation Corp., Pacific Division, 11600 Sherman Way, North Hollywood, Calif.  
 Bendix Aviation Corp., York Div., York, Pa.  
 Bendix Computer Division, Bendix Aviation Corp., 5630 Arbor Vitae St., Los Angeles 45, Calif.  
 Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md.  
 Bennett Co., Inc., R. P., Frederick, Md.  
 Bennett Mfg. Co., Alden, N. Y.  
 Bennett Products Mfg. Co., P. O. Box 1055, Palo Alto, Calif.  
 Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles 64, Calif.  
 Bentley-Harris Mfg. Co., Conshohocken 13, Pa.  
 Berg Mfg. Corp., 142 Reno Ave., New Cumberland, Pa.  
 Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.  
 Bergen Wire Rope Co., 456 Gregg St., Lodi, N. J.  
 Berkeley Division, Beckman Instruments, Inc., 2200 Wright Ave., Dept G-13, Richmond 3, Calif.  
 Berkshire Laboratories, 580 Bank Village, Greenville, N. H.  
 Berlant Concertone-Audio Div. of American Electronics Inc., 655 W. Washington Blvd., Los Angeles 15, Calif.  
 Bernco Engineering Corp., 2320 S. Tibbs Ave., Indianapolis, Ind.  
 Berndt-Bach, Inc., Auricon Div., 6924 Romaine St., Hollywood 38, Calif.  
 Beryllium Corp., The, Reading, Pa.  
 Best Manufacturing Co., Inc., 1200 Grove St., Irvington 11, N. J.  
 Beta Corp., P. O. Box 8625, Richmond, Va.

Beta Electric Div. of Sorensen Co., Inc., 333 E. 103rd St., New York 23, N. Y.  
 Bettcher Plastics Co., Portland, Ore.  
 Beva Laboratory, 1640 Olden Ave., Ext., Trenton 9, N. J.  
 Biddle Co., James G., 1316 Arch St., Philadelphia 7, Pa.  
 Bigelow Mfg. Corp., 225 W. Bigelow St., Newark 8, N. J.  
 Biggs Co. Carl H., 2225 Barry Ave., West Los Angeles 64, Calif.  
 Bill Jack Scientific Instrument Co., P. O. Box C-3, Solana Beach, Calif.  
 Bingham Mfg. Co., J. F., 69 Bay State Rd., Lawrence 1, Mass.  
 Bird Co., Richard H., 1 Spruce St., Waltham, Mass.  
 Bird Electronic Corp., 1800 E. 38th St., Cleveland 14, Ohio.  
 Birdair Structures Inc., 290 Larkin St., Buffalo 10, N. Y.  
 Birdsall Mfg. Co., Inc., 750 San Antonio Rd., Palo Alto, Calif.  
 Birmingham Sound Reproducers, Ltd., Monarch Works, Old Hill, Powke Lane, Staffs, England.  
 Birnbach Radio Co., Inc., 145 Hudson St., New York 13, N. Y.  
 Birtcher Corp., 4371 Valley Blvd., Los Angeles 32, Calif.  
 Bischof Die & Engraving, 1405 16th St., Racine, Wis.  
 Bishop & Co., J., Platinum Works, Malvern, Pa.  
 Bishop Mfg. Corp., 10 Canfield Rd., Cedar Grove, N. J.  
 Biwax Corp., 3445 Howard St., Skokie, Ill.  
 Blackstone Corp., 1111 Allen St., Jamestown, N. Y.  
 Blake & Johnson Co., 1495 Thomaston Ave., Waterville 48, Conn.  
 Blaw-Knox Co., Blaw-Knox Bldg., 300 Sixth Ave., Pittsburgh 22, Pa.  
 Bliely Electric Co., Union Station Bldg., Erie, Pa.  
 Bliss Electronic Corp., Box 366, Sussex, N. J.  
 Blockson & Co. Michigan City, Ind.  
 Blonder-Tongue Laboratories, Inc., 9-25 Alling St., Newark 2, N. J.  
 Bludworth Marine Div., Kearfott Co., Inc., 92 Gold St., New York 38, N. Y.  
 Blue M Electric Co., 138th & Chatham St., Blue Island, Ill.  
 Bodine Electric Co., Ohio St. & Oakley Blvd., Chicago 12, Ill.  
 Bodnar Industries, Inc., 238 Huguenot St., New Rochelle, N. Y.  
 Boehme, Inc., H. O., 915 Broadway, New York 10, N. Y.  
 Boesch Mfg. Corp., Danbury, Conn.  
 Bogart Mfg. Corp., 315 Siegel St., Brooklyn 6, N. Y.  
 Bogen Co., Inc., David, P. O. Box 500, Paramus, N. J.  
 Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson 3, N. J.  
 Bolling Industries, Inc., 1117 N. Main Ave., Scranton 2, Pa.  
 Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.  
 Bomac Laboratories, Inc., Salem Rd., Beverly, Mass.  
 Bomyte Co., The, Green St., Silverdale, Pa.  
 Bond Electronics Corp., 60 Springfield Ave., Springfield, N. J.  
 Bone Engineering Corp., 701 W. Broadway, Glendale 4, Calif.  
 Bonny Mfg. Corp., 339 Auburn St., Auburndale, Mass.  
 Boonton Electronics Corp., 738 Speedwell Ave., Morris Plains, N. J.  
 Boonton Molding Co., Boonton, N. J.  
 Boonton Radio Corp., Boonton, N. J.  
 Booth Co., Arthur E., 265 S. Alexandria Ave., Los Angeles, Calif.  
 Boots Aircraft Nut Corp., Newton Ave., Norwalk, Conn.  
 Borden Co., The, Chemical Div., 350 Madison Ave., New York 17, N. Y.  
 Borden Co., Resinote Dept., Box 1589, Santa Barbara, Calif.  
 Borden Engineering Co., Div. of M. J. Johnson Aircraft Engineering Co., Box 10, Morristown, N. J.  
 Borg Equipment Division, The George W. Borg Corp., Janesville, Wis.  
 Borg-Warner Corp., Pesco Products Div., 24700 North Miles Rd., Bedford, Ohio.  
 Borthing Co., Inc., George C., P. O. Box 11A, East Rutherford, N. J.  
 Boston Felt Co., 210 South St., Boston 11, Mass.  
 Boston Insulated Wire & Cable Co., 65 Bay St., Boston 25, Mass.  
 Boulton Instrument Corp., 10 First St., Pelham, N. Y.  
 Bourns Laboratories, Inc., 6135 Magnolia Ave., Riverside, Calif.  
 Bow Solder Products Co., Inc., 251 Freeman St., Brooklyn 22, N. Y.  
 Bowers Battery & Spark Plug Co., Box 1262, Reading, Pa.  
 Bowmar Instrument Corp., 2415 Pennsylvania St., Fort Wayne, Ind.  
 Bowser Technical Refrigeration Div. of Bowser, Inc., Eagle St., Terryville, Conn.  
 Boyle Metalcraft Corp., 150 Sullivan St., Brooklyn 31, N. Y.  
 Bozak Mfg. Co., R. T., The, Box 966, Darien, Conn.  
 Brach Div. Electronic Research, General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 Bracke-Selb X-Ray Co., Inc., 16 Pelham Bay Parkway, Pelham Manor, N. Y.  
 Bradford Components, Inc., Bradford, Pa.  
 Bradley Industries, 1650-58 N. Damen Ave., Chicago 47, Ill.  
 Bradley Labs., Inc., 170 G Columbus Ave., New Haven 11, Conn.  
 Brady Co., W. H., 727 W. Glendale Ave., Milwaukee 12, Wis.  
 Brainin Co., C. S., 320 Washington St., Mt. Vernon, N. Y.  
 Bram Chemical Co., 820 65th Ave., Philadelphia 26, Pa.  
 Brand & Co., Inc., William, 41 North St., Willimantic, Conn.  
 Brand Dielectrics, Inc., 57 North St., Willimantic, Conn.  
 Branson Corp., Jefferson Rd., Whippany, N. J.

Branson Instruments, Inc., 1 Brown House Rd., Stamford Conn.  
 Branson Ultrasonic Corp., 1 Brown House Rd., Stamford, Conn.  
 Braun Tool & Instrument Co., Inc., H. 140 Fifth Ave., Hawthorne, N. J.  
 Breeze Corps., Inc., 700 Liberty Ave., Union, N. J.  
 Breon Laboratories, 1520 Evergreen Rd., Williamsport, Pa.  
 Brevil Products Corp., 601 W. 26th St., New York 1, N. Y.  
 Brew & Co., Inc., Richard D., Concord, N. H.  
 Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.  
 Briggs Associates Inc., 10 Dekalb St., Norristown, Pa.  
 Bright Radio Labs., Inc., Div. of Howell Mfg. Corp., Denton Ave., & 4th St., New Hyde Park, N. Y.  
 Bright Star Industries, 600 Getty Ave., Clifton, N. J.  
 Brillhart Plastics Corp., Old Country Rd., Mineola, N. Y.  
 Brillmayer Labs, Inc., E. W., 86 Fulton St., New York 38, N. Y.  
 Bristol Brass Co., 580 Broad St., Bristol, Conn.  
 Bristol Co., The, P. O. Box 1790 EBG, Waterbury 20, Conn.  
 Bristol Motor Division, Vocoline Company of America, Inc., Old Saybrook, Conn.  
 British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.  
 British Industries Corp., 80 Shore Rd., Port Washington, N. Y.  
 British Radio Electronics Ltd., 1833 Jefferson Place, N. W., Washington 6, D. C.  
 Broadcast Equipment Specialties Corp., P. O. Box 149, Beacon, N. Y.  
 Browning Laboratories, Inc., Main St., Winchester, Mass.  
 Brubaker Mfg. Co., Inc., 9151 Exposition Drive, Los Angeles 34, Calif.  
 Bruel & Kjaer, Naerum, Denmark.  
 Bruning Co., Inc., Charles, 4700 Montrose Ave., Chicago 41, Ill.  
 Bruno-New York Industries Corp., 460 W. 34th St., New York 1, N. Y.  
 Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.  
 Brush Beryllium Co., The, 4301 Perkins Ave., Cleveland 3, Ohio.  
 Brush Electronics Co., 3405 Perkins Ave., Cleveland 14, Ohio.  
 Brys Instrument Co., 7026 Sixth Ave., Brooklyn 9, N. Y.  
 Buchanan-Electrical Products Corp., 223 U. S. Route 22, Hillside, N. J.  
 Buck Engineering Co., Inc., 37-41 Marcy St., Freehold, N. J.  
 Buckbee Mears Co., Tonl Bldg., St. Paul 1, Minn.  
 Buckeye Bobbin Co., 12200 Sprecher Ave., Cleveland 11, Ohio.  
 Bud Radio, Inc., 2118 E. 55th St., Cleveland 3, Ohio.  
 Buda Div., Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.  
 Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City 1, N. Y.  
 Budelman Radio Corp., 376 Fairfield Ave., Stamford, Conn.  
 Buffalo Electronics Corp., 37 Franklin St., Buffalo 2, N. Y.  
 Buggie, Inc., H. H., P. O. Box 817, Toledo 1, Ohio.  
 Buhl Optical Co., 1009 Beech Ave., Pittsburgh 33, Pa.  
 Bulova Research & Development Labs., Inc., 62-10 Woodside Ave., Woodside, N. Y.  
 Bulova Watch Co., Inc., Electronics Div., 40-06 62nd St., Woodside 77, N. Y.  
 Bureau of Engraving, Inc., Industrial Div., 500 S. Fourth St., Minneapolis 15, Minn.  
 Burgess Battery Co., Freeport, Ill.  
 Burke & James Inc., 321 S. Wabash Ave., Chicago 4, Ill.  
 Burken Lamination Corp., 811 Whittier St., Bronx 59, N. Y.  
 Burndy Corporation, Norwalk, Conn.  
 Burnell & Co., Inc., 10 Pelham Parkway, Pelham, N. Y.  
 Burnley Battery & Mfg. Co., Clay St., North East, Pa.  
 Burr-Brown Research Corp., Route 4, Box 139, Tucson, Ariz.  
 Burroughs Corp., Electronic Instruments Div., 1209 Vine St., Philadelphia 23, Pa.  
 Burroughs Corp., Electronic Tube Div., P. O. Box 1226, Plainfield, N. J.  
 Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.  
 Bussmann Mfg. Co., St. Louis 7, Mo.

C

CBC Electronics Co., Inc., 2601 Howard St., Philadelphia 33, Pa.  
 CBS-Hytron, a Division of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass.  
 CG Electronics Div. of Gulton Industries, Inc., 305 Dallas St., N.E., Albuquerque, N. M.  
 C.G.S. Laboratories, Inc., 391 Ludlow St., Stamford, Conn.  
 C. & H Supply Co., 415 E. Beach Ave., Inglewood 3, Calif.  
 C-W Mfg. Co., Box 2065, El Monte, Calif.  
 Cable Specialist of Conn., 474 Prospect Ave., Hartford, Conn.  
 Caddell-Burns Mfg. Co., 40 E. Second St., Mineola, N. Y.  
 Cado Manufacturing Div. of Electromation Co., 1640 Eighteenth St., Santa Monica, Calif.  
 Cadre Industries Corp., Box 150, 19 Delaware Ave., Endicott, N. Y.  
 Caig Laboratories, 46 Stanwood Rd., New Hyde Park, N. Y.  
 Calbest Electronics Co., 4801 Exposition Blvd., Los Angeles 16, Calif.  
 Cal-Connector Co., 7414 Varna Ave., North Hollywood, Calif.  
 Caledonia Electronics & Transformer Co., Caledonia, N. Y.  
 Calidyne Co., The, 120 Cross St., Winchester, Mass.

Califone Corp., 1041 N. Sycamore Ave., Hollywood, 38, Calif.

California Bent Glass Corp., Torrance, Calif.

California Computer Products, 3927 W. Jefferson Blvd., Los Angeles 16, Calif.

California Magnetic Control Corp., 11922 Valerio St., North Hollywood, Calif.

California Technical Industries, 1421 Old County Rd., Belmont, Calif.

Calresin Corp., 4543 Brazil St., Los Angeles 39, Calif.

Caltron Products Co., 3518 W. Pico Blvd., Los Angeles 19, Calif.

Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles 45, Calif.

Cambridge Instrument Co., Inc., 3633 Grand Central Terminal, New York 17, N. Y.

Cambridge Pattern Works, Inc., 55 First St., Cambridge 41, Mass.

Cambridge Thermionic Corp., 445 Concord Ave., Cambridge 38, Mass.

Camcar Screw & Mfg. Co., Div. of Textron Inc., 600 18th Ave., Rockford, Ill.

Camera Mart Inc., 1845 Broadway, New York 23, N. Y.

Camloc Fastener Corp., 22 Spring Valley Rd., Paramus, N. J.

Campbell Co., Inc., Colin, Westville Ave., Danbury, Conn.

Canadian Marconi Co., 2442 Trenton Ave., Montreal 16, Quebec.

Canadian Radium & Uranium Corp., 630 Fifth Ave., New York 20, N. Y.

Cannon Co., C. F., Springwater, N. Y.

Cannon Electric Co., 3208 Humboldt St., Los Angeles 31, Calif.

Cannon-Muskegon Corp., 2875 Lincoln St., Muskegon, Mich.

Canoga Corp., 5955 Sepulveda Blvd., Van Nuys, Calif.

Capitol Machine Co., The Switch Div., 36 Balmforth Ave., Danbury, Conn.

Capps & Co., Inc., 20 Addison Place, Valley Stream, N. Y.

Carad Corp., 2850 Bay Rd., Redwood City, Calif.

Carbonneau Industries, Inc., 100 Lexington Ave., S. W., Grand Rapids, Mich.

Carborundum Metals Co., The, P. O. Box 32, Akron, N. Y.

Cardwell Co., Allen D., The 97 Whiting St., Plainview, Conn.

Carling Electric Inc., 505 New Park Ave., West Hartford 10, Conn.

Carlson & Nicholson, Inc., 497 Maynard Drive, Buffalo 21, N. Y.

Carol Cable Div. of Crescent Co., Inc., 20 Central Ave., Pawtucket, R. I.

Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.

Carpenter Steel Co., 142 West Bern St., Reading, Pa.

Carpenter Steel Co., Webb Wire Div., New Brunswick, N. J.

Carroll Pressed Metal Co., 133 Dewey St., Worcester, Mass.

Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill.

Carter Mfg. Corp., 23 Washington St., Hudson, Mass.

Carter Motor Co., 2746 W. George St., Chicago 18, Ill.

Carter Parts Co., 3401 Madison, Skokie, Ill.

Cascade Research Corp., 53 Victory Lane, Los Gatos, Calif.

Cass Machine Co., 691 Antoinette St., Detroit 2, Mich.

Cast Optics Corp., 123-125 Newman St., Hackensack, N. J.

Catalin Corp. of America, 1 Park Ave., New York 16, N. Y.

Cavitron Electron Oscillator Co., Div. of Short Wave Plastic Forming Co., 335 N. Newport Blvd., Newport Beach, Calif.

Cedar Engineering Inc., 5806 W. 36th St., Minneapolis 16, Minn.

Celanese Corp. of America, Plastics Div., 290 Ferry St., Newark 5, N. J.

Celco, Island Ave., Mahwah, N. J.

Cellose Products, Inc., 540 N. Madison St., Rockford, Ill.

Central Coil Co., 1720 N. Luett St., Indianapolis 22, Ind.

Central Electronic Manufacturers Inc., 2 Richwood Place, Denville, N. J.

Central Research Laboratories, Inc., Red Wing, Minn.

Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.

Central Screw Co., 3501 Shields Ave., Chicago 9, Ill.

Central Transformer Co., 910 W. Jackson Blvd., Chicago, Ill.

Centralab Div., Globe-Union Inc., 914Y E. Keefe Ave., Milwaukee 1, Wis.

Century Electric Co., 1806 Pine St., St. Louis 3, Mo.

Century Electronics & Instruments, Inc., P. O. Box 6216, Pine Station, Tulsa 10, Okla.

Century Engineers, Inc., Burbank, Calif.

Ceramaseal, Inc., Box 25, New Lebanon Center, N. Y.

Ceramet Corp., 5905 Broadway, New York 63, N. Y.

Cerro de Pasco Sales Corp., 300 Park Ave., New York 22, N. Y.

Chadwick Helmuth Co., 472 E. Duarte Rd., Monrovia, Calif.

Channel Master Co., Ellenville, N. Y.

Chart-Pak, Inc., Leeds, Mass.

Chase Brass & Copper Co., Inc., 236 Grand St., Waterbury 20, Conn.

Chase Electronics Inc., 82-31 51st Ave., Elmhurst, N. Y.

Chase-Shawmut Co., Box 390, Newburyport, Mass.

Chassis-Trak, Inc., 6248 E. Iona Rd., Indianapolis 3, Ind.

Chatham Electronics Div. of Tung-Sol Electric, Inc., 630 W. Mt. Pleasant Ave., Livingston, N. J.

Chatillon & Sons, John, 85 Cliff St., New York, N. Y.

Chemalloy Electronics Corp., Gillespie Field, Santee, Calif.

Chemical Products Corp., King Philip Rd., East Providence, R. I.

Chemplast Inc., 3 Central Ave., East Newark, N. J.

Chesapeake Instrument Corp., Shadyside, Md.

Chester Cable Corp., Hill St., Chester, N. Y.

Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.

Chicago Condenser Corp., 3255 W. Armitage Ave., Chicago 47, Ill.

Chicago Die Mold Div. of U. S. Rubber Co., 4300 New Haven Ave., Fort Wayne 4, Ind.

Chicago Electronic Engineering Co., 3223 W. Armitage Ave., Chicago 47, Ill.

Chicago Electronic Laboratories, 1214 W. Madison St., Chicago 7, Ill.

Chicago Expansion Bolt Co., 1338 W. Concord Place, Chicago 22, Ill.

Chicago Magnetic Control Co., 1616 Damon Ave., Chicago, Ill.

Chicago Miniature Lamp Works, 1500 N. Ogden Ave., Chicago 10, Ill.

Chicago Rivet & Machine Co., Bellwood, Ill.

Chicago Screw Co., The, Bellwood, Ill.

Chicago Standard Transformer Corp., 3521 Addison St., Chicago, Ill.

Chicago Telephone of California, Inc., 105 Pasadena Ave., South Pasadena, Calif.

Chicago Telephone Supply Corp., 1142 W. Beardsley Ave., Elkhart, Ind.

Christie Electric Corp., 3410 W. 67th St., Los Angeles 43, Calif.

Churchill Lighting Corp., 344 Franklin St., Melrose 76, Mass.

Ciba Co., Inc., Plastics Div., Kimberlon, Pa.

Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago 24, Ill.

Cinema Engineering Div., Aerovox Corp., 1100 Chestnut St., Burbank, Calif.

Cinema-Television, Ltd., Worsley Bridge Rd., London, S. E. 26, England.

Circon Component Co., Santa Barbara Municipal Airport, Goleta, Calif.

Circuit Instruments, Inc., 2801 Anvil St. North, P. O. Box 1438, St. Petersburg, Fla.

Clairex Corp., 50 W. 26th St., New York 10, N. Y.

Clare & Co., C. P., 3101 Pratt Blvd., Chicago 45, Ill.

Claremont Tube Corp., 36-02 35th Ave., Long Island City, N. Y.

Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.

Clark Crystal Co., Farm Rd., Marlboro, Mass.

Clark Electronic Labs., Box 165, Palm Springs, Calif.

Clarostat Mfg. Co., Inc., Dover, N. H.

Clary Corp., San Gabriel, Calif.

Clauss Cutlery Co., Fremont, Ohio.

Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.

Cleargrip Paper Co., 1482 67th St., Emeryville, Calif.

Clegg Laboratories Div. of Clegg, Inc., Hanover & Ridge-dale Aves., Morristown, N. J.

Cleveland Container Co., The, 6201 Barberton Ave., Cleveland 2, Ohio.

Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland 3, Ohio.

Cleveland Metal Specialties Co., 1783 E. 21st St., Cleveland 14, Ohio.

Clevite Transistor Products, A Div. of Clevite Corp., 241-257 Crescent St., Waltham 54, Mass.

Clifford Mfg. Co., Grove St., Waltham, Mass.

Clifton Mfg. Co., Inc., 20 N. Springfield Rd., Clifton Heights, Pa.

Clifton Precision Products Co., Inc., Broadway at Marple Ave., Clifton Heights, Pa.

Cline Electric Mfg. Co., 3405 W. 47th St., Chicago, Ill.

Clippard Instrument Laboratory, Inc., 7350-90 Colerain Rd., Cincinnati 24, Ohio.

Clough-Bregle Co., 6014 N. Broadway, Chicago, Illinois.

Clover Industries, Inc., 584 Young St., Tonawanda, N. Y.

Coast Coil Co., 5333 W. Washington Blvd., Los Angeles 16, Calif.

Coaxial Connector Co., Inc., 37 North 2nd Ave., Mt. Vernon, N. Y.

Cobehn, Inc., 100 Passaic Ave., Caldwell, N. J.

Cohan-Epner Co., Inc., 142 W. 14th St., New York 11, N. Y.

Cohn Corp., Sigmund, 121 S. Columbus Ave., Mt. Vernon, N. Y.

Coil Company of America, Inc., 207 Washington St., Northvale, N. J.

Coil Winders, Inc., 100 New York Ave., Westbury, N. Y.

Coil Winding Equipment Co., 109 Audrey Ave., Oyster Bay, N. J.

Coilcraft, Inc., Cary, Ill.

Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia 33, Pa.

Colber Corp., The, 26 Buffington St., Irvington, N. J.

Cole Radio Works, 86 Westville Ave., Caldwell, N. J.

Coleman Engineering Co., Inc., 6040 W. Jefferson Blvd., Los Angeles 16, Calif.

Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.

Collaro, Ltd., (Rockbar Corp.), 650 Halstead Ave., Mamaroneck, N. Y.

Collection Corp., 304 E. 45th St., New York 17, N. Y.

Collins Electronics Mfg. Corp., Stevensville, Md.

Collins Radio Co., Cedar Rapids, Iowa.

Collyer Insulated Wire Co., 249 Roosevelt Ave., Pawtucket, R. I.

Colman Tool & Machine Co., P. O. Box 7026, Amarillo, Texas.

Color Television, Inc., 1421 Old County Rd., Belmont, Calif.

Colorado Research Corp., 4697 E. Elys Ave., Denver 22, Colo.

Colortone Electronics, Inc., 200 Frank Rd., Hicksville, N. Y.

Columbia Electric Mfg. Co., 4519 Hamilton Ave., N. E., Cleveland 14, Ohio.

Columbia Metal Box Co., 260 E. 143rd St., New York, N. Y.

Columbia Technical Corp., 61-02 31 Ave., Woodside 77, N. Y.

Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago 18, Ill.

Columbian Carbon Co., Mapico Color Unit, 380 Madison Ave., New York 17, N. Y.

Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.

Comar Electric Co., 3349 W. Addison St., Chicago 18, Ill.

Combustion Control Div., Electronics Corp. of America, 77 Broadway, Cambridge 42, Mass.

Cominco, Metal Sales Div., 215 St. James St., W., Montreal, Canada.

Commercial Plastics Co., 945 George St., Chicago 14, Ill.

Communication Accessories Co., Red Bridge Rd., Hickman Mills, Mo.

Communication Measurements Lab. Inc., 350 Leland Ave., Plainfield, N. J.

Communication Products Co., Inc., Marlboro, N. J.

Communications Co., Inc., 300 Greco Ave., Coral Gables 34, Fla.

Community Engineering Corp., Box 824, State College, Pa.

Computer Control Co., Inc., 92 Broad St., Babson Park 57, Mass.

Computer Instruments Corp., 92 Madison Ave., Hempstead, N. Y.

Computer-Measurement Corp., 5528 Vineland Ave., North Hollywood, Calif.

Conant Labs., 6500 O St., Lincoln 5, Nebraska.

Concord Control Inc., 1282 Soldiers Field Rd., Boston 35, Mass.

Condenser Machinery Co., Stamford, Conn.

Condenser Products Div., New Haven Clock & Watch Co., 140 Hamilton St., New Haven, Conn.

Condor Radio Mfg. Co., 4068 E. Paseo Grande, Tucson 12, Ariz.

Conn Ltd., C. G., 1101 E. Beardsley Ave., Elkhart, Ind.

Connecticut Hard Rubber Co., 407 East St., New Haven 9, Conn.

Connecticut Telephone & Electric Corp., 70 Britannia St., Meriden, Conn.

Connector Corp., 6025 N. Keystone Ave., Chicago, Ill.

Connector Corp. of America, 3223 Burton Ave., Burbank, Calif.

Conrac, Inc., Glendora, Calif.

Conrad, Inc., 141 Jefferson St., Holland, Mich.

Conrad & Mosek, 2 Borden Ave., Long Island City 1, N. Y.

ConRay Corp., 29 W. Apple St., Dayton 2, Ohio.

Consolidated Avionics, Inc., 66 Eerooklyn Ave., Westbury, N. Y.

Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena 15, Calif.

Consolidated Electrodynamics Corp., Rochester Div., Rochester 3, N. Y.

Consolidated Molded Products Corp., Scranton 2, Pa.

Consolidated Radio Products Co., 350 W. Erie St., Chicago 10, Ill.

Consolidated Resistance Co. of America Inc., 44 Prospect St., Yonkers, N. Y.

Consolidated Wire & Associated Companies, 1635 S. Clinton St., Chicago 16, Illinois.

Constantin & Co., L. L., Route #46, Lodi, N. J.

Continental Can Co., Inc., 100 E. 42nd St., New York 17, N. Y.

Continental Carbon, Inc., 13900 Lorain Ave., Cleveland 11, Ohio.

Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Ill.

Continental Connector Corp., 34-63 56th St., Woodside 77, N. Y.

Continental-Diamond Fibre Corp., Newark 100, Delaware.

Continental Electric Co., 6 N. Michigan Ave., Chicago 2, Ill.

Continental Electric Co., Inc., 334 Ferry St., Newark 5, N. J.

Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas 27, Texas.

Continental Felt Co., 22 W. 15th St., New York 11, N. Y.

Continental Wire Sales Corp., Wallingford, Conn.

Control Corp., 718 Central Ave., Minneapolis 14, Minn.

Control Devices, Inc., 8299 E. Nine Mile Rd., Van Dyke, Mich.

Control Electronics Co., Inc., 1925 New York Ave., Huntington Station, N. Y.

Control Products, Inc., 306 Sussex St., Harrison, N. J.

Controlled Atmosphere Enclosures Corp., 230-11 141st Ave., Springfield Gardens 13, N. Y.

Cook Ceramic Mfg. Co., 501 Prospect St., Trenton 1, N. J.

Cook Co., Frank R., 36 S. Santa Fe Drive, Denver 23, Colo.

Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill.

Cook Laboratories, 101 Second St., Stamford, Conn.

Co-Operative Industries, Inc., 100 Oakdale Rd., Chester, N. J.

Cooper Co., Clark, 349 N. Market St., Palmyra, N. J.

Cooper & Sons, Inc., Joseph B., 25 W. 47th St., New York 36, N. Y.

Coors Porcelain Co., 600 Ninth St., Golden, Colo.

Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.

Coradio, Inc., 196 Albion Ave., Paterson, N. J.

Corbett Science Laboratories, F. W., 3117 Venice Blvd., Los Angeles 19, Calif.

Cords Ltd., Div. of The Essex Wire Corp., 1601 Wall St., Fort Wayne, Ind.

Cornell-Dublier Electric Corp., South Plainfield, N. J.

Corning Glass Works, Corning, N. Y.

Cornish Wire Co., 50 Church St., New York 7, N. Y.

Corrugated Paper Products, Inc., 2233 Utica Ave., Brooklyn 34, N. Y.

Corry-Jamestown Mfg. Co., Corry, Pa.

Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.

Cortland Industries, Inc., 4545 Cortland St., Chicago 39, Ill.

Cosa Corp., 405 Lexington Ave., New York 17, N. Y.

Cosmic Radio Corp., 853 Whittier St., New York 59, N. Y.

Cossor (Canada) Ltd., 301-303 Windsor St., Halifax, N. S., Canada.

Coto-Coil Co., Inc., 65 Paviion Ave., Providence 5, R. I.  
 Cottrell Paper Co., Inc., Fall River, Mass.  
 Couch Ordnance, Inc., Relay Div., 3 Arlington St., North Quincy, Mass.  
 Counting Instruments, Ltd., 5, Elstree Way, Boreham Wood, Hertfordshire, England.  
 Cox & Co., Inc., 115 E. 23rd St., New York 10, N. Y.  
 Coxhead Co., Ralph C., Newark, N. J.  
 Craft Laboratories, P. O. Box 606, Westfield, N. J.  
 Craig Systems, Inc., Danvers, Mass.  
 Cramer Controls Corp., Box 13, Centerbrook, Conn.  
 Cramer Posture Chair Co., 1205 Charlotte St., Kansas City 6, Mo.  
 Crane Packing Co., 6402 Oakton St., Morton Grove, Ill.  
 Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.  
 Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.  
 Crest Transformer Corp., 1834-36 W. North Ave., Chicago 22, Ill.  
 Crittenden Transformer Co., 1220 Nadeau St., Los Angeles, Calif.  
 Croname, Inc., 1747 Grace St., Chicago 13, Ill.  
 Cro-Plate Co., Inc., The, 747 Windsor St., Hartford 1, Conn.  
 Crosby Labs., Inc., Box 233, Robbins Lane, Hicksville, N. Y.  
 Crosby-Laughlin Division, P. O. Box 570, Fort Wayne, Ind.  
 Cross Co., H., 15 Beekman St., New York 38, N. Y.  
 Crowley Div. of Aerovox Corp., 1 Central Ave., West Orange, N. J.  
 Crown Industrial Products Co., 713 Amsterdam Ave., Woodstock, Ill.  
 Crucible Steel Company of America, P. O. Box 1558, Pittsburgh 30, Pa.  
 Cryco, Inc., 1138 Mission St., South Pasadena, Calif.  
 Crystal-X Corp., 403 Lenni Rd., Lenni Mills 2, Pa.  
 Cubic Corp., 5575 Kearny Villa Rd., San Diego 11, Calif.  
 Cudner & O'Connor Co., 4035 W. Kinzie Ave., Chicago 24, Ill.  
 Cunningham Industries, Inc., 56 Hubbard Ave., Stamford, Conn.  
 Cunningham Son & Co., Inc. James, 33 Litchfield St., Rochester, N. Y.  
 Curtis Development & Mfg. Co., 3226 N. 33rd St., Milwaukee 16, Wis.  
 Curtiss-Wright Corp., Electronics Div., Plant #2, Central Ave., Carlstadt, N. J.  
 Curtiss-Wright Corp., Industrial Scientific Products Div., P. O. Box 270, Caldwell, N. J.  
 Custom Components, Inc., Caldwell, N. J.  
 Custom Gear Co., 648 College St., South Bend 28, Ind.  
 Cutler-Hammer, Inc., 411 N. 12th St., Milwaukee 1, Wis.  
 Cutler Metal Products Co., 1025 Line St., Camden, N. J.  
 Cybergor, Inc., Electronics, 1705 W. 135th St., Gardena, Calif.  
 Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.  
 Cyclotron Specialties Co., Moraga 8, Calif.

## D

D & R Ltd., 402 E. Gutierrez St., P. O. Box 1500, Santa Barbara, Calif.  
 D & R Plastic Welders Inc., Hazardville, Conn.  
 DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago 47, Ill.  
 Daco Instrument Co., Tillary & Prince Sts., Brooklyn 1, N. Y.  
 Dage Electric Co., 67 N. Second St., Beech Grove, Ind.  
 Dage Television Div. of Thompson Products, Inc., W. 10th St., Michigan City, Ind.  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Dale Products, Inc., Box 136, Columbus, Neb.  
 Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles 29, Calif.  
 Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.  
 Dalmotro Co., 1375 Clay St., Santa Clara, Calif.  
 Dalmotro Co., 534 Laurel St., San Carlos, Calif.  
 Danbury-Knudsen, Inc., P. O. Box 170, Danbury, Conn.  
 Dane Electronic Labs., Inc., P. O. Box 209, Salem, Mass.  
 Dano Electric Co., Main St., Winsted, Conn.  
 Dante Electric Mfg. Co., Bantam, Conn.  
 Darco Industries, Inc., Gyro Dynamics Div., 2151 E. Rosencrans Ave., El Segundo, Calif.  
 Datascan Inc., 48 Notch Rd., Little Falls, N. J.  
 Datran Electronics, 3615 Aviation Blvd., Manhattan Beach, Calif.  
 Daubert Chemical Co., 333 N. Michigan Ave., Chicago 1, Ill.  
 Daven Co., Route 10, Livingston, N. J.  
 Davies Laboratories Div., Minneapolis-Honeywell Regulator Co., 10721 Hanna St., Beltsville, Md.  
 Davies Molding Co., Harry, 1428 N. Wells St., Chicago 10, Ill.  
 Davis Electric Co., Cape Girardeau, Mo.  
 Davis Electronics, P. O. Box 1247, 4002 Burbank Blvd., Burbank, Calif.  
 Davis-K Products Co., 135 W. 29th St., New York 1, N. Y.  
 Daystrom Electric Corp., 807 Main St., Poughkeepsie, N. Y.  
 Daystrom Instrument, Archbald, Pa.  
 Daystrom Nuclear Div. of Daystrom, Inc., P. O. Box 437, West Caldwell, N. J.  
 Daystrom Pacific Corp., 9320 Lincoln Blvd., Los Angeles 45, Calif.  
 Daytronic Corp., 216 S. Main St., Dayton, Ohio.  
 Dearborn Electronic Laboratories, Inc., 231 S. LaSalle St., Chicago 4, Ill.  
 Decade Instrument Co., Box 153, Caldwell, N. J.

Decatur Electronics Industries Corp., 203 Orinco Drive, Brightwater, N. Y.  
 Decca Records, Inc., 50 W. 57th St., New York 19, N. Y.  
 De Coursey Engineering Lab., 11828 W. Jefferson Blvd., Culver City, Calif.  
 Dee Electric Co., 1101 N. Paulina St., Chicago 22, Ill.  
 Defiance Engineering & Microwave Corp., Box 488, Beverly Airport, Beverly, Mass.  
 Deitz Co., S. J., 9 E. Wesley St., South Hackensack, N. J.  
 DeJur-Amsco Corp., Northern Blvd. at 45th St., Long Island City 1, N. Y.  
 Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.  
 Delaware Products Co., 300 Broadway, Camden 3, N. J.  
 Delco Radio Division, GM Corp., 700 E. Firmin St., Kokomo, Ind.  
 Delevan Electronics Corp., Roycroft Campus, East Aurora, N. Y.  
 Delmhorst Instrument Co., 601 Cedar St., Boonton, N. J.  
 Delta Chemical Works, 21 W. 60th St., New York, N. Y.  
 Delttime, Inc., 608 Fayette Ave., Mamaroneck, N. Y.  
 Deltron, Inc., 2905 N. Leithgow St., Philadelphia 33, Pa.  
 Detronic Corp., 1507 Riverside Drive, Los Angeles 31, Calif.  
 DeLuxe Coils, Inc., Wabash, Ind.  
 De Mornay-Bonardi, Inc., 780 S. Arroyo Parkway, Pasadena, Calif.  
 Denison Engineering Div., American Brake Shoe Co., 1160 Dublin Rd., Columbus 16, Ohio.  
 Denson Electronics Corp., Ellington, Conn.  
 Derringer Metallurgical Corp., 8127 Monticello Ave., Skokie, Ill.  
 Design Tool Corp., 80 Washington St., New York 6, N. Y.  
 Despatch Oven Co., Minneapolis, Minn.  
 Detroit Controls Corp., Control Engineering Unit, 560 Providence Highway, Norwood, Mass.  
 Detroit Diesel Engine Div. of General Motors Corp., 13400 W. Outer Drive, Detroit 28, Mich.  
 Deutsch Co., The, Electrical Connector Div., 7000 Avalon Blvd., Los Angeles 3, Calif.  
 Devco Engineering Inc., P. O. Box 387, Caldwell, N. J.  
 Development Engineering Co., 9 Cross St., Norwalk, Conn.  
 Devenco Inc., 150 Broadway, New York 38, N. Y.  
 Devtron Engineering, 1 Winslow St., Redwood City, Calif.  
 Dewey & Almy Chemical Co., Div. of W. R. Grace & Co., 62 Whittemore Ave., Cambridge 40, Mass.  
 DeWitt Development Co., 3008 W. 127th St., Blue Island, Ill.  
 Dial Products Co., 9 Avenue E, Bayonne, N. J.  
 Dialight Corporation, 60 Stewart Ave., Brooklyn 37, N. Y.  
 Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.  
 Diamond Drill Carbon Co., The, 244 Madison Ave., New York 16, N. Y.  
 Diamond Power Specialty Corp., Lancaster, Ohio.  
 Diamond-Union Stamp Works, 81 Washington St., Boston 8, Mass.  
 Diamond Wire & Cable Co., Sycamore, Ill.  
 Diamonite Products Mfg. Co., Div. of U. S. Ceramic Tile Co., 1232 Cleveland Ave., N. W., Canton, Ohio.  
 Dice Co., J. W., Englewood, N. J.  
 Dictaphone Corp., 420 Lexington Ave., New York 17, N. Y.  
 Diehl Manufacturing Co., Somerville, N. J.  
 Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago 40, Ill.  
 Dielectric Products Engineering Co., Inc., Raymond, Maine.  
 Dietz Co., Henry G., 12-16 Astoria Blvd., Long Island City 2, N. Y.  
 Dietz Design & Mfg. Co., Grandview 6, Mo.  
 Dietzgen Co., Eugene, 2425 Sheffield Ave., Chicago, Ill.  
 Dielrect Corp., Allen Blvd. & Grant Ave., Farmingdale, N. Y.  
 Dilectron Div. of The Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.  
 Dilks Co., The, Seymour, Conn.  
 Dillon & Co., Inc., W. C., 14620 Keswick St., Van Nuys, Calif.  
 Dimco-Gray Co., 207 E. Sixth St., Dayton, Ohio.  
 Dinion Coil Co., Inc., Caledonia, N. Y.  
 Dit-Mico, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo.  
 Division Lead Co., 7742 W. 61st Place, Summit, Ill.  
 Dixon Corporation, Bristol, R. I.  
 Dmeter Mfg. Co., Inc., 22-24 Larkin Plaza, Yonkers 2, N. Y.  
 Doepke Mfg. Co., Inc., Chas. Wm., 1956 Emerald Ave., Rossmoyne, Ohio.  
 Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N. Y.  
 Dolinko & Wilkins, Inc., 1901-7 Summit Ave., Union City, N. J.  
 Dollar Co., Robert, Communications Equipment Div., 50 Drumm St., San Francisco 11, Calif.  
 Dollin Corp., 640 S. 21st St., Irvington 11, N. J.  
 Dondar Devices, 321 E. 6th St., Medford, Ore.  
 Donnelly Mfg. Co., Div. of The Indian Co., 580 Winter St., Waltham 54, Mass.  
 Donner Scientific Co., 888 Galindo St., Concord, Calif.  
 Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, 41, Ill.  
 Dormitzer Electric & Mfg. Co., Inc., 5 Hadley St., Cambridge, Mass.  
 Dorne and Margolin, Inc., 30 Sylvester St., Westbury, N. Y.  
 Dorsett Laboratories, Inc., 401 E. Boyd St., Box 862, Norman, Okla.

Doty Acoustical Electronic Labs., Inc., 431 Broome St., New York 13, N. Y.  
 Double "E" Products Co., 216 Standard St., El Segundo, Calif.  
 Douglas Microwave Co., Inc., 252 E. Third St., Mt. Vernon, N. Y.  
 Douglas Radio Labs., 176 Norfolk Ave., Boston 19, Mass.  
 Dow Chemical Co., Midland, Mich.  
 Dow Corning Corp., Midland, Mich.  
 Drake Electric Works, 3656 Lincoln Ave., Chicago 13, Ill.  
 Drake Mfg. Co., 1713 W. Hubbard St., Chicago 22, Ill.  
 Drakenfield & Co., Inc., B. F., Box 519, Washington, Pa.  
 Dremel Mfg. Co., 2300 18th St., Racine, Wis.  
 Dressen-Barnes Corp., 250 N. Vinedo Ave., Pasadena 8, Calif.  
 Dresser Electric Co., 942 E. Larned St., Detroit 7, Mich.  
 Dresser-Ideco Co., 875 Michigan Ave., Columbus 8, Ohio.  
 Driver Co., Wilbur B., 1875 McCarter Highway, Newark 4, N. J.  
 Driver-Harris Co., 201 Middlesex St., Harrison, N. J.  
 Dubrow Development Co., 235B Penn St., Burlington, N. J.  
 Du-Co Ceramics Co., Box 587, Butler 8, Pa.  
 Dudek & Bock Spring & Mfg. Co., 4018 W. Grand Ave., Chicago 51, Ill.  
 Dukane Corp., St. Charles, Ill.  
 Dumont-Airplane & Marine Instruments, Inc., 15 William St., New York 5, N. Y.  
 DuMont Laboratories, Inc., Allen B., 750 Bloomfield Ave., Clifton, N. J.  
 Dunlap Electronics, 764 9th St., Des Moines, Iowa.  
 Dunlee Corp., 4560 W. Congress St., Chicago 24, Ill.  
 Dunn Engineering Associates, Inc., 186 Massachusetts Ave., Cambridge 39, Mass.  
 Dunton Co., M. W., 7 Goff St., Providence, R. I.  
 Du-tone Co., Inc., Keyport, N. J.  
 du Pont de Nemours & Co., Inc., E. I., Wilmington 98, Del.  
 Dura Plastics of New York, Inc., 303 Fifth Ave., New York 16, N. Y.  
 Durakool, Inc., 1010 N. Main St., Elkhart, Ind.  
 Duramark, Inc., 2 Secatoga Ave., Port Washington, N. Y.  
 Durant Mfg. Co., 1912-A N. Buffum St., Milwaukee 1, Wis.  
 Durez Plastics Div. of Hooker Electrochemical Co., 1921 Walck Rd., North Tonawanda, N. Y.  
 Duro Specialty Co., Inc., 811 Boston St., Lynn, Mass.  
 Durson Co., Dept. A-1, 10416 National Blvd., Los Angeles 34, Calif.  
 Dwyer Engineering Co., Inc., P. O. Box 483, Nashua, N. H.  
 Dyna-Empire, Inc., 1075 Stewart Ave., Garden City, N. Y.  
 Dynac, Inc., 395 Page Mill Rd., Palo Alto, Calif.  
 Dynamics Development Labs., Inc., 11941 Wilshire Blvd., Los Angeles 25, Calif.  
 Dynamic Air Engineering Inc., 7412 Maie Ave., Los Angeles 1, Calif.  
 Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.  
 Dynamic Gear Co., Inc., 20 Merrick Rd., Amityville, N. Y.  
 Dynamic Instrument Corp., 59 New York Ave., Westbury, N. Y.  
 Dynamics Instrumentation Co., Div. of Alberhill Corp., 1118 Mission St., South Pasadena, Calif.  
 Dynamics Research Associates Div. of Universal Match Corp., 472 Paul Ave., Ferguson 21, Mo.  
 Dynapar Corp., 5150 Church St., Skokie, Ill.  
 Dzus Fastener Co., Inc., Box 185, Babylon, N. Y.

## E

EPM Corp., 570 Van Siclen Ave., Brooklyn, N. Y.  
 ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.  
 E-Z Templates, P. O. Box 86424, Los Angeles 66, Calif.  
 Eagle Electric Mfg. Co., Inc., 23-10 Bridge Plaza S., Long Island City, N. Y.  
 Eagle Pencil Co., 703 E. 13th St., New York, N. Y.  
 Eagle Signal Corp., Moline, Ill.  
 Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.  
 Eastern Industries, Inc., 100 Skiff St., Hamden, Conn.  
 Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.  
 Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston 18, Mass.  
 Eastern Specialty Co., Philadelphia 40, Pa.  
 Eastern Tool & Mfg. Co., 1 Montgomery St., Belleville 9, N. J.  
 Eastman Kodak Co., 343 State St., Rochester 4, N. Y.  
 Eaton Electronics Corp., Eaton Ave., Moodus, Conn.  
 Eaton Mfg. Co., Reliance Div., 25 Charles Ave., S. E., Massillon, Ohio.  
 Eberline Instrument Division, P. O. Box 279, Santa Fe, N. M.  
 Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village 28, N. Y.  
 Eby Co., Hugh H., 4701 Germantown Ave., Philadelphia 44, Pa.  
 Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N. J.  
 Eckstein Radio & Television Co., 2601 E. Franklin Ave., Minneapolis 6, Minn.  
 Eclipse-Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.  
 Economy Fuse & Mfg. Co., 2717 Greenview Ave., Chicago 14, Ill.  
 Ed-Berl Products, Inc., 87 Merrick Rd., Baldwin, N. Y.

Edcliff Instruments, 383 N. Foothill Blvd., Pasadena 8, Calif.

Eder Engineering Co., 219 E. Becher St. Milwaukee 2, Wis.

Edgerton, Germeshausen & Grier, Inc., 160 Brookline Ave., Boston, Mass.

Edin Co., Inc., 207 St., Worcester, Mass.

Edison Industries, Thomas A., Instrument Div., 81 Lakeside Ave., West Orange, N. J.

Edmund Scientific Corp., 502 E. Gloucester Pike, Barington, N. J.

Edo Corp., College Point, N. Y.

Eichner Instruments, L. C., 19 Sebago St., Clifton, N. J.

Eicor, Inc., 4235 W. North Ave., Chicago 39, Ill.

Eldson Electronic Co., 1902 N. Third St., Temple, Texas.

Eisler Engineering Co., Inc., 751 S. 13th St., Newark 3, N. J.

Eitel-McCullough, Inc., San Bruno, Calif.

Elastic Stop Nut Corp., 2330 Vauxhall Rd., Union, N. J.

Elco Corp., "M" St.-below Erie Ave., Philadelphia 24, Pa.

Elco Mfg. Co., 137 Herricks Rd., New Hyde Park, N. Y.

Elcor, Inc., P.O. Box 354, McLean, Va.

Eldeema Corp., 9844 Remer St., El Monte, Calif.

Electronic Mechanisms, Inc., P. O. Box 1156, Greenwich, Conn.

Electra Mfg. Co., Resistor Div., 4051 Broadway, Kansas City, Mo.

Electralab, Inc., Sub. of Farrington Mfg. Co., Needham Heights 94, Mass.

Electran Mfg. Co., 1901 N. Clybourn, Chicago 3, Ill.

Electric Auto-Lite Co., The, Champlain St., Toledo 1, Ohio.

Electric Auto-Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.

Electric Cords & Supply Co., 413 E. Third St., Los Angeles 13, Calif.

Electric Design & Mfg. Corp., Burlington, Iowa.

Electric Eye Equipment Co., 1938 E. Fairchild St., Danville, Ill.

Electric Furnace Co., Salem, Ohio.

Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.

Electric Machinery & Equipment Div. of American Electronics, Inc., 2112 N. Chico Ave., El Monte, Calif.

Electric Motor & Specialties, Inc., King & Hamsher Sts., Garrett, Ind.

Electric Regulator Corp., Pearl St., Norwalk, Conn.

Electric Soldering Iron Co., W. Elm St., Deep River, Conn.

Electric Specialty Co., 300 South St., Stamford, Conn.

Electric Storage Battery Co., Exide Industrial Div., 42 S. 15th St., Philadelphia 2, Pa.

Electric Trading Co., 313 Canal St., New York, N. Y.

Electrical Communications Co., 765 Clementina St., San Francisco, Calif.

Electrical Industries Div., Philips Electronics, Inc., 691 Central Ave., Murray Hill, N. J.

Electrical Insulation Co., Inc., 1245 Marconi Blvd., Copiague, N. Y.

Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City 1, N. Y.

Electrical Products Corp., 1100 N. Main St., Los Angeles 12, Calif.

Electrical Refractories Co., 50 Clark St., East Palestine, Ohio.

Electrical Service Co., 1271 Mission St., San Francisco, Calif.

Electrical Tower Service, Inc., 325 E. Washington St., Peoria, Ill.

Electrical Windings, Inc., 2015 N. Kolmar St., Chicago 39, Ill.

Electro-Aire Div. of Hydro Aire, Inc., 6909 Farmdale Ave., North Hollywood, Calif.

Electro-Capacitors Co., 10132 Edes Ave., Oakland 3, Calif.

Electro Circuits, Inc., 401 E. Green St., Pasadena, Calif.

Electro-Coatings, Inc., 1662 W. Fullerton Ave., Chicago 14, Ill.

Electro Craft Industries, Inc., 68 Jackson St., Stamford, Conn.

Electro Data Div. of Burroughs Corp., 460 Sierra Madre Villa, Pasadena 6, Calif.

Electro Development Co., 14701 Keswick St., Van Nuys, Calif.

Electro Devices, Inc., 580 Main St., Wilmington, Mass.

Electro Engineering Products Co., 609 W. Lake St., Chicago, Ill.

Electro Engineering Works, 401 Preda St., San Leandro, Calif.

Electro-Flex Heat, Inc., 83 Woodbine St., Hartford 6, Conn.

Electro Impulse Labs., 208 River St., Red Bank, N. J.

Electro Instruments, Inc., 3794 Rosecrans, San Diego 10, Calif.

Electro-Measurements, Inc., 7524 S.W. Macadam, Portland 1, Ore.

Electro-Mec Laboratory Inc., 47-51 33rd St., Long Island City 1, N. Y.

Electro-Mechanical Div. of General Riveters, Inc., 785 Hertel Ave., Buffalo 7, N. Y.

Electro-Mechanical Research, Inc., Ridgefield, Conn.

Electro-Mechanical Specialties Co., Inc., 1016 N. Highland Ave., Los Angeles 38, Calif.

Electro-Medical Lab., Inc., South Woodstock 8, Vt.

Electro-Miniatures Corp., 1060 Elm Ave., Ridgefield, N. J.

Electro Motive Mfg. Co., South Park & John St., Willimantic, Conn.

Electro Products Labs., 4501 N. Ravenswood Ave., Chicago 40, Ill.

Electro-Pulse, Inc., 11861 Teale St., Culver City, Calif.

Electro-Science Industries, Box 10066 International Airport, Los Angeles 45, Calif.

Electro-Seal Corp., 946 North Ave., Des Plaines, Ill.

Electro-Snap Switch & Mfg. Co., 4218 W. Lake St., Chicago 24, Ill.

Electro Switch Corp., 167 King Ave., Weymouth 88, Mass.

Electro-Switch & Controls, Inc., 5755 Camille Ave., Culver City, Calif.

Electro Tec Corp., South Hackensack, N. J.

Electro-Tech Pacific, Santa Barbara Airport, P.O. Box 455, Goleta, Calif.

Electro-Technical Products Div. of Sun Chemical Corp., 113 E. Centre St., Nutley 10, N. J.

Electro Voice Mfg Co., Inc., Buchanan, Mich.

Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.

Electro-Wire Service, 5 Beekman St., New York 7, N. Y.

Electrochemical Industries, Inc., 35 Armory St., Worcester, Mass.

Electrodyne Co., Endicott St., Norwood, Mass.

Electromath Corp., 190 Henry St., Stamford, Conn.

Electromatlon Co., 1646 Eighteenth St., Santa Monica, Calif.

Electron Enterprises, 6917-19-21 Stanley Ave., Berwyn, Ill.

Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.

Electron-Radar Products, P. O. Box 50, Route #30, North Aurora, Ill.

Electronic Assembly Co., Inc., 5 Prescott St., Boston 19, Mass.

Electronic Associates, Inc., Long Branch, N. J.

Electronic Batteries, Inc., Bush Terminal Bldg. No. 4, 28-34 35th St., Brooklyn 32, N. Y.

Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.

Electronic Computer Div., Underwood Corp., 35-10 36th Ave., Long Island City 6, N. Y.

Electronic Control Corp., 1573 E. Forest St., Detroit 7, Mich.

Electronic Control Systems, Inc., 2136-38 Westwood Blvd., Los Angeles 25, Calif.

Electronic Devices, Inc., Precision Rectifier Div., 429 12th St., Brooklyn, N. Y.

Electronic Engineering Associates, Ltd., 1048 Brittan Ave., San Carlos, Calif.

Electronic Enterprises, Inc., 65 7th Ave., Newark 4, N. J.

Electronic Fabricators, Inc., 682 Broadway, New York 12, N. Y.

Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y.

Electronic Machine Parts, Inc., 204-206 Lafayette St., New York 12, N. Y.

Electronic Measurements Co., Lewis St. & Maple Ave., Eatontown, N. J.

Electronic Measurements Corp., 280 Lafayette St., New York 12, N. Y.

Electronic Mechanics, Inc., 101 Clifton Blvd., Clifton, N. J.

Electronic Parts Mfg. Co., Inc., 508-10 25th St., Union City, N. J.

Electronic Plastics Corp., 675 Barbey St., Brooklyn 7, N. Y.

Electronic Processes Corp., 2190 Folsom St., San Francisco 10, Calif.

Electronic Products Co., 111 E. Third St., Mt. Vernon, N. Y.

Electronic Products Corp., 322 State St., Santa Barbara, Calif.

Electronic Protection, Inc., 452 W. Chicago Ave., Chicago 10, Ill.

Electronic Research Associates, Inc., 67 E. Centre St., Nutley 10, N. J.

Electronic Research Labs., 85 Surrey St., Brighton 35, Mass.

Electronic Service Corp., 2906 Birch St., Franklin Park, Ill.

Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.

Electronic Systems Engineering Co., 903 Cravens Bldg., Oklahoma City, Okla.

Electronic Transformer Corp., 70 Washington St., Brooklyn 1, N. Y.

Electronic Tube Corp., 1200 E. Mermaid Ave., Philadelphia 18, Pa.

Electronics & Avionics Div. of the Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo.

Electronics Computer Corp., 6191 Ridge Ave., Philadelphia 28, Pa.

Electronic Corporation of America, 77 Broadway, Cambridge 42, Mass.

Electronics Development Co., Inc., 3743 N. Cahuenga Blvd., North Hollywood, Calif.

Electronics, Inc., 39 York Rd., Willow Grove, Pa.

Electronics Manufacturing Div. of Sid Stone Radio Labs., 739 Tremont St., Boston, Mass.

Electrons, Inc., 127 Sussex Ave., Newark 3, N. J.

Electrovert Inc., 489 Fifth Ave., New York 17, N. Y.

Electrovox Co., Inc., 60 Franklin St., East Orange, N. J.

Electromotor Products Corp., Genoa, Ill.

Elektro-Serv Co., 480 Johnson Ave., Brooklyn 37, N. Y.

Elesta Ltd., Bad Ragaz, Switzerland.

Elgin Metalformers Corp., 630 Congdon Ave., Elgin, Ill.

Elgin National Watch Co., Electronics Div., 2435 N. Naomi St., Burbank, Calif.

Elk Electronic Labs., Inc., 333 W. 52nd St., New York 19, N. Y.

Ellanor Chemical Co., 2308 Oakton St., Evanston, Ill.

Ellis Associates, Box 77, Pelham, N. Y.

Ellis & Sons, Inc., George D., 4002 N. American St., Philadelphia 40, Pa.

Ellis & Watts Products Inc., P.O. Box 33, Cincinnati 36, Ohio.

Elm Laboratories, 18 South Broadway, Dobbs Ferry, N. Y.

El Ray Motor Co., Inc., 11747 Vose St., North Hollywood, Calif.

Eltran Corp., St. Anne, Ill.

Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N. Y.

Embassy Engineering Corp., 673 Elton Ave., New York 51, N. Y.

Emeloid Co., Inc., 1239 Central Ave., Hillside 5, N. J.

Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.

Emerson Plastics Corp., 1383 Seabury Ave., Bronx 61, N. Y.

Emerson Radio & Phonograph Corp., 14th & Coles Sts., Jersey City, N. J.

Empire Devices Products Corp., 38-15 Bell Blvd., Bay-side 63, N. Y.

Empire Electronics Co., Inc., 166 River St., Paterson 1, N. J.

Endevco Corp., 161 E. California St., Pasadena, Calif.

Endicott Coil Co., Inc., 24 Charlotte St., Binghamton, N. Y.

Enflo Corp., Route 38 at Airport Circle, Pennsauken, N. J.

Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.

Engineered Magnetics Div. of Gulton Mfg. Corp., 11818 Teale St., Culver City, Calif.

Engineered Precision Casting Co., Matawan Rd., Morganville, N. J.

Engineering Associates, 434 Patterson Rd., Dayton 9, Ohio.

Engineering Co., 27 Wright St., Newark, N. J.

Engineering Specialty Co., 3100 Eldredge St., Salt Lake City, Utah.

Enjay Inc., 15 W. 51st St., New York 20, N. Y.

Ensign Coil Co., 2516 S. Pulaski Rd., Chicago, Ill.

Enthone, Inc., 442 Elm St., New Haven 2, Conn.

Entron Inc., 4902 Lawrence St., Bladensburg, Md.

Environmental Equipment Co., 371 Linden St., Brooklyn 27, N. Y.

Epcoc Products, Inc., 2500 Atlantic Ave., Brooklyn 17, N. Y.

Epic, Inc., 154 Nassau St., New York 38, N. Y.

Epoxy Products, Inc., 137 Coit St., Irvington, N. J.

Eppley Lab., Inc., The, Newport, R. I.

Epsco, Incorporated, 588 Commonwealth Ave., Boston 15, Mass.

Equipment & Service Co., 6815 Orlole Drive, Dallas 9, Texas.

Era Electric Corp., 314 Valley Brook Ave., Lyndhurst, N. J.

Erca Tool Die & Stamping Co., 19 Ash St., Brooklyn 22, N. Y.

Erco Radio Labs., Inc., 637 Stewart Ave., Garden City, N. Y.

Erdoco Engineering Corp., Addison, Ill.

Erie Resistor Corp., Erie 6, Pa.

Erwood Inc., 1770 Berteau Ave., Chicago 13, Ill.

Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N. J.

Essex Connector Corp., Div. of Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.

Essex Electronics, Berkeley Heights, N. J.

Essex Wire Corp., Magnet Wire Div. & Wire & Cable Div., 1610 Wall St., Fort Wayne, Ind.

Eso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.

Esterline-Angus Co., P. O. Box 596, Indianapolis 6, Ind.

Etched Products Corp., 39-01 Queens Blvd., Long Island City 4, N. Y.

Ethylene Chemical Corp., 245 Broad St., Summit, N. J.

Eugene Engineering Co., Inc., 1217 Hyde Park Ave., Hyde Park 36, Mass.

Ewald Instruments, Route 7E, Kent, Conn.

Exact Engineering & Mfg. Co., P. O. Box 668, Ocean-side, Calif.

Exacto Industries, Inc., 8730-36 Santa Monica Blvd., Los Angeles 46, Calif.

Excellex Electronics, Inc., 475 Chestnut St., Cedarhurst, N. Y.

Executone, Inc., 415 Lexington Ave., New York 17, N. Y.

Extruders, Inc., 3232 W. El Segundo Blvd., Hawthorne, Calif.

Eyelet Tool Co., Inc., 236A Broadway, Cambridge 42, Mass.

F

F & M Sales, Inc., 1054 Cahuenga Blvd., Hollywood 38, Calif.

F-R Machine Works Inc., 26-12 Borough Place, Woodside 77, N. Y.

Faber Mfg. Co., Merle, 35 Stillman St., San Francisco 7, Calif.

Faber Pencil Co., Eberhard Rubber Div., 47 Colden St., Newark, N. J.

Factory Enterprises, Inc., 3431 Butler St., Pittsburgh 1, Pa.

Fada Radio & Electric Co., Inc., 525 Main St., Belleville, N. J.

Fafnir Bearing Co., The, New Britain, Conn.

Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York 69, N. Y.

Fairchild Camera & Instrument Corp., Electrical Products Div., 110 Main St., Burlington, Vt.

Fairchild Camera & Instrument Corp., Industrial Camera Div., 88-06 Van Wyck Expressway, Jamaica 1, N. Y.

Fairchild Camera & Instrument Corp., Reconnaissance Systems Div., Robbins Lane, Syosset, N. Y.

Fairchild Controls Corp., Components Div., 225 Park Ave., Hicksville, N. Y.

Fairchild Controls Corp., Electronics Div., 2 Aerial Way, Syosset, N. Y.

Fairchild Electrical Products Division, 110 Main St., Burlington, Vt.

Fairchild Electrotechnics Division, 118 E. 16th St., Costa Mesa, Calif.

Fairchild Engine & Airplane Corp., Guided Missiles Div., Wyandanch, N. Y.

Fairchild Recording Equipment Co., 10-40 45th Ave., Long Island City 1, N. Y.

Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.



Fair-Rite Products Corp., Wallkill, N. Y.  
 Falcon Electronics Corp., 308 William St., Harrison, N. J.  
 Falls Metal Works, Ltd., 414 Main St., Little Falls, N. J.  
 Falstrom Co., 44 Falstrom Court, Passaic, N. J.  
 Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.  
 Farley & Loetscher Mfg. Co., Plastics Div., Dubuque, Iowa.  
 Farmer Electric Products Co., Inc., 2300 Washington St., Newton Lower Falls 62, Mass.  
 Farnsworth Electronic Co., Pacific Div., 815 S. San Antonio Rd., Palo Alto, Calif.  
 Farnsworth Electronics Co., Div. of IT&T, 3700 E. Pontiac St., Fort Wayne 1, Ind.  
 Farrand Optical Co., Inc., Bronx Blvd. at 238th St., New York 70, N. Y.  
 Fasco Industries, Inc., Rochester 2, N. Y.  
 Fast & Co., John E., 3538 N. Kedzie Ave., Chicago 18, Ill.  
 Fasteners, Inc., 580 Fifth Ave., New York 36, N. Y.  
 Fastex Div. of Illinois Tool Works, 195 Algonquin Rd., Des Plaines, Ill.  
 Federal Cable Div. of Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I.  
 Federal Mfg. & Engineering Corp., 1055 Stewart Ave., Garden City, N. Y.  
 Federal Pacific Electric Co., 50 Paris St., Newark 5, N. J.  
 Federal Screw Products Inc., 3917 N. Kedzie Ave., Chicago 18, Ill.  
 Federal Shock Mount Corp., 1060 Washington Ave., New York 56, N. Y.  
 Federal Telecommunication Labs., A Div. of IT&T, 500 Washington Ave., Nutley 10, N. J.  
 Federal Telephone & Radio Co., 88 Kingsland Rd., Clifton, N. J.  
 Federal Tool Engineering Inc., 1386 Pompton Ave., Cedar Grove, N. J.  
 Federal Tool & Mfg. Co., 3600 Alabama Ave., Minneapolis 16, Minn.  
 Federated Metals Div., American Smelting & Refining Co., 120 Broadway, New York 5, N. Y.  
 Feedback Controls, Inc., 899 Main St., Waltham 54, Mass.  
 Feiler Engineering & Mfg. Co., 8026 N. Monticello Ave., Skokie, Ill.  
 Felsenthal & Sons, Inc., G., 3500 N. Kedzie, Chicago 18, Ill.  
 Felt Products Mfg. Co., 1504 W. Carroll Ave., Chicago 7, Ill.  
 Felters Co., 210 South St., Boston, Mass.  
 Fenwal Electronics, Inc., Ashland, Mass.  
 Fenwal Incorporated, Ashland, Mass.  
 Ferguson Perforating & Wire Co., 130 Ernest St., Providence 5, R. I.  
 Ferranti Electric, Inc., 30 Rockefeller Plaza, New York 20, N. Y.  
 Ferrara, Inc., 8106 W. Nine Mile Rd., Oak Park 37, Ill.  
 Ferricore, Inc., 303 Railroad Place, Orange, N. J.  
 Ferris Instrument Co., 110 Cornellia St., Boonton, N. J.  
 Ferrodyamics Corp., Gregg & Route 17, Lodi, N. J.  
 Ferrocube Corp. of America, 125 E. Bridge St., Saugerties, N. Y.  
 Fidelitone, Inc., 6415 Ravenswood, Chicago 26, Ill.  
 Fidelity Amplifier Co., 703 Willow St., Chicago 14, Ill.  
 Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.  
 Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.  
 Field Electrical Instrument Co., 8 N. Manheim Blvd., New Paltz, N. Y.  
 Fielden Instrument Div. of Robertshaw-Fulton Controls Co., 2920 N. Fourth St., Philadelphia 33, Pa.  
 Film Capacitors, Inc., 3400 Park Ave., New York 56, N. Y.  
 Filmohm Corp., 48 W. 25th St., New York 10, N. Y.  
 Filter Networks, Inc., 24 Charlotte St., Binghamton, N. Y.  
 Filtrors, Inc., 30 Sagamore Hill Drive, Port Washington, N. Y.  
 Filtron Co., Inc., 131-05 Fowler Ave., Flushing, N. Y.  
 Finn & Co., Inc., T. R., 200 Central Ave., Hawthorne, N. J.  
 Finney Co., The, 34 W. Interstate, Bedford, Ohio.  
 Fireye Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.  
 First Electronics Corp., 117 Blue Hill Ave., Boston 19, Mass.  
 Fischer & Porter Co., 476 Warminster Road, Hatboro, Pa.  
 Fischer & Co., R. A., 517 Commercial St., Glendale 3, Calif.  
 Fisher & Crome, 107 N. Camac St., Philadelphia 7, Pa.  
 Fisher Engineering, Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.  
 Fisher-Pierce Co., 170 Pearl St., South Braintree (Boston 85), Mass.  
 Fisher Radio Corp., 21-21 Forty-fourth Drive, Long Island City 1, N. Y.  
 Fisher Research Lab., Inc., 1961 University Ave., Palo Alto, Calif.  
 Five Star Co., 10 West Main St., Plantsville, Conn.  
 Flexaust Co., The, 100 Park Ave., New York 17, N. Y.  
 Flexo Wire Div. of Copperwell Steel Co., Oswego, N. Y.  
 Flexonics Corp., 1315 S. Third Ave., Maywood, Ill.  
 Flexrock Co., 3608 Filbert St., Philadelphia 1, Pa.  
 Flight Research, Inc., P. O. Box 1-F, Richmond 1, Va.  
 Flock Process Co., Inc., 373 Main Ave., Norwalk, Conn.  
 Fluke Mfg. Co., Inc., John, 1111 W. Nickerson St., Seattle 99, Wash.  
 Flush Wall Radio Co., 1012 Cleveland St., Clearwater, Fla.  
 Foote Brothers Gear & Machine Corp., 4545 S. Western Blvd., Chicago 9, Ill.  
 Foote Mineral Co., 18 W. Chelton Ave., Philadelphia 44, Pa.  
 Ford Engineering Co., Inc., 129 East "A" St., Upland, Calif.

Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y.  
 Ford Radio & Mica Corp., 538 63rd St., Brooklyn 20, N. Y.  
 Fort Hill Plastic Letters Corp., 40 Hanover St., Boston, Mass.  
 Forest Electric Co., 7216 Circle Road, Forest Park, Ill.  
 Formatic Co., 178 Bridge St., Naugatuck, Conn.  
 Formica Co., The, 4587 Spring Grove Ave., Cincinnati 32, Ohio.  
 Formica Metal Products Co., Corporation Way, Medford, Mass.  
 Fort Wayne Metals, Inc., Fort Wayne 6, Ind.  
 Forter-Teichmann Co., Clark Bldg., Pittsburgh 22, Pa.  
 Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio.  
 Fostoria Pressed Steel Corp., Fostoria, Ohio.  
 Foto-Video Laboratories, Inc., Eagle Rock Bldg., 25 Amity St., Little Falls, N. J.  
 Fox Co., C. J., The, 236 Aborn St., P. O. Box 1186, Providence 1, R. I.  
 Fox Products Co., 4720 N. 18th St., Philadelphia 41, Pa.  
 Foxboro Co., The, Foxboro, Mass.  
 Franke Gear Works, Inc., 1932 W. Columbia Ave., Chicago 26, Ill.  
 Frankel Connector Co., 27 Vestry St., New York, N. Y.  
 Franklin Electronics, Inc., E. Fourth St., Bridgeport, Pa.  
 Franklin Fibre-Lamitex Corp., 411 E. Front St., Wilmington, Del.  
 Freed Transformer Co., Inc., 1736 Weirfield St., Brooklyn 27, N. Y.  
 Frenchtown Porcelain Co., Trenton 9, N. J.  
 Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.  
 Fretco, Inc., 406 N. Craig St., Pittsburgh 13, Pa.  
 Friden Calculating Machine Co., Inc., 2350 Washington Ave., San Leandro, Calif.  
 Friez Instrument Div., Bendix Aviation Corp., Baltimore 4, Md.  
 Fugle-Miller Labs., Inc., 301 Central Ave., Clark, N. J.  
 Fulton Siphon Div., Robertshaw-Fulton Controls Co., Knoxville 1, Tenn.  
 Furane Plastics, Inc., 4516 Brazil St., Los Angeles 39, Calif.  
 Fusite Corp., 6000 Fernview Ave., Cincinnati 13, Ohio.  
 Futuramic Co., 915 S. Broadway, Park Ridge, Ill.

G

G-C Electronics Mfg. Co., Div. of G-C Textron, Inc., 400 S. Wyman St., Rockford, Ill.  
 G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden 5, N. J.  
 G-M Laboratories, Inc., 4336 N. Knox Ave., Chicago, Ill.  
 GPS Instrument Co., Inc., 811 Boylston St., Boston 16, Mass.  
 G-V Controls Inc., 28 Hollywood Plaza, East Orange, N. J.  
 Gabriel Electronics Div., The Gabriel Co., 135 Crescent Rd., Needham Heights 94, Mass.  
 Gaertner Scientific Corp., 1239 Wrightwood Ave., Chicago 14, Ill.  
 Gahagan, Inc., 11 W. Fourth St., Bethlehem, Pa.  
 Gamework Co., The, 1238 Chestnut St., Newton Upper Falls 64, Mass.  
 Gar Precision Parts, Inc., 703 Pacific St., Stamford, Conn.  
 Garde Mfg. Co., 588 Eddy St., Providence 3, R. I.  
 Gardiner Electronics, 2545 E. Indian School Rd., Phoenix, Ariz.  
 Gardner Lab, Inc., 4723 Elm St., Bethesda 14, Md.  
 Garfield Wire Div. of The Overlakes Corp., 142 Monroe St., Garfield, N. J.  
 Garlock Packing Co., The, Palmyra, N. Y.  
 Garrard Sales Corp., 80 Shore Rd., Port Washington, N. Y.  
 Garrey Platers, Inc., 17-19 Bartlett St., Worcester 8, Mass.  
 Gaston Power Tools, Inc., P. O. Box 312, Harvey, Ill.  
 Gates Electronic Co., 2090 Barnes Ave., Bronx 62, N. Y.  
 Gates Radio Co., Quincy, Ill.  
 Gear Specialties, Inc., 2635 W. Medill Ave., Chicago 47, Ill.  
 Gear Supply Co., 880 El Camino Real, Belmont, Calif.  
 Gear Systems Inc., Div. of Geartronics Corp., Main St., West Concord, Mass.  
 Gee-Lar Mfg. Co., Div. of General Cement-Textron Inc., 400 S. Wyman St., Rockford, Ill.  
 Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.  
 Gem Ear Phone Co., Inc., 50 W. 29th St., New York 1, N. Y.  
 Gemex Corp., The, Industrial Products Div., 1200 Commerce Ave., Union, N. J.  
 General American Transportation Corp., Kanigen Div., 135 S. La Salle St., Chicago, Ill.  
 General Apparatus Co., 1344-6 E. 32nd St., New York 16, N. Y.  
 General Automatic Corp., 12 Carlton Ave., Mountain View, N. J.  
 General Aviation & Electronics Mfg. Co., Inc., 179 Berger St., Wood-Ridge, N. J.  
 General Bronze Corp., 711 Stewart Ave., Garden City, N. Y.  
 General Cable Corp., 420 Lexington Ave., New York 17, N. Y.  
 General Cement Mfg. Co., Div. of Textron, Inc., Electronic Div., 400 S. Wyman St., Rockford, Ill.  
 General Ceramics Corp., Keasbey, N. J.  
 General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.  
 General Coil Products Corp., 43 Roselle St., Mineola, N. Y.  
 General Communication Co., 681 Beacon St., Boston 15, Mass.

General Components Inc., 225-229 E. 144th St., New York 51, N. Y.  
 General Control Company, 1212 Soldiers Field Rd., Boston 34, Mass.  
 General Controls Co., Glendale 1, Calif.  
 General Cybernetics Corp., 1751 N. Coronado St., Los Angeles 26, Calif.  
 General Devices, Inc., P. O. Box 253, Princeton, N. J.  
 General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.  
 General Electric Co., Chemical Materials Dept., Pittsfield, Mass.  
 General Electric Co., Clock and Timer Dept., Ashland, Mass.  
 General Electric Co., Communication Products Dept., Electronics Park, Syracuse, N. Y.  
 General Electric Co., Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.  
 General Electric Co., Distribution Assemblies Dept., 41 Woodford Ave., Plainville, Conn.  
 General Electric Co., Laminated Products Dept., Coshocton, Ohio.  
 General Electric Co., Lamp Leads & Bases Dept., 17825 St. Clair Ave., Cleveland 12, Ohio.  
 General Electric Co., Lamp Wire & Phosphors Dept., 1331 Chardon Rd., Cleveland 17, Ohio.  
 General Electric Co., Magnetic Materials Section, 7780 Neff Rd., Edmore, Mich.  
 General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland 12, Ohio.  
 General Electric Co., Plastics Dept., 132 S. Water St., Decatur, Ill.  
 General Electric Co., Semiconductor Products Dept., Electronics Park, 1224 W. Genesee St., Syracuse, N. Y.  
 General Electric Co., Silicone Products Dept., Waterford, N. Y.  
 General Electric Co., Specialty Electronic Components Dept., W. Genesee St., Auburn, N. Y.  
 General Electric Co., Technical Products Dept., Electronics Park, Syracuse, N. Y.  
 General Electric Co., Tube Sales, 1 River Rd., Schenectady 5, N. Y.  
 General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.  
 General Electric Co., Ltd. of England, (Imtra Corp.), 58 Charles St., Cambridge, Mass.  
 General Electronic Laboratory, Inc., 18 Ames St., Cambridge, Mass.  
 General Electronics Corp., 17 Madison Ave., Montgomery 4, Ala.  
 General Findings & Supply Co., Industrial Div., Attleboro, Mass.  
 General Hermetic Sealing Corp., 99 E. Hawthorne, Valley Stream, N. Y.  
 General Industries Co., Taylor and Olive Sts., Elyria, Ohio.  
 General Instrument Corp., 65 Gouverneur St., Newark 4, N. J.  
 General Insulated Wire Works, Inc., 69 Gordon Ave., Providence 5, R. I.  
 General Kinetics, Inc., 555 23rd St., S., Arlington 2, Va.  
 General Laminated Products, Inc., 2857 S. Halstead St., Chicago 8, Ill.  
 General Magnetic Corp., 10001 Erwin Ave., Detroit 34, Mich.  
 General Magnetics, Inc., 135 Bloomfield Ave., Bloomfield, N. J.  
 General Metal Products Co., 1010-14 Centre St., Easton, Pa.  
 General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis 13, Minn.  
 General Nuclear Corp., 550 Fifth Ave., New York 28, N. Y.  
 General Photo Products Co., Inc., General Photo Bldg., 15 Summit Ave., Chatham, N. J.  
 General Plastics Corp., P. O. Box 1236, Paterson, N. J.  
 General Precision Laboratory Inc., 63 Bedford Rd., Pleasantville, N. Y.  
 General Radio Co., 275 Massachusetts Ave., Cambridge 39, Mass.  
 General Research & Supply Co., 572 S. Division Ave., Grand Rapids 3, Mich.  
 General Resistance Products Corp., 577 E. 156th St., New York 55, N. Y.  
 General RF Fittings, Inc., 702 Beacon St., Boston 15, Mass.  
 General Tire & Rubber Co., The, Akron, Ohio.  
 General Transformer Co., 18240 Harwood Ave., Homewood, Ill.  
 General Transistor Corp., 130-11 90th Ave., Richmond Hill 18, N. Y.  
 General Transistor Western Corp., 6110 Venice Blvd., Los Angeles 34, Calif.  
 Genisco, Inc., 2233 Federal Ave., Los Angeles 64, Calif.  
 Georator Corp., Manassas, Va.  
 George Co., P. D., 5200 N. Second St., St. Louis, Mo.  
 Gerber Scientific Instrument Co., 89 Spruce St., Hartford 1, Conn.  
 Gering Products Inc., N. Seventh St. at Monroe Ave., Kenilworth, N. J.  
 Gerlyn Engineering Co., 2151 N. Damen Ave., Chicago 47, Ill.  
 Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles 16, Calif.  
 Giannini & Co., Inc., G. M., 918 E. Green St., Pasadena 1, Calif.  
 Gibson Co., William D., The, 1800 Clybourn Ave., Chicago 14, Ill.  
 Gibson Electric Co., The, Box J527, Delmont, Pa.  
 Giffillan Bros., Inc., 1815 Venice Blvd., Los Angeles 6, Calif.  
 Gilmore Industries, 5713 Euclid Ave., Cleveland 3, Ohio.  
 Girard-Hopkins, 1000 40th Ave., Oakland 1, Calif.  
 Girdler Company, The, Thermex Div., 224 E. Broadway, Louisville 1, Ky.

- Glaser Lead Co., Inc., 31 Wyckoff Ave., Brooklyn 37, N. Y.
- Glaser-Steers Corp., 2 Main St., Belleville 9, N. J.
- Glass Engineering Labs., 601 O'Neil Ave., Belmont, Calif.
- Glass-Solder Engineering, 300 N. Lake Ave., Pasadena 4, Calif.
- Glassel Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J.
- Glasic Corp., The, 4321 Glenridge Rd., Cleveland 21, Ohio.
- Gleason-Avery Co., Auburn, N. Y.
- Glenco Corp., A Sub. of Gulton Industries, Metuchen, N. J.
- Globar Division, Carborundum Co., Niagara Falls, N. Y.
- Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
- Globe Industries, Inc., P. O. Box 101, North Dayton Station, Dayton 4, Ohio.
- Glyco Products Co., Inc., Empire State Bldg., New York 1, N. Y.
- Goat Co., Inc., Fred, 308 Dean St., Brooklyn 17, N. Y.
- Godfrey Manufacturing Co., 1726 N. Orchard St., Chicago 14, Ill.
- Goe Engineering Co., 219 S. Mednik Ave., Los Angeles 22, Calif.
- Goldak Co., Inc., The, Dept. E, 1544 W. Glenoaks Blvd., Glendale 1, Calif.
- Goldsmith Bros. Smelting & Refining Co., 111 N. Wabash Ave., Chicago 2, Ill.
- Gombos Co., Inc., John, 103 Montgomery Ave., Irvington 11, N. J.
- Conset Co., 801 S. Main St., Burbank, Calif.
- Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.
- Goodline Divn., Wire Co. of America, Inc., 309 Date Ave., Alhambra, Calif.
- Goodrich Aviation Products, B. F., Div. of B. F. Goodrich Co., Akron, Ohio.
- Goodrich Chemical Co., B. F., 3135 Euclid Ave., Cleveland 15, Ohio.
- Goodrich Industrial Products Co., B. F., 500 S. Main St., Akron 18, Ohio.
- Goodrich Industrial Products Co., B. F. A Div. of The B. F. Goodrich Co., Plastic Products, Marietta, Ohio.
- Goodrich Sponge Products, B. F., A Div. of The B. F. Goodrich Co., Shelton, Conn.
- Goodyear Aircraft Corp., 1210 Massillon Road, Akron 15, Ohio.
- Goodyear Tire & Rubber Co., Inc., Chemical Div., 1144 E. Market St., Akron 16, Ohio.
- Gordon Co., Claud S., 3000 S. Wallace St., Chicago 16, Ill.
- Gordon Enterprises, 5362 N. Cahuena Blvd., North Hollywood, Calif.
- Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J.
- Gorn Electric Co., Inc., Main St., Stamford, Conn.
- Goslin Electric & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
- Gotham Audio Development Corp., 2 W. 46th St., New York 36, N. Y.
- Gould-National Batteries, Inc., 35 Neoga St., Depew, N. Y.
- Gov-Mac Instrument Co., 100 Kings Rd., Madison, N. J.
- Grafo Collods Corp., Sharon, Pa.
- Graham Mfg. Co., Inc., 247 Bridge St., East Greenwich, R. I.
- Grallen Electronic Div. of Clegg, Inc., Hanover & Ridge-dale Aves., Morristown, N. J.
- Gramer-Halldorson Transformer Corp., 2734 N. Pulaski Rd., Chicago 39, Ill.
- Granco Products, Inc., 36-17 20th Ave., Long Island City, N. Y.
- Brand Ra-Tronics, Inc., Hey St., Grand Haven, Mich.
- Brand Transformers, Inc., Hey St., Grand Haven, Mich.
- Grant Gear Works, Inc., 154 W. Second St., South Boston, Mass.
- Grant Pulley & Hardware Corp., High St., West Nyack, N. Y.
- Graphik-Circuits Div. of Cinch Mfg. Corp., 200 S. Turnbull Canyon Rd., La Puente, Calif.
- Graphite Metallizing Corp., 1052 Nepperhan Ave., Yonkers, N. Y.
- Grason-Stadler Co., West Concord, Mass.
- Grass Instrument Co., 101 Old Colony Ave., Quincy, Mass.
- Graver Water Conditioner Co., 216 W. 14th St., New York, N. Y.
- Gray Instrument Co., 200 E. Church Lane, Philadelphia 44, Pa.
- Gray & Kuhn, Inc., 20 Railroad Ave., Roslyn Heights, N. Y.
- Gray Radio Co., Inc., 501 Forest Hill Blvd., West Palm Beach, Fla.
- Gray Research & Development Co., Inc., 685 Hilliard St., Manchester, Conn.
- Grayhill, Inc., 537 Hillgrove Ave., La Grange, Ill.
- Great Eastern Metal Products Co., 22 Woodworth Ave., Yonkers, N. Y.
- Great Lakes Electric Mfg. Co., 17 S. Desplains St., Chicago 6, Ill.
- Green Instrument Co., 363A Putnam Ave., Cambridge, Mass.
- Green Rectifier Co., 1-10 Thirtieth St., Fair Lawn, N. J.
- Greenleaf Mfg. Co., The, 7814 Maplewood Industrial Court, St. Louis 17, Mo.
- Greer Stop Nut Co., 2620 W. Flournoy St., Chicago 12, Ill.
- Greibach Instruments Corp., An Associate of Gulton Industries, Metuchen, N. J.
- Gries Reproductor Corp., 151 Beechwood St., New Rochelle, N. Y.
- Grieve-Hendry Co., Inc., 1401-17 W. Carroll Ave., Chicago 7, Ill.
- Griffn Co., John, 2157 James Ave., St. Paul 5, Minn.
- Griiffs Electronics, Inc., 155 Summit St., Newark 3, N. J.
- Grigsby-Allison Co., Inc., 407 N. Salem Ave., Arlington Heights, Ill.
- Groov-Pin Corp., 1125 Hendricks Causeway, Ridgefield, N. J.
- Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago 12, Ill.
- Guastavino Co., R., 660 Main St., Woburn, Mass.
- Gudebrod Bros. Silk Co., Inc., Electronics Div., 225 W. 34th St., New York 1, N. Y.
- Gudeman Co., 340 W. Huron St., Chicago 10, Ill.
- Gulton Industries, Inc., Metuchen, N. J.
- Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
- Guthman Div. of Essex Wire Corp., 15 S. Throop St., Chicago 7, Ill.
- Gyro Electronics Co., 325 Canal St., New York, N. Y.
- H
- H. & H. Products Co., 766 Ramsey Ave., Hillside, N. J.
- HK Metal Craft Mfg. Corp., 3775 Tenth Ave., New York 34, N. Y.
- Haddam Heating Co., Haddam, Conn.
- Hadley Co., Inc., Robert M., 5112 S. Hoover St., Los Angeles 37, Calif.
- Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
- Halax Corp., P. O. Box 425, Los Gatos, Calif.
- Haley Electronics Co., 57 William St., New York 5, N. Y.
- Hal-Hen Co., 36-14 Eleventh St., Long Island City 6, N. Y.
- Hall Mfg. Co., 3901 Wesley Terrace, Schiller Park, Ill.
- Hall-Scott, Inc., Electronics Div., 2950 N. Ontario, Burbank, Calif.
- Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif.
- Haller, Raymond & Brown, Inc., State College, Pa.
- Hallett Mfg. Co., 1601 W. Florence Ave., Inglewood, Calif.
- Hallcrafters Co., 4401 W. Fifth Ave., Chicago 24, Ill.
- Halm Instrument Co., Inc., Glen Head Rd., Glen Head, N. Y.
- Halogen Insulator & Seal Corp., 10121 Franklin Ave., Franklin Park, Ill.
- Haloid Co., The, 6 Haloid St., Rochester 3, N. Y.
- Hamilton Electronics Corp., Box 100, Bath, N. Y.
- Hamilton Mfg. Co., Two Rivers, Wis.
- Hamin, Inc., 1316 Sherman Ave., Evanston, Ill.
- Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York 1, N. Y.
- Hammer Electronics Co., Inc., Box 531, Princeton, N. J.
- Handy & Harman, 82 Fulton St., New York 38, N. Y.
- Hanover Developments, 401 E. 74th St., New York 21, N. Y.
- Hanovia Chemical & Mfg. Co. Special Products Div., 100 Chestnut St., Newark 5, N. J.
- Hansen Electronics Co., 7117 Santa Monica Blvd., Los Angeles 46, Calif.
- Hansen Mfg. Co., Inc., Princeton, Indiana.
- Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
- Harder Co., Donald C., 3710 Midway Drive, San Diego 10, Calif.
- Hardman Co., Inc., H. V., 571 Cortlandt St., Belleville 9, N. J.
- Hardwick Hindie, Inc., 40 Hermon St., Newark 5, N. J.
- Harmon, Lichtenstein & Co., 26 Broadway, New York 4, N. Y.
- Harnett Electric Corp., Lincoln & Hallett Aves., Riverhead, N. Y.
- Harper Co., The, H. M., 8200 Lehigh Ave., Morton Grove, Ill.
- Harper Electric Furnace Corp., 48 River St., Buffalo 2, N. Y.
- Harper-Leader, Inc., 1046 S. Main St., Waterbury 20, Conn.
- Harrington & King Perforating Co., 5653 Fillmore St., Chicago 44, Ill.
- Harris Transducer Corp., The, Woodbury, Conn.
- Harrison Laboratories, Inc., 45 Industrial Rd., Berkeley Heights, N. J.
- Hart Mfg. Co., 242 Bartholomew Ave., Hartford 1, Conn.
- Hartford City Paper Co., S. Spring St., Hartford City, Ind.
- Hartley Products Co., 521 E. 162nd St., New York 51, N. Y.
- Harvey Hubbell, Inc., State St. & Bostwick Ave., Bridgeport 2, Conn.
- Harvey-Wells Electronics, Inc., North St., Southbridge, Mass.
- Harwood Co., Div. of Avia Products Co., 7266 Beverly Blvd., Los Angeles 36, Calif.
- Harworth Mfg. Co., 409 El Camino Real, Menlo Park, Calif.
- Hassall, Inc., John, P. O. Box 2242, Westbury, N. Y.
- Hastings-Raydist, Inc., Hampton 9, Va.
- Hathaway Instrument Div., Hamilton Watch Co., 5800 E. Jewell Ave., Denver 22, Colo.
- Hauman Instruments Co., Inc., 70 Coolidge Hill Rd., Watertown 72, Mass.
- Have Industries, Inc., 900 Greenbank Rd., Wilmington 8, Del.
- Hawley Products Co., St. Charles, Ill.
- Haydon Co., A. W., The, 238 N. Elm St., Waterbury, Conn.
- Haydon Mfg. Co., Inc., 245 E. Elm St., Torrington, Conn.
- Haydon Switch Inc., 536 S. Leonard St., Waterbury 20, Conn.
- Haydu Electronic Products, Inc., 1426 W. Front St., Plainfield, N. J.
- Hayes Inc., C. I., 800 Wellington Ave., Cranston, R. I.
- Haynes Steelite Co., Division of Union Carbide & Carbon Corp., 725 S. Lindsay St., Kokomo, Ind.
- Hays Mfg. Co., 818 W. 12th St., Erie, Pa.
- Heath Co., A Sub. of Daystrom, Inc., Benton Harbor 14, Mich.
- Heavy Minerals Co., 261 Madison Ave., New York 16, N. Y.
- Heiland Div. of Minneapolis-Honeywell Regulator Co., 5200 E. Evans Ave., Denver 22, Colo.
- Heinemann Electric Co., 150 Plum St., Trenton 2, N. J.
- Heinze Electric Co., 685 Lawrence St., Lowell, Mass.
- Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.
- Heldor Mfg. Corp. 238 Lewis St., Paterson, N. J.
- Heli-Coil Corp., Shelter Rock Rd., Danbury, Conn.
- Helipot Corp., Newport Beach, Calif.
- Helwig Co., 2544 N. 30th St., Milwaukee 10, Wis.
- Heminway & Bartlett Mfg. Co., 500 Fifth Ave., New York 36, N. Y.
- Henry and Miller Industries, Inc., 675 Garfield Ave., Jersey City 5, N. J.
- Heppner Mfg. Co., P. O. Box 612, Round Lake, Ill.
- Hercules Powder Co., Inc., 900 Market St., Wilmington 99, Del.
- Hermaseal Co., Inc., 1101 Lafayette St., Elkhart, Ind.
- Hermes Plastics, Inc., 13-19 University Place, New York 3, N. Y.
- Hermetic, Inc., 232 Creek Rd., Keansburg, N. J.
- Hermetic Seal Corp., 29-37 S. Sixth St., Newark 7, N. J.
- Hermetic Seal Transformer Co., 555 N. 5th St., Garland, Texas.
- Hermetite Corp., 702 Beacon St., Boston 15, Mass.
- Herrnfeld Engineering Corp., Frank, 5716 Camille Ave., Culver City, Calif.
- Hertner Electric Co., 12690 Elmwood Ave., Cleveland 11, Ohio.
- Herzog Miniature Lamp Works, Inc., 50-17 5th St., Long Island City 1, N. Y.
- Hess, Goldsmith & Co., Inc., 1400 Broadway, New York 18, N. Y.
- Hetherington, Inc., Sharon Hill, Pa.
- Hevi-Duty Electric Co., Milwaukee 1, Wis.
- Hewlett-Packard Co., 275 Page Mill Rd., Palo Alto, Calif.
- Hexacon Electric Co., 130 W. Clay Ave., Roselle Park, N. J.
- Heyman Mfg. Co., Kenilworth 2, N. J.
- Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland 8, Ohio.
- Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.
- Hieatt Engineering Co., 2228 N. Hollywood Way, Burbank, Calif.
- Hi-G Inc., Bradley Field, Windsor Locks, Conn.
- High Fidelity Products, Box 131, Owensboro, Ky.
- High Speed Hammer Co., Rochester, N. Y.
- High Vacuum Equipment Corp., 2 Churchill Rd., Hingham, Mass.
- High Voltage Engineering Corp., Burlington, Mass.
- Highland Engineering, 1732 Berkeley, Santa Monica, Calif.
- Highland Engineering Co., 91 Magnolia St., Westbury, N. Y.
- Hill Electronic Engineering & Mfg. Co., Inc., New Kingstown, Pa.
- Hillburn Electronic Products Co., 55 Nassau Ave., Brooklyn 22, N. Y.
- Hillyer Instrument Co., Inc., 331 Centennial Ave., Cramford, N. J.
- Hinde & Dauch, Sandusky, Ohio.
- Hindle Transformer Co., Inc., Woods Church Rd., Flemington, N. J.
- Hitchiner Manufacturing Co., Inc., P. O. Box 232, Milford N. H.
- Hitemp Wires, Inc., 26 Windsor Ave., Mineola, N. Y.
- Hi-Test Chemical Corp., 722 64th St., Brooklyn 20, N. Y.
- Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass.
- Hobson Bros., 4940 W. Lawrence Ave., Chicago 30, Ill.
- Hoffman Co., P. R., Carlisle, Pa.
- Hoffman Engineering Corp., Anoka, Minn.
- Hoffman Laboratories, Inc., 3761 S. Hill St., Los Angeles 7, Calif.
- Hoffman Radio Div. of Hoffman Electronics Corp., 6200 S. Avalon Blvd., Los Angeles, Calif.
- Hoffman Semiconductor Div. of Hoffman Electronics Corp., 930 Pitner Ave., Evanston, Ill.
- Hofmann Needle Works, Inc., Alfred, 3710 Hudson Ave., Union City, N. J.
- Hogan Laboratories, Inc., 155 Perry St., New York 14, N. Y.
- Holl Audio Inc., 5014 N. Encinta Ave., Temple City, Calif.
- Holland Electronics, 40 Great Jones St., New York 12, N. Y.
- Hollingsworth Co., Solderless Terminal Div., Box 430, Phoenixville, Pa.
- Holtzer-Cabot Motor Div. of National Pneumatic Co., Inc., 125 Amory St., Boston 19, Mass.
- Holub Industries, Inc., 414 DeKalb Ave., Sycamore, Ill.
- Holyoke Wire & Cable Co., 720 Main St., Holyoke, Mass.
- Homelite Div. of Textron Inc., Port Chester, N. Y.
- Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles 25, Calif.
- Hoover Electronics Co., 3640 Woodland Ave., Baltimore 15, Md.
- Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
- Hopp Press, Inc., 460 W. 34th St., New York, N. Y.
- Hoskins Mfg. Co., 4445 Lawton Ave., Detroit 8, Mich.
- Houghton Laboratories, Inc., 322 Houghton Ave., Olean, N. Y.
- Houlihan Co., T. J., 2508-14 W. Lawrence Avenue, Chicago 25, Ill.
- Hovis Screwlock Co., 8100 E. Nine Mile Rd., Van Dyke, Mich.
- Howard Industries, Inc., Divisions: Cyclohm Motor Corp., Electric Motor Corp., Racine, Wis.
- Howe International, 431 Danforth, Dept. E-7, Jersey City 5, N. J.

Howell Instrument Co., 3101 Trinity, Fort Worth 7, Texas.  
 Hoyt Electrical Instrument Works, Inc., 42 Carleton St., Cambridge 42, Mass.  
 Hubbard Scientific Labs., Inc., 1292 E. Third St., Pomona, Calif.  
 Huck Mfg. Co., 2480 Bellevue Ave., Detroit 7, Mich.  
 Hudson American Corp., 25 W. 43rd St., New York 36, N. Y.  
 Hudson Associates, Inc., 50 Drumm St., San Francisco 11, Calif.  
 Hudson Bay Co., Div. of Labline Inc., 3070 W. Grand Ave., Chicago 22, Ill.  
 Hudson Lamp Co., 528 Elm St., Kearny, N. J.  
 Hudson Tool & Die Co., Inc., 118 S. 14th St., Newark, N. J.  
 Hudon Wire Co., Ossining, N. Y.  
 Hufco Industries, 2815 W. Olive, Burbank, Calif.  
 Huggins Laboratories, 711 Hamilton Ave., Menlo Park, Calif.  
 Hughey & Phillips, Inc., 3300 N. San Fernando Blvd., Burbank, Calif.  
 Hughes Products Division, Hughes Aircraft Co., Los Angeles 45, Calif.  
 Hull Corporation, Abington, Pa.  
 Hull-Standard Corp., Abington, Pa.  
 Humphrey, Inc., 2805 Canon St., San Diego 6, Calif.  
 Hunter-Bristol Corp., Bristol, Pa.  
 Hunter Tool Co., 9851 Alburts, Whittier, Calif.  
 Hunt Co., Philip A., Palisades Park, N. J.  
 Hunt Corp., The, 453 Lincoln St., Carlisle, Pa.  
 Hupp Electronics Co., A Div. of Hupp Corp., 753 Circle Ave., Forest Park, Ill.  
 Hupp Electronics Co., 265 E. Pomfret St., Carlisle, Pa.  
 Hupp/Instrumentation, 2119 Sepulveda Blvd., Los Angeles 25, Calif.  
 Huppert Co., K. H., 6864 Cottage Grove Ave., Chicago 37, Ill.  
 Hycon Eastern, Inc., Dept. EBG, 75 Cambridge Parkway, Cambridge, Mass.  
 Hycon Electronics, Inc., P. O. Bin D, Pasadena, Calif.  
 Hycor Div. of International Resistance Co., 12970 Bradley Ave., Sylmar, Calif.  
 Hydraulic Press Mfg. Co., A Div. of Koehring Co., Mt. Gilead, Ohio.  
 Hydro Molding Co., Inc., Plattsburgh, N. Y.

I. D. E. A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind.  
 I. E. Manufacturing, 325 N. Hoyle Ave., Chicago 12, Ill.  
 I-L-S Instrument Corp., 4525 W. 160th St., Cleveland 11, Ohio.  
 I-T-E Circuit Breaker Co., Special Products Div., 601 E. Erie Ave., Philadelphia 34, Pa.  
 Ideal Industries, Inc., 5103 Park & Borden Avenues, Sycamore, Ill.  
 Ideal Precision Meter Co., Inc., 126 Greenpoint Ave., Brooklyn 22, N. Y.  
 Ilg Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago 41, Ill.  
 Illinois Condenser Co., 1616 N. Throop St., Chicago 22, Ill.  
 Illumitronic Engineering, 680 E. Taylor Ave., Sunnyvale, Calif.  
 Ilco Corporation, Cincinnati 27, Ohio.  
 Impact Extrusion Products, Inc., 39 Powderhouse Rd., Roslyn Heights, N. Y.  
 Improved Seamless Wire Co., 775 Eddy St., Providence 5, R. I.  
 Indiana Steel Products Company, The, Valparaiso, Indiana  
 Indiana Steel & Wire Co., Inc., 700 Council St., Muncie, Ind.  
 Indium Corp. of America, 1676 Lincoln Ave., Utica 4, N. Y.  
 Induction Heating Corp., 181 Wythe Ave., Brooklyn 11, N. Y.  
 Induction Motors Corp., 570 Main St., Westbury, N. Y.  
 Industrial Condenser Corp., 3243 N. California Ave., Chicago 18, Ill.  
 Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.  
 Industrial Development & Mfg. Corp., P. O. Box 48, Needham, Mass.  
 Industrial Devices Inc., 982 River Rd., Edgewater, N. J.  
 Industrial Electrical Works, 1509 Chicago St., Omaha 2, Nebraska.  
 Industrial Electronic Controls Co., 2271 E. 14th St., Brooklyn 29, N. Y.  
 Industrial Electronic Engineers, 3973 Lankershim Blvd., North Hollywood, Calif.  
 Industrial Electronics Co., Inc., Hanover, Mass.  
 Industrial Electronics, Inc., 8060 Wheeler St., Detroit 10, Mich.  
 Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn 23, N. Y.  
 Industrial Hardware Mfg. Co., Inc., 109 Prince St., New York, N. Y.  
 Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J.  
 Industrial Mica Corp., 223 S. Van Brunt St., Englewood, N. J.  
 Industrial Products Co., Div. of Danbury-Knudsen, Inc., Danbury, Conn.  
 Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.  
 Industrial Retaining Ring Co., 57 Cordier St., Irvington 11, N. J.  
 Industrial Systems Co., Matawan, N. J.  
 Industrial Tectonics, Inc., 2100 Jackson Rd., Ann Arbor, Mich.  
 Industrial Television, Inc., 369 Lexington Ave., Clifton, N. J.  
 Industrial Test Equipment Co., 55 E. 11th St., New York 3, N. Y.

Industrial Timer Corp., 1407 McCarter Highway, Newark 4, N. J.  
 Industrial Transformer Corp., Gouldsboro, Pa.  
 Industrial Tubes, Inc., 321 Stevens St., Geneva, Ill.  
 Industrial Winding Machinery Co., 120 Wall St., New York 5, N. Y.  
 Industrial Wiring & Cable Co., 103 Foundry St., Wakefield, Mass.  
 Industron Corp., 55 Needham St., Newton Highlands, Mass.  
 Industrius, Box 424 Arlington Heights, Ill.  
 Ingraham Co., E., Bristol, Conn.  
 Inland Electronics Corp., 500 Rathbone Ave., Aurora, Ill.  
 Inso Co., Div. of Barry Controls, Inc., Hollis St., Groton, Mass.  
 Instant Circuits Div. of Alfred W. Barber Labs., 32-44 Francis Lewis Blvd., Flushing, N. Y.  
 Instru-Lec Corp., 520 Hemstead Ave., Mt. Vernon, N. Y.  
 Instrument Cases Div. of Ta Mfg. Corp., 510 W. Garfield St., Glendale 4, Calif.  
 Instrument Development Laboratories, Inc., 163 Highland Ave., Needham Heights, Mass.  
 Instrument Electronics Corp., 90 Main St., P. O. Box 830, Port Washington, N. Y.  
 Instrument Laboratories, 315 W. Walton Place, Chicago 10, Ill.  
 Instrument Resistors Co., 1036 Commerce Ave., Union, N. J.  
 Instrument Specialties Co., Inc., 254 Bergen Blvd., Little Falls, N. J.  
 Instrument Wire Co., 41 Kendall Ave., Maplewood, N. J.  
 Instruments for Industry, Inc., 149 Glen Cove Rd., Mineola, N. Y.  
 Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.  
 Insulation Manufacturers Corp., 565 W. Washington Blvd., Chicago 6, Ill.  
 Insuline Corp., of America, 186 Granite St., Manchester, N. H.  
 Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.  
 Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N. J.  
 Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.  
 Interelectronics Corp., 2432 Grand Concourse, New York 58, N. Y.  
 Interference Measurement, Inc., 907 E. 51st St., Brooklyn 3, N. Y.  
 International Business Machines, 590 Madison Ave., New York 22, N. Y.  
 International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.  
 International Electronic Industries, Inc., Box 1368, Nashville, Tenn.  
 International Electronic Research Corp., 145 W. Magnolia Blvd., Burbank, Calif.  
 International Electronics Corp., (Mullard Equipment), 81 Spring St., New York 12, N. Y.  
 International Instruments, Inc., P. O. Box 2954, New Haven 15, Conn.  
 International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.  
 International Pump & Machine Works, Inc., 81 Dorsa Ave., Livingston, N. J.  
 International Radiant Corp., 4 Manhasset Ave., Port Washington, N. Y.  
 International Radio & Electronics Corp., Elkhart, Ind.  
 International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.  
 International Register Co., 2620 Washington Blvd., Chicago 12, Ill.  
 International Research Associates, 2221 Warwick Ave., Santa Monica, Calif.  
 International Research & Development Corp., 769 Thomas Lane, P. O. Box 1707, Columbus 16, Ohio.  
 International Resistance Co., 401 N. Broad St., Philadelphia 8, Pa.  
 International Telephone & Telegraph Corp., Components Div., 88 Kingsland Rd., Clifton, N. J.  
 International Telephone & Telegraph Corp., Industrial Products Div., 88 Kingsland Rd., Clifton, N. J.  
 Intersearch, Inc., 7 Arcadia Place, Cincinnati 8, Ohio.  
 Interstate Electronics Div. of Interstate Engineering Corp., 875 S. East St., Anaheim, Calif.  
 Interstate Electronics, Inc., 227 Fulton St., New York 7, N. Y.  
 Investment Casting Co., 60 Brown Ave., Springfield, N. J.  
 Ippolito & Co., Inc., James, 401 Concord Ave., Bronx 54, N. Y.  
 Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. Ninth Ave., Portland 2, Ore.  
 Irvington Varnish & Insulator Div. of Minnesota Mining & Mfg. Co., 6 Argyle Terrace, Irvington 11, N. J.  
 Irwin Products, 6312 N. Artesian Ave., Chicago 45, Ill.  
 Iscoyante Products, Inc., P. O. Box 1681, Wilmington, Del.  
 Islip Transformer & Metal Co., Inc., Beech St., Islip, N. J.  
 Isolantite Manufacturing Co., Stirling, N. J.

J-B-L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa.  
 J-B-T Instruments, Inc., 431 Chapel St., New Haven 8, Conn.  
 JFD Manufacturing Co., Inc., 6101 16th Ave., Brooklyn 4, N. Y.  
 J-V-M Engineering Co., 4633 S. Lawndale Ave., Lyons, Ill.  
 Jack & Heintz, Inc., Cleveland 1, Ohio.  
 Jackes-Evans Mfg. Co., 4427 Geraldine Ave., St. Louis 15, Mo.

Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton 2, Ohio.  
 Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda, Md.  
 Jacobson Nut Mfg. Corp., Market St., Kenilworth 2, N. J.  
 Jaidinger Mfg. Co., Inc., The, 1921 W. Hubbard St., Chicago 22, Ill.  
 James Vibrapow Co., 4050 N. Rockwell St., Chicago 18, Ill.  
 Jan Hardware Mfg. Co., Inc., 75 N. 11th St., Brooklyn 11, N. Y.  
 Janco Corp., 3111 Winona Ave., Burbank, Calif.  
 Janette Electric Mfg. Co., Morton Grove, Illinois  
 Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.  
 Jarvis Electronics Corp., 6058 W. Fullerton Ave., Chicago 39, Ill.  
 Javex, P. O. Box 646, Redlands, Calif.  
 Jeffers Electronics Div. of Speer Carbon Co., Du Bols, Pa.  
 Jefferson, Inc., Ray, 40 E. Merrick Rd., Freeport, N. Y.  
 Jefferson Products Corp., Pleasant Valley Rd., Sutton, Mass.  
 Jelliff Mfg. Corp., C. O., 200 Pequot Ave., Southport, Conn.  
 Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P. O. Box 1278, San Jose 8, Calif.  
 Jensen Industries, Inc., 7333 W. Harrison, Forest Park, Ill.  
 Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago 38, Ill.  
 Jerrold Electronics Corp., 23rd & Chestnut St., Philadelphia 3, Pa.  
 Jersey Specialty Co., Inc., Burgess Place, Mountainview, N. J.  
 Jobbins Electronic Enterprises, 771 Hamilton Ave., Menlo Park, Calif.  
 Jodec Plastics Co., 213 Shepherd Ave., Brooklyn 8, N. Y.  
 Johnson Mfg. Co., Box 329, Boonton, N. J.  
 Johns-Manville, 22 E. 40th St., New York 16, N. Y.  
 Johns-Manville Dutch Brand Division, 7800 Woodlawn Ave., Chicago 19, Ill.  
 Johnson & Hoffman Mfg. Corp., 31 E. Second St., Mineola, N. Y.  
 Johnson Co., E. F., Waseca, Minn.  
 Johnson Mfg. Co., Inc., Mount Vernon, Iowa.  
 Johnson Research Corp., Bethpage, N. Y.  
 Johnson-Williams, Inc., 2526 Park Blvd., Palo Alto 14, Calif.  
 Johnston Foil Mfg. Co., 6100 S. Broadway, St. Louis 11, Mo.  
 Jonas Co., 55 W. 42nd St., New York 36, N. Y.  
 Jones Div., Howard B., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago 24, Ill.  
 Jones Electronics Co., Inc., M. C., 185 N. Main St., Bristol, Conn.  
 Jordan Electronics, Inc., 3025 Mission Rd., Alhambra, Calif.  
 Jowil Electronics, Inc., Belfield & Wister, Philadelphia 44, Pa.  
 Joy Mfg. Co., Dept. 39, Oliver Bldg., Pittsburgh 22, Pa.  
 Joyro Associates, 488 Latham Rd., Mineola, N. Y.  
 Julie Research Laboratories, 556 W. 168th St., New York 32, N. Y.

## K

K. F. Development Co., 2606 Spring St., Redwood City, Calif.  
 K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.  
 K-W Engineering Works, 3145-A N. 48th St., Milwaukee 16, Wis.  
 Kaar Engineering Co., 2995 Middlefield Road, P. O. Box 1320, Palo Alto, Calif.  
 Kahle Engineering Co., 1307 Seventh St., North Bergen, N. J.  
 Kahn and Co., Inc., 541 Windsor St., Hartford 1, Conn.  
 Kahn Research Labs., Elizabeth Bldg., 22 Pine St., Freeport, N. Y.  
 Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.  
 Kanthal Corp., Amelia Place, Stamford, Conn.  
 Karp, Lawrence A., 16 Putnam Park, Greenwich, Conn.  
 Karp, Lesser & Co., Inc., 60 E. 42nd St., New York 17, N. Y.  
 Kartron, Inc., Box 472, Huntington Beach, Calif.  
 Kato Engineering Co., 1415 First Ave., Mankato, Minn.  
 Katolight Corp., First Ave. at Chestnut, Mankato, Minn.  
 Kaupp & Sons, C. B., 32 Newark Way, Maplewood, N. J.  
 Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.  
 Kay Lab (Kin Tel), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif.  
 Kaydon Engineering Corp., The, Muskegon, Mich.  
 Kearfott Co., Inc., Engineering & Sales Div., 1378 Main Ave., Clifton, N. J.  
 Kearfott Co., Inc., Western Div., 14844 Oxnard St., Van Nuys, Calif.  
 Keil Engineering Products Co., 6833 Manchester St., St. Louis, Mo.  
 Keim Precision Mirrors, 1346 E. Colorado St., Glendale 5, Calif.  
 Keithley Instruments, Inc., Dept. EB, 12415 Euclid Ave., Cleveland 6, Ohio.  
 Keller Products Inc., 41 Union St., Manchester, N. H.  
 Keller Tool Div., Gardner-Denver Co., Grand Haven, Mich.  
 Kellogg Co., M. W., P. O. Box 469, Jersey City 3, N. J.  
 Kellogg Switchboard & Supply Co., 79 W. Monroe St., Chicago 3, Ill.  
 Kelnor Mfg. Co., Inc., 1355 Market St., San Francisco 3, Calif.  
 Kelvin & Hughes Ltd., New North Rd., Barking, Essex, England.  
 Kemlite Laboratories, 1819 W. Grand Ave., Chicago 22, Ill.

Kemede Mfg. Co., Inc., 161 W. 18th St., New York 11, N. Y.

Kemtron Electron Products, Inc., 5 Prince Place, Newburyport, Mass.

Kennedy & Co., D. S., Cohasset, Mass.

Kennedy Industries, 6808 Vista Del Mar, Playa Del Rey, Calif.

Kent Co., F. C., 64 Howard St., Irvington, N. J.

Kenwood Engineering Co., Inc., 265 Colfax Ave., Kenilworth, N. J.

Kenyon Transformer Co., Inc., 840 Barry St., New York 59, N. Y.

Keppo Labs., Inc., 131-38 Sanford Ave., Flushing 55, N. Y.

Kerrco Products, Hastings, Neb.

Kessler Co., Frank, 41-45 47th St., Long Island City 4, N. Y.

Kester Solder Company, 4212 Wrightwood Ave., Chicago 39, Ill.

Keuffel & Esser Co., Hoboken, N. J.

Key Electric Corp., 48 S. Bayles Ave., Port Washington, N. Y.

Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif.

Keystone Bolt & Nut Corp., 127 Church St., New York 7, N. Y.

Keystone Carbon Co., Inc., Saint Marys, Pa.

Keystone Electronics Co., 65 Seventh Ave., Newark, N. J.

Keystone Electronics Corp., 423 Broome St., New York 13, N. Y.

Keystone Products Co., 904-6 23rd St., Union City, N. J.

Kidde & Co., Inc., Walter, 477 Main St., Belleville 9, N. J.

Kin Tel (Kay Lab), P. O. Box 623, 5725 Kearny Villa Rd., San Diego 12, Calif.

Kinevox-Hallen Div., Electromation Co., 1646 18th St., Santa Monica, Calif.

King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio.

King Laboratories, Inc., 127 Solar St., Syracuse 3, N. Y.

King Laboratory, Inc., 2645 S. Second W., Salt Lake City 15, Utah.

Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, N. Y.

Kinney Mfg. Div. of The New York Air Brake Co., 3529 Washington St., Boston 30, Mass.

Kip Electronics Corp., 29 Holly Place, P. O. Box 526, Stamford, Conn.

Kirchberger & Co., Inc., M., 250 Humphrey St., Englewood, N. J.

Kirkland Co., H. R., 8 King St., Morristown, N. J.

Kistler Instrument Corp., 15 Webster St., North Tonawanda, N. Y.

Klein-Electronics, Leo, 2404 S. La Brea Ave., Los Angeles 16, Calif.

Klein & Sons, Mathias, 7200 McCormick Rd., Chicago 45, Ill.

Kleiner Metal Specialties, Inc., P. O. Box K, Dunellen, N. J.

Klincher Locknut Corp., 2153 Hillside Ave., Indianapolis 18, Ind.

Kling Metal Spinning Co., 247 Centre Street, New York, N. Y.

Knights Co., James, The, Sandwich, Ill.

Knopp Inc., 4224 Holden St., Oakland 8, Calif.

Knovles Electronics, Inc., 9400 Belmont Ave., Franklin Park, Ill.

Kobzy Tool Co., 1535 N. Dayton Ave., Chicago 22, Ill.

Koch & Sons, H., Corte Madera, Calif.

Koh-I-Noor Pencil Co., Bloomsbury, N. J.

Koiled Kords, Inc., Box K, New Haven 14, Conn.

Kollman Show Case Corp., Fort Wayne 1, Ind.

Kollsman Instrument Corp., Sub. of Standard Coil Products Co., Inc., 80-08 45th Ave., Elmhurst, N. Y.

Kolton Electric Mfg. Co., 123 New Jersey Railroad Ave., Newark 5, N. J.

Koppers Co., Inc., Koppers Bldg., Pittsburgh 19, Pa.

Kraeuter & Co., Inc., 583 18th Ave., Newark 3, N. J.

Kreckman Co., Herb, Kreco Antennas, Cresco, Pa.

Krengel Mfg. Co., Inc., 227 Fulton St., New York 7, N. Y.

Kreutzer Industries, 1835 N. Hoyne Ave., Chicago 47, Ill.

Krohn-Hite Corp., 580 Massachusetts Ave., Cambridge 39, Mass.

Kruger Instruments, Harold, Box 164, San Gabriel, Calif.

Kuljian Corp., The, Electronics Div., 1200 N. Broad St., Philadelphia 21, Pa.

Kulka Electric Mfg. Co., Inc., 633 S. Fulton Ave., Mount Vernon, N. Y.

Kupfrian Mfg. Corp., 398 State St., Binghamton, N. Y.

Kurman Electric Co., Inc., 191-193 Newel St., Brooklyn 22, N. Y.

Kurz-Kasch, Inc., 1421 S Broadway, Dayton 1, Ohio.

Kuthe Laboratories, Inc., 730 S. 13th St., Newark 3, N. J.

Kwikheat Mfg. Co., 3732 San Fernando Rd., Glendale 4, Calif.

Kybernetes Co., 9 E. 40th St., New York 16, N. Y.

Lacey Brothers Etched Circuits, 117 S. Lombard, Oak Park, Ill.

Lake Chemical Co., 3052 W. Carroll St., Chicago 12, Ill.

Lake Mfg. Co., 2323 Chestnut St., Oakland 7, Calif.

Lambda Electronics Corp., 11-11 131st St., College Point 56, N. Y.

Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.

La Motte Chemical Products Co., Chestertown, Md.

Lampkin Laboratories, Inc., Bradenton 1, Fla.

Lamson & Sessions Co., 1971 W. 85th St., Cleveland 2, Ohio.

Lamtex Industries, Inc., 51 State St., Westbury, N. Y.

Lancaster Glass Corp., Lancaster, Ohio.

Landis & Gyr, Inc., 45 W. 45th St., New York 36, N. Y.

Landsverk Electrometer Co., 550 W. Garfield Ave., Glendale 4, Calif.

Langevin Mfg. Corp., 47-37 Austell Place, Long Island City 1, N. Y.

Lansdale Tube Co., Div. of Philco Corp., Church Rd., Lansdale, Pa.

Lansing Sound Inc., James B., 2439 Fletcher Drive, Los Angeles 26, Calif.

Lapp Insulator Co., Inc., Radio Specialties Div., 31 Gilbert St., LeRoy, N. Y.

Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.

Laurehk Radio Mfg. Co., 3931 S. Wayne Rd., Wayne, Mich.

Lavelle Rubber Co., 424 N. Wood St., Chicago 22, Ill.

Lavoie Laboratories, Inc., Morganville, N. J.

Lawn Electronics Co., East Freehold Road, Freehold, N. J.

Leach Corp., Inet-Palmer Div., 4441-43 S. Santa Fe Ave., Los Angeles 58, Calif.

Leach Corp., Leach Relay Div., 5915 Avalon Blvd., Los Angeles 3, Calif.

Leach & Garner Co., Attleboro, Mass.

Lear, Inc., 3171 S. Bundy Drive, Los Angeles 34, Calif.

Lear-Romec Div. of Lear, Inc., Abbe Rd., Elyria, Ohio

Leclanche S. A., Yverdon, Switzerland.

Lectrohm, Inc., 5561 Northwest Highway, Chicago 30, Ill.

Lee Electric & Mfg. Co., 2806 Clearwater St., Los Angeles 39, Calif.

Lee Electronic Labs., Inc., 88 Evans St., Watertown, Mass.

Lee Spring Co., Inc., 30 Main St., Brooklyn 1, N. Y.

Leece-Neville Co., 1374 E. 51st St., Cleveland 3, Ohio.

Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia 44, Pa.

Lehigh Structural Steel Co., 17 Battery Place, New York 4, N. Y.

Leighton Labs, H. W., Sunset Lane & York Rd., Hatboro, Pa.

Leitch Engineering Corp., 326 Lincoln St., Manchester, N. H.

Leitra Laboratories, 154 11th Ave., New York 11, N. Y.

Lel, Inc., 380 Oak St., Copiague, N. Y.

Leland Electric Co., The, Div. of American Machine & Foundry Co., 1501 Webster St., Dayton 1, Ohio.

Leland, Inc., G. H., 123 Webster St., Dayton 2, Ohio.

Lemert Engineering Co., Inc., 185 E. Jefferson St., Plymouth, Ind.

Lenk Mfg. Co., The, 30 Cummington St., Boston 15, Mass.

Lenkurt Electric Co., Inc., 1105 County Road, San Carlos, Calif.

Lennard Co., Inc., P. M., P. O., Box 56, Village Station, New York 14, N. Y.

Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago 47, Ill.

Leonard Electric Products Co., Inc., 67 Thirty-fourth St., Brooklyn 32, N. Y.

Lepel High Frequency Labs., Inc., 55th & 37th Ave., Woodside 77, N. Y.

Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif.

Lerner Plastics, Inc., 522 South Ave., Garwood, N. J.

Leru Laboratories, Inc., Black Oak Ridge Rd., Paterson, N. J.

Lesa, Via Bergamo 21, Milan, Italy.

Lettine Radio Mfg. Co., 62 Berkley St., Valley Stream, N. Y.

Leupold & Stevens Instruments, Inc., P. O. Box 5082 Portland 13, Ore.

Levin & Son, Inc., Louis, 3610 S. Broadway, Los Angeles 7, Calif.

Levinthal Electronic Products, Inc., 3180 Hanover St., Stanford Industrial Park, Palo Alto, Calif.

Lewis Co., Inc., E. B., 11 Bragg St., East Hartford 8, Conn.

Lewis Engineering Co., 52 Rubber Ave., Naugatuck, Conn.

Lewis & Kaufman, Ltd., P. O. Box 337, Los Gatos, Calif.

Lewis Spring & Mfg. Corp., 2646 W. North Ave., Chicago 47, Ill.

Lewyt Mfg. Corp., 66 Broadway, Brooklyn, N. Y.

Leyse Aluminum Co., Kewaunee, Wis.

Liberty Industries, 107-37 71 Ave., Forest Hills, N. Y.

Librascope, Inc., 808 Western Ave., Glendale, Calif.

Licon Switch & Control Div. of Illinois Tool Works, 2501 N. Keeler Ave., Chicago 39, Ill.

Lieco, Inc., 147 Ocean Ave., Lynbrook N. Y.

Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.

Linde Air Products Co., Division of Union Carbide and Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

Lindgren & Associates, Erik A., 4515 N. Ravenswood Ave., Chicago 40, Ill.

Lindsay Chemical Co., 272 Ann St., West Chicago, Ill.

Ling Electronics, Inc., 5120 W. Jefferson Blvd., Los Angeles 16, Calif.

Link Aviation, Inc., Binghamton, N. Y.

Lion Fastener, Inc., c/o Southco, Lester, Pa.

Lipps, Inc., Edwin A., 5485 W. Washington Blvd., Los Angeles 16, Calif.

Liquidometer Corp., The, Skillman Ave. at 36th St., Long Island City 1, N. Y.

Littelfuse Inc., Des Plaines, Ill.

Little, Inc., Arthur D., 30 Memorial Drive, Cambridge 42, Mass.

Little Falls Alloys, Inc., 190 Caldwell Ave., Paterson 1, N. J.

Litton Engineering Laboratories, P. O. Box 949, Grass Valley, Calif.

Litton Industries, Beverly Hills, Calif.

Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif.

Litton Industries of Maryland, Inc., 4910 Calvert Rd., College Park, Md.

Livingston Electronic Corp., Livingston, N. J.

Locke, Dept. of General Electric Co., P. O. Box 57, Baltimore 3, Md.

Loge Sound Engineers, J. M., 2171 W. Washington Blvd., Los Angeles 18, Calif.

London Chemical Co., 1535 N. 31st Ave., Melrose Park, Ill.

London Electric Mfg. Co., Ltd., 80 Shore Rd., Port Washington, N. Y.

Long Packaging Co., W. D., 157 Santa Clara St., Arcadia, Calif.

Longren Aircraft Co., 2576 W. Carson St., Torrance, Calif.

Loral Electronics Corp., 794 E. 140th St., New York 54, N. Y.

Lord Mfg. Co., 1635 W. 12th St., Erle, Pa.

Louis Laboratories, 1947 Broadway, New York 23, N. Y.

Louthan Mfg. Co., East Liverpool, Ohio.

Luma Electric Equipment Co., P. O. Box 132, Toledo 1, Ohio.

Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.

Lundey Associates, Inc., 694 Main St., Waltham 54, Mass.

Luther Electronic Mfg. Co., 5728 W. Washington Blvd., Los Angeles 16, Calif.

Luzerne Rubber Co., Muirhead Ave., Trenton, N. J.

Lyman Electronic Corp., 12 Cass St., Springfield, Mass.

Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco 7, Calif.

Lynmar Engineers, Inc., 1432 N. Carlisle St., Philadelphia 21, Pa.

MB Mfg. Co., A Div. of Textron American, Inc., 1060 State St., New Haven 11, Conn.

M F Electronics, 122 E. 25th St., New York 10, N. Y.

MP Engineering Co., Fairfield 3, Conn.

M-W Laboratories, 1824 N. Milwaukee Ave., Chicago 27, Ill.

McCormick Selph Associates, Hollister, Calif.

McCoy Electronics Co., Mount Holly Springs, Pa.

McDowell Electronics, Inc., P. O. Box 342, Metuchen, N. J.

McGregor Electronic Industries, McGregor, Iowa.

McIntosh Laboratory Inc., 2 Chambers St., Binghamton, N. Y.

McKay Electric Co., 19790 Stahelln Ave., Detroit 19, Mich.

McKenna Laboratories, Santa Monica 6, Calif.

McLaughlin Corp., J. L. A., P. O. Box 529, La Jolla, Calif.

McLean Engineering, Box 228, Princeton, N. J.

McMillan Industrial Corp., Brownville Avenue Plant, Ipswich, Mass.

McQuay-Norris Mfg. Co., 2320 Marconi Ave., St. Louis 10, Mo.

Maas & Waldstein Co., 2121 McCarter Highway, Newark 4, N. J.

Macarr, Inc., 2543 Boston Rd., Bronx 67, N. Y.

Machinery Electrification, Inc., Northboro, Mass.

Machlett Laboratories, Inc., Springdale, Conn.

Mack Electric Devices, Inc., 43 Glenside Ave., Wyncote, Pa.

Mack Electronics, Div. of Mack Trucks, Inc., 40 Leon St., Boston 15, Mass.

Mack Electronics A Div. of Mack Trucks, Inc., Plainfield, N. J.

Mackay Research Labs., R. R. #2, P. O. Box 401, McHenry, Ill.

MacLeod & Hanopol, Inc., 10 Roland St., Charlestown 29, Mass.

Mag-Electric Products, Inc., 12822 Yukon Ave., Hawthorne, Calif.

Magna Electronics Co., 9810 Anza Ave., Inglewood, Calif.

Magnadyne Co., 84 S. Water St., Port Chester, N. Y.

Magnasync Manufacturing Co., Ltd., 5546 Satsuma Ave., P. O. Box 707, North Hollywood, Calif.

Magnatran, Inc., P. O. Box 213, Kearny, N. J.

Magnavox Co., The, 2131 Beuter Rd., Fort Wayne, Ind.

Magnecord, Inc., 1101 S. Kilbourn Ave., Chicago 24, Ill.

Magnecraft Electric Co., 3352 W. Grand Ave., Chicago 51, Ill.

Magne-Pulse Corp., 247 Crooks Ave., Clifton, N. J.

Magnetic Amplifiers, Inc., 632 Tinton Ave., New York 55, N. Y.

Magnetic Analysis Corp., 42-44 Twelfth St., Long Island City 1, N. Y.

Magnetic Core Corp., 199 Main St., Ossining, N. Y.

Magnetic Devices, Inc., 712 East St., Frederick, Md.

Magnetic Metals Co., Hayes Ave. at 21st St., Camden, N. J.

Magnetic Powders Inc., 1000 Fairview Ave., Johnsonburg, Pa.

Magnetic Research Corp., 3160 W. El Segundo Blvd., Hawthorne, Calif.

Magnetic Windings Div., Essex Wire Corp., Freemansburg Ave. at Hobson Blvd., Easton, Pa.

Magnetic, Inc., 18 Scudder Ave., Northport, N. Y.  
Magnetics, Inc., P. O. Box 391, Butler, Pa.  
Magnetics Research Co., Cor. Grove St. & E. Post Rd., White Plains, N. Y.  
Magnuson Engineers, Inc., 509 Emory St., San Jose 10, Calif.  
Magtrol, Inc., 38 Virginia Place, Buffalo, N. Y.  
Malco Co., Inc., 21 North 3rd St., Minneapolis, Minn.  
Maida Development Co., 214 Academy St., Hampton, Va.  
Maigne Co., O. J., 321 Pearl St., New York 38, N. Y.  
Majestic Aircraft Co., Moosup, Conn.  
Makepeace Co., D. E., Div. of Union Plate & Wire Co., Attleboro, Mass.  
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago 24, Ill.  
Mallinckrodt Chemical Works, Second and Mallinckrodt Sts., St. Louis 7, Mo.  
Mallory Battery Co., 13000 Athens Ave., Cleveland 7, Ohio.  
Mallory & Co., Inc., P. R., 34 S. Gray St., Indianapolis 6, Ind.  
Mandex Mfg. Co., Inc., 2608 W. 16th St., Chicago 8, Ill.  
Manger Electric Co., Miller St., Stamford, Conn.  
Manning, Maxwell & Moore, Inc., Aircraft Products Div., Danbury, Conn.  
Manning, Maxwell & Moore, Inc., Industrial Controls Div., 250 E. Main St., Stratford, Conn.  
Mansol Ceramics Co., 140 Little St., Belleville, N. J.  
Manson Laboratories, Inc., 207 Greenwich Ave., Stamford, Conn.  
Mantec, Inc., 126 Maryland St., El Segundo, Calif.  
Manufacturers Engineering & Equipment Corp., York & Sunset Lane, Hatboro, Pa.  
Marathon Battery Co., P. O. Box 298, Wausau, Wis.  
Marathon Electric Mfg. Corp., Randolph & Cherry Sts., Wausau, Wis.  
Marblette Corp., 37-21 30th St., Long Island City 1, N. Y.  
Marbon Chemical Div. of Borg-Warner Corp., 1926 W. Tenth Ave., Gary, Ind.  
Marchant Research, Inc., Sub., Marchant Calculators, Inc., 1475 Powell St., Oakland, Calif.  
Marco Industries Co., 207 S. Helena St., Anahelm, Calif.  
Marconi Instruments, 44 New St., New York 4, N. Y.  
Marconi's Wireless Telegraph Co., Ltd., 23/25 Beaver St., New York 4, N. Y.  
Marine Electric Co., 600 Fourth Ave., Brooklyn 15, N. Y.  
Marine View Electronics Inc., 28 Main St., White Plains, N. Y.  
Marion Electrical Instrument Co., 402 Canal St., Manchester, N. H.  
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.  
Markal Co., 3052 W. Carroll Ave., Chicago 12, Ill.  
Markel & Sons, L. Frank, School House, Norristown, Pa.  
Markem Machine Co., Keene, N. H.  
Markite Corp., 155 Waverly Place, New York 14, N. Y.  
Markwik Mfg. Co., Inc., 31 Sexton Rd., Plainview, N. Y.  
Marlee Associates, Inc., Route 46, Parsippany, N. J.  
Marlin-Rockwell Corp., Jamestown, N. Y.  
Marla Electronic Co., 703 Willow St., Chicago 14, Ill.  
Marsh Stencil Machine Co., 46 Marsh Bldg., Belleville, Ill.  
Marshall Associates, Inc., John, Box 2463, Bridgeport 8, Conn.  
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland 7, Ohio.  
Marvelum Co., Holyoke, Mass.  
Maryland Electronic Mfg. Corp., College Park, Md.  
Maryland Lava Co., Ceramic Dept., Bel Air, Md.  
Masonite Corp., 111 W. Washington St., Chicago 2, Ill.  
Massa Laboratories, Inc., 5 Fottler Rd., Hingham, Mass.  
Massachusetts Gear & Tool Div. of Geartronics Corp., 30 Nashua St., Woburn, Mass.  
Master Appliance Mfg. Co., Fourth & Ontario Sts., Racine, Wis.  
Master Etching Corp., 50 Honeck St., Englewood, N. J.  
Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles 15, Calif.  
Matthews & Co., Jas. H., 3926 Forbes St., Pittsburgh 13, Pa.  
Maurer Inc., J. A., 37-01 31st St., Long Island City 1, N. Y.  
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago 17, Ill.  
Maxson Corp., W. L., 460 W. 34th St., New York 1, N. Y.  
Maxson Instruments, A Div. of The W. L. Maxson Corp., 47-37 Austell Place, Long Island City 1, N. Y.  
May Engineering Co., 6055 Lankershim Blvd., North Hollywood, Calif.  
Measurement Engineering, Ltd., Arnprior, Ontario, Canada.  
Measurements Corp., Boonton, N. J.  
Mechanical Felt & Textiles Co., 50 W. 18th St., Weehawken, N. J.  
Mechanical Industries Production Co., 217 Ash St., Akron 8, Ohio.  
Mectronics, 1372-74 E. Walnut St., Pasadena, Calif.  
Medal Mfg. Co., Inc., 194 E. Silver St., Sharon, Pa.  
Mega Research, P. O. Box 371, Dover, N. J.  
Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago 41, Ill.  
Mendelsohn Speedgun Co., Inc., Fourth Ave., Haskell, N. J.  
Menlo Research Laboratory, 538 Phelan Ave., San Jose, Calif.  
Mepco, Inc., 35-37 Abbebt Ave., Morristown, N. J.  
Merco Corp., 4201 Belmont Ave., Chicago 41, Ill.  
Mercury Contacts, Inc., P. O. Box 615-E, Far Hills Station, Dayton 9, Ohio.  
Mercury Electronic Co., Box 450, Red Bank, N. J.  
Meridian, Inc., 880 Main St., Stamford, Conn.  
Meridian Metalcraft, Inc., 8739 S. Miller Grove Drive, Whittier, Calif.  
Merit Coil & Transformer Corp., 4427 N. Clark St., Chicago 40, Ill.  
Merit Plating Co., 216 E. 141st St., New York 51, N. Y.  
Merit Short Wave Diathermy Co., 2758 Whittier Blvd., Los Angeles 23, Calif.  
Metal Hydrides, Inc., Beverly, Mass.  
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.  
Metal & Thermit Corp., Rahway, N. J.  
Metalcraft Inc., 65-33 Austin St., Rego Park 74, N. Y.  
Metal-Craft, Inc., Burgess Place, Mountain View, N. J.  
Metals & Controls Corp., General Plate Div., 31 Forest St., Attleboro, Mass.  
Metalphoto Corp., 6811 Superior Ave., Cleveland 3, Ohio.  
Metaplast Co., Inc., 34-51 56th St., Woodside, N. Y.  
Metaplast Corp., Davisville Rd. at Pa. Turnpike, Hatboro, Pa.  
Metavac, Inc., 45-68 162nd St., Flushing 58, N. Y.  
Meters, Inc., 5353 N. Keystone Ave., Indianapolis 20, Ind.  
Methode Mfg. Corp., 2021 W. Churchill St., Chicago 47, Ill.  
Metpro Inc., R. I. 230 Toronto Ave., Providence, R. I.  
Metro Engineering Associates, Easthampton, Mass.  
Metron Corp., 8 Corryell St., Lambertville, N. J.  
Metron Instrument Co., 432 Lincoln St., Denver 3, Colorado.  
Metronix, Inc., Mill Lane, Waterford, Conn.  
Mertz Refining Co., 369 Mulberry St., Newark 2, N. J.  
Meyercord Co., 5323 W. Lake St., Chicago 44, Ill.  
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.  
Mica Insulator Co., Schenectady 1, N. Y.  
Micacraft Products Inc., 703 McCarter Highway, Newark 5, N. J.  
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn 6, N. Y.  
Micarta Fabricators, Inc., 54 N. Clark St., Chicago 40, Illinois.  
Michigan Chemical Corp., St. Louis, Mich.  
Mico Instrument Co., 77 Trowbridge St., Cambridge 38, Mass.  
Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y.  
Micro-Circuits Co., New Buffalo, Mich.  
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.  
Microfect Co., 2300 S. 25th St., Salem, Ore.  
Microlab, 71 Okner Parkway, Livingston, N. J.  
Microtech Mfg. Corp., 1020 Commerce Ave., Union, N. J.  
Microphone Corp., P. O. Box 1166X, Greenwich, Conn.  
Microsonics, Inc., Hingham Industrial Center, Route 3A, Hingham, Mass.  
Micro Switch Division of Minneapolis-Honeywell Regulator Co., 7 W. Sprlng St., Freeport, Ill.  
Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N. Y.  
Microtone Corp., The, 758 Mississippi River Blvd., St. Paul 1, Minn.  
Microtronics, Inc., Porete Ave., North Arlington, N. J.  
Microwave Associates, Inc., Burlington, Mass.  
Microwave Development Laboratories, Inc., 92 Broad St., Babson Park 57, Mass.  
Micro-Wire Stranding Co., 252 Chestnut St., P. O. Box 514, Passaic, N. J.  
Mid-Century Instrument Corp., 611 Broadway, New York 12, N. Y.  
Midget Louver Co., 6 Wall St., Norwalk, Conn.  
Midland Industrial Finishes Corp., Dept. 1-20, Waukegan, Ill.  
Midland Mfg. Co., Inc., 3155 Fiberglass Rd., Kansas City 15, Kansas.  
Midland Paint & Varnish Co., 9115 Reno Ave., Cleveland 5, Ohio.  
Mid-West Coil & Transformer Co., 1642 N. Halstead St., Chicago 14, Ill.  
Mid-West Conveyor Co., Inc., Metal Products Div., 7th & Sunshine Rd., Fairfax District, Kansas City, Kans.  
Midwest Molding & Mfg. Co., Gurnee, Ill.  
Mid-West Spring Mfg. Co., Mentone, Ind.  
Midwestern Instruments, 41st & Sheridan Rd., Tulsa, Okla.  
Milburn, Inc., Alexander, 1241 Ridgley St., Baltimore 30, Md.  
Miles Reproducer Co., Inc., 812 Broadway, New York 3, N. Y.  
Millen Mfg. Co., 90 Summit Ave., Brookline, Mass.  
Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.  
Miller Associates, P. O. Box 369, Lakeville, Conn.  
Miller Co., J. W., 5917 S. Main St., Los Angeles 3, Calif.  
Miller Electric Co., 120 Main St., Pawtucket, R. I.  
Miller Instruments, Inc., William 325 N. Halstead Ave., Pasadena 8, Calif.  
Miller Electronics, 2840 Naomi St., Burbank, Calif.  
Miller Labs., August E., 9226 Hudson Blvd., North Bergen N. J.  
Miller Mfg. Co., M. A., 4th & Church Sts., Libertyville, Ill.  
Miller Research Laboratories, 5529 S. Fifth St., Milwaukee 7, Wis.  
Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles 3, Calif.  
Millers Falls Co., Greenfield, Mass.  
Milli-Switch Corp., 1742 Berkeley St., Santa Monica, Calif.  
Millitest Co., 88 Madison Ave., Hempstead, N. Y.  
Millivac Instrument Corp., 2315 Second Ave., Garman, P. O. Box 997, Schenectady, N. Y.  
Millman Engineering Co., 1831 Pontius, West Los Angeles, Calif.  
Milwaukee Div. of Associated Spring Corp., 341 E. Erie St., Milwaukee 2, Wis.  
Milwaukee Gas Specialty Co., 730 Jackson, Milwaukee 1, Wis.  
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee 4, Wis.  
Milwaukee Transformer Co., 5231 N. Hopkins St., Milwaukee 9, Wis.  
Minatron Corp., 14 Cliveden Place, Belle Mead, N. J.  
Minco Products, Inc., 470 Washington Ave., N., Minneapolis 1, Minn.  
Miniature Precision Bearings, Inc., Precision Park, Keene, New Hampshire.  
Miniature Switch Corp., 36-10 Oceanside Rd., Oceanside, N. Y.  
Minitron, Inc., 1105 Second St., Encinitas, Calif.  
Minneapolis-Honeywell, Boston Div., 1400 Soldiers Field Rd., Boston 15, Mass.  
Minneapolis-Honeywell Regulator Co., 2753 Fourth Avenue S., Minneapolis 8, Minn.  
Minneapolis-Honeywell Regulator Co., Aeronautical Div., 2600 Ridway Rd., Minneapolis 13, Minn.  
Minneapolis-Honeywell Regulator Co., Industrial Div., Wayne & Windrim Aves., Philadelphia 44, Pa.  
Minneapolis-Honeywell Regulator Co., Ordnance Div., 600 2nd St., N., Hopkins, Minn.  
Minneapolis-Honeywell Regulator Co., Semiconductor Div., 2753 Fourth Ave., S., Minneapolis 8, Minn.  
Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.  
Minnesota Mining & Mfg. Co., Magnetic Tape Div., 900 Bush Ave., St. Paul 6, Minn.  
Minnesota Rubber & Gasket Co., 3630 Wooddale Ave., Minneapolis 16, Minn.  
Minor Rubber Co., Inc., 49 Ackerman St., Bloomfield, N. J.  
Minute Man Products, Inc., 430 E. 102nd St., New York, N. Y.  
Misco Precision Casting Co., Gibbs & Larsen Sts., Whitehall, Mich.  
Miskella Infra-Red Co., The, E. 73rd & Grand Ave., Cleveland 4, Ohio.  
Missouri Research Labs., Inc., 2019 Locust St., St. Louis 3, Mo.  
Mitchell Industries, Inc., P. O. Box 17, Mineral Wells, Texas.  
Mitchell Rand Insulation Co., Inc., 51 Murray Street, New York 7, N. Y.  
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.  
Mobil Electronics Mfg. Co., 1111 State Rd. 67 E., Anderson, Ind.  
Modac Div. of Airborne Instruments Laboratory, 864 Franklin Ave., Thornwood, N. Y.  
Model Engineering & Mfg. Inc., Huntington, Ind.  
Model Rectifier Corp., 1065 Utica Ave., Brooklyn 3, N. Y.  
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.  
Modern-Aire Mfg. Corp., 4436 W. Roosevelt Rd., Chicago 24, Ill.  
Modern Industries, Inc., 2601 Colorado Ave., Santa Monica, Calif.  
Mohawk Business Machines Corp., 944 Halsey St., Brooklyn 33, N. Y.  
Mohawk Electronic Research Labs., Inc., Box 126-A, RD 4, Amsterdam, N. Y.  
Mohawk Mfg. Co., Middletown, Conn.  
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.  
Moisture Register Co., 1510 W. Chestnut St., Alhambra, Calif.  
Molded Fibreglass Co., 4401 Benefit Ave., Ashtabula, Ohio.  
Molded Fibreglass Sheet Co., Ashtabula, Ohio.  
Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.  
Molded Products Div. of Admiral Corp., P.O. Box 338, West Chicago, Ill.  
Molding Corporation of America, 40 Church St., Pawtucket, R. I.  
Mole-Richardson Co., 937 N. Sycamore Ave., Hollywood 38, Calif.  
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.  
Moloney Electric Co., 5590 Bircher Blvd., St. Louis 20, Mo.  
Mons Industries, Inc., Paterson 4, N. J.  
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.  
Monsanto Chemical Co., Plastics Div., Springfield, Mass.  
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.  
Moody Machine Products Co., Inc., 39 Dudley St., Providence 5, R. I.  
Moog Valve Co., Inc., Proner Airport, East Aurora, N. Y.  
Mooradian High Frequency Labs., 13 E. Fort Lee Rd., Bogota, N. J.  
Moore Electronic Labs., Inc., 98 Front St., Worcester 8, Mass.  
Moran Electronic Components, Inc., 7660 Woodbury Drive, Silver Spring, Md.  
Moran Instrument Corp., 170 E. Orange Grove St., Pasadena 3, Calif.  
Morris Co., J. I., Southbridge, Mass.  
Morrow Radio Mfg. Co., Inc., 2794 Market St., Salem, Ore.  
Morse Co., Frank W., 1300 Soldiers Field Rd., Boston 35, Mass.  
Moseley Co., F. L., 409 Fair Oaks Ave., Pasadena 3, Calif.  
Moser Jewel Co., Perth Amboy, N. J.  
Mosinee Paper Mills, Inc., Dept. EB-7, Mosinee, Wis.  
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis 14, Mo.  
Mossman, Inc., Donald P., Brewster, N. Y.  
Motordyne Inc., 2661 S. Myrtle Ave., Monrovia, Calif.  
Motoresearch Co., 1600 Junction Ave., Racine, Wis.  
Motorola Communications and Electronics Inc., 4501 Augusta Blvd., Chicago 51, Ill.  
Motorola, Inc., Semiconductor Products Div., 5005 E. McDowell Rd., Phoenix, Ariz.

Moulle Specialties Co., 1007 W. Washington St., Bloomington, Ill.  
 Mt. Sopris Instrument Corp., 1320 Pearl St., Boulder, Colo.  
 Mt. Vernon Precision Transformer Co., 201 S. Third Ave., Mt. Vernon, N. Y.  
 Moyer, C. P., 8157 Monticello Ave., Skokie, Ill.  
 Muckle Mfg. Co., Owatonna 55, Minn.  
 Mucon Corp., 9 St. Francis St., Newark 5, N. J.  
 Mueller Electric Co., 1582 E. 31st St., Cleveland 14, Ohio.  
 Mueller Laboratory, 1052 N. Allen, Pasadena, Calif.  
 Muirhead & Co., Ltd., Beckenham, Kent, England.  
 Mullard Overseas Ltd., Equipment Div., Century House, Shaftesbury Ave., London W. C. 2, England.  
 Mullenbach Div. of Electric Machinery Mfg. Co., 2100 E. 27th St., Los Angeles 58, Calif.  
 Multicore Sales Corp., 80 Shore Rd., Port Washington, N. Y.  
 Multicore Solders Ltd., Multicore Works, Maylands Ave., Hemel Hempstead, Hertfordshire, England.  
 Multi-Products Co., 21470 Coolidge Highway, Oak Park 37, Mich.  
 Mundt & Sons, Charles, 53 Fairmount Ave., Jersey City 4, N. J.  
 Murex Ltd., Rainham-Essex-England.  
 Murphy & Miller Inc., 1322 S. Michigan Ave., Chicago 5, Ill.  
 Murray Mfg. Corp., 1250 Atlantic Ave., Brooklyn 16, N. Y.  
 Murray Plastics Co., 26 Cottage St., Poughkeepsie, N. Y.  
 Muter Company, The, 1255 S. Michigan Ave., Chicago 5, Ill.  
 Mutron Corp., 125 Perkins Ave., Brockton, Mass.  
 Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
 Mycalex Corp. of America, 125 Clifton Blvd., Clifton, N. J.  
 Mycalex Electronics Corp., 125 Clifton Blvd., Clifton, N. J.  
 Mycalex Tube Socket Corporation, 125 Clifton Blvd., Clifton, N. J.  
 Myers & Sons, Inc., E. A., P.O. Box 8032, Radioear Building, Pittsburgh 16, Pa.  
 Mykroy, Inc., Wheeling, Ill.  
 Mystic Transformers Inc., 63 Swanton St., Winchester, Mass.  
 Mystik Adhesive Products Co., 2635 N. Kildare, Chicago, Ill.  
 Mytron Mfg. Co., 4528 Brazil St., Los Angeles 39, Calif.

**N**

NJE Corporation, 345 Carnegie Ave., Kenilworth, N. J.  
 NRD Instrument Co., 6425 Etzel Ave., St. Louis 14, Mo.  
 NRC Equipment Corp., 160 Charlemont St., Newton 61, Mass.  
 N. R. K. Mfg. & Engineering Co., 4601 W. Addison St., Chicago 41, Ill.  
 NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.  
 Nader Mfg. Co., 2661 Myrtle Ave., Monrovia, Calif.  
 Nagel-Chase Mfg. Co., 2811 N. Ashland St., Chicago 13, Ill.  
 Nagoy Associates, Inc., Littleton, Mass.  
 Nameplates, Inc., 425 E. 101st St., Brooklyn 36, N. Y.  
 Narda Corp., 160 Herricks Rd., Mineola, N. Y.  
 Narrow Fabric Co., The, Reading, Pa.  
 National Acme Co., 170 E. 131st St., Cleveland 8, Ohio.  
 National Aeronautical Corp., Commerce Drive, Ft. Washington Industrial Park, Fort Washington, Pa.  
 National Aircraft Corp., 3411 Tulare St., Burbank, Calif.  
 National Capacitor Co., 18 Webster St., Brookline, Mass.  
 National Carbon Co., Division of United Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 National Cash Register Co., Dayton 9, Ohio.  
 National Ceramic Co., 400 Southard St., Trenton 2, N. J.  
 National Coll Co., P. O. Box 1237, Sheridan, Wyo.  
 National Company, Inc., 61 Sherman St., Malden 48, Mass.  
 National Electric Coll Co., Columbus 16, Ohio.  
 National Electric Controller Co., 7070 Glenwood Ave., Chicago 26, Ill.  
 National Electric Products Co., 140 Stanwix St., Pittsburgh 22, Pa.  
 National Electronics, Inc., Geneva, Ill.  
 National Electronics Laboratories, Inc.; 1713 Kalorama Rd., N. W., Washington 9, D. C.  
 National Engineering Products, Inc., 435 Washington Bldg., Washington 5, D. C.  
 National Fabricated Products Div. of Hoffman Electronics Corp., 2650 W. Belden Ave., Chicago 47, Ill.  
 National Felt Co., 76 Summer St., Boston 10, Mass.  
 National Inter-Communication Systems, Inc., 1130 N. Milwaukee Ave., Chicago 22, Ill.  
 National Lead Co., 111 Broadway, New York 6, N. Y.  
 National Lock Washer Co., 40 Hermon St., Newark 5, N. J.  
 National Moldite Co., 1410 Chestnut Ave., Hillside 5, N. J.  
 National Screw & Mfg. Co., The, Cleveland 4, Ohio.  
 National Spectrographic Laboratories, Inc., 6300 Euclid Ave., Cleveland 3, Ohio.  
 National Television Tube, Inc., Route 46, Saddle Brook, N. J.  
 National Tel-Tronics Corp., 35 St. Casimir Ave., Yonkers, N. Y.  
 National Union Electric Corp., Electronics Div., Bloomington, Ill.  
 National Video Corp., 4300 W. 47th St., Chicago 32, Ill.  
 National Vulcanized Fibre Co., Wilmington, Del.  
 Navstar Corp., Woodbridge, N. J.

Navigation Computer Corp., 1621 Snyder Ave., Philadelphia 45, Pa.  
 Navigation Electronics Corp., 11616 Hart St., North Hollywood, Calif.  
 Naylor Laboratories, Inc., E.V., 2 Yennicock Ave., Port Washington, N. Y.  
 Naz-Dar Co., 465 Milwaukee Ave., Chicago 10, Ill.  
 Nebel Laboratory, R. E., 1634 E. 12th St., Brooklyn 29, N. Y.  
 Neill Co., Inc., R. W., 4320 Montrose Ave., Chicago 41, Ill.  
 Nelson Instrument Co., 607 Howard St., Evanston, Ill.  
 Nelson Vacuum Pump Co., George F., 2133 Fourth St., Berkeley 10, Calif.  
 Nemeth, Inc., 2223 S. Carmelina Ave., Los Angeles 64, Calif.  
 Nems-Clarke, Inc., Silver Spring, Md.  
 Neosil Products Div. of Rubber Associates, Inc., 745 Fifth Ave., New York 22, N. Y.  
 Nesor Alloy Products Co., 282 Halsey St., Newark 2, N. J.  
 Network Mfg. Corp., 213 W. Fifth St., Bayonne, N. J.  
 Neutronic Associates, 93-14 101st Ave., Ozone Park 17, N. Y.  
 Neutronics Research Co., 165 Lake St., Waltham, Mass.  
 Nevada Air Products Co., P. O. Box 2472, Reno, Nev.  
 New Departure Div., General Motors Corp., Bristol, Conn.  
 New England Electrical Works, Inc., Lisbon, N. H.  
 New England Etching & Plating Co., 25 Spring St., Holyoke, Mass.  
 New England Laminates Co., Inc., P. O. Box 43, 481 Canal St., Stamford, Conn.  
 New England Oven & Furnace Co., Post Rd., Orange, Conn.  
 New England Scientific Instruments Co., Box 408, Cambridge 39, Mass.  
 New England Tape Co., Hudson, Mass.  
 New England Transformer Co., 47 McGrath Highway, Somerville, Mass.  
 New Hampshire Ball Bearings, Inc., Peterborough, N. H.  
 New Hermes Engraving Machine Corp., 13-19 University Place, New York 3, N. Y.  
 New Jersey Wood Finishing Co., Amboy Ave., Woodbridge, N. J.  
 New Jersey Zinc Co., 160 Front St., New York 38, N. Y.  
 New London Instrument Co., P. O. Box 189, New London, Conn.  
 New Process Metals, Inc., 45-65 Manufacturers Place, Newark 5, N. J.  
 New Products Co., Box 66101, Los Angeles 66, Calif.  
 New Rochelle Tool Corp., 320 Main St., New Rochelle, N. Y.  
 New York Coil Co., Phoenixville 12, Pa.  
 New York Solder Co., 684 E. 133rd St., New York 54, N. Y.  
 New York Transformer Co., Inc., Third Ave., Alpha, N. J.  
 Newark Spinning & Stamping Co., 472 Bloy St., Hillside 5, N. J.  
 Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.  
 Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y.  
 Ney Co., J. M., 179 Elm St., Hartford, Conn.  
 Niagara Electron Laboratories, Andover, N. Y.  
 Nichols & Clark, Inc., P. O. (321 Newburyport Turnpike, Danvers) Hawthorne, Mass.  
 Nickel Cadmium Battery Corp., Easthampton, Mass.  
 Nielsen Hardware Corp., 770 Wethersfield Ave., Hartford 14, Conn.  
 Niemand Bros., Inc., 37-03 35th Ave., Long Island City 1, N. Y.  
 Nilson Mfg. Co., Addison, Ill.  
 Nilsson Electrical Laboratory, Inc., 103 Lafayette St., New York 13, N. Y.  
 Noble & Westbrook Mfg. Co., 27 Westbrook St., East Hartford 8, Conn.  
 Noel Mfg. Co., 3 W. 18th St., New York 11, N. Y.  
 Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif.  
 Nonotuck Mfg. Co., Holyoke, Mass.  
 Norpc Chemical Co., Plastics Div., Harrison, N. J.  
 Norden-Ketay Corp., 58 Commerce Rd., Stamford, Conn.  
 Norrich Plastics Corp., 35 E. 32nd St., New York, N. Y.  
 Norrman Laboratories, Ernst, Williams Bay, Wis.  
 North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y.  
 North American Electric Lamp Co., 1014 Tyler St., St. Louis 6, Mo.  
 North American Instruments, Inc., 2420 N. Lake Ave., Altadena, Calif.  
 North American Philips Co., Inc., Elmet Div., Lisbon Rd., Lewiston, Maine.  
 North American Research Labs., Inc., 725 Lexington Ave., Kenilworth, N. J.  
 North Electric Co., 553 S. Market St., Gallon, Ohio.  
 North Hills Electric Co., Inc., 402 Sagamore Ave., Mineola, N. Y.  
 North Shore Nameplate, Inc., 214-27 Northern Blvd., Bayside 61, N. Y.  
 Northeast Electronics Corp., P. O. Box 425, Municipal Airport, Concord, N. H.  
 Northeast Scientific Corp., 617 Concord Ave., Cambridge 38, Mass.  
 Northeastern Engineering, Inc., Manchester, N. H.  
 Northern Electronic & Vacuum Industries, St. Saviour Des Monts P. Q., P. O. Box 105, Canada.  
 Northern Engineering Laboratories, Inc., 372 Wilmot Ave., Burlington, Wis.  
 Northern Industrial Chemical Co., 7-11 Elkins St., South Boston 27, Mass.  
 Northern Mfg. Co., 38 Spring St., Newark, N. J.  
 Northern Metal Products Co., 9597 W. Grand Ave., Franklin Park, Ill.  
 Northern Plastics Corp., Second & Market Sts., La Crosse, Wis.  
 Northern Radio Co., Inc., 143-145 W. 22nd St., New York 11, N. Y.  
 Norton Associates, Inc., P. O. Box 96, Garden City, N. Y.  
 Norton Co., 1 New Bond St., Worcester 6, Mass.

Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis 4, Minn.  
 Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.  
 Novelty Blas Binding Co., Plastics Div., Chelsea, Mass.  
 Nuclear-Chicago Corp., 223 W. Erie St., Chicago 10, Ill.  
 Nuclear Corp. of America, Inc., 350 Fifth Ave., New York 1, N. Y.  
 Nuclear Development Lab., P. O. Box 7034, Kansas City, Mo.  
 Nuclear-Electronics Corp., 2632-36 W. Cumberland St., Philadelphia 32, Pa.  
 Nuclear Magnetics Corp., Box A, 154 Boylston St., Boston 16, Mass.  
 Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis 5, Ind.  
 Nuclear Research Corp., Southampton, Pa.  
 Nuclear Specialty Co., Center Moriches, N. Y.  
 Nuclonic Company of America, 196 De Graw St., Brooklyn 31, N. Y.  
 Nuclonic Products Co., 1601 Grande Vista Ave., Los Angeles 23, Calif.  
 Nugent Electronics Co., New Albany, Ind.  
 Numberall Stamp & Tool Co., Huguenot Park, Staten Island 12, N. Y.  
 Nureco, Inc., 1100 Pontiac Ave., Cranston 10, R. I.  
 Nylok Corp., The, 611 Industrial Ave., Paramus, N. J.  
 Nylite Corp. of America, 2331 Morris Ave., Union, N. J.

**O**

O K Electronics Corp., 7 Hunt Place, Nutley, N. J.  
 O & S Research, Inc., 1811 Bannard St., Riverton, N. J.  
 Oak Mfg. Co., 1260 N. Clybourn Ave., Chicago 10, Ill.  
 Oaktron Electric Co., Tinley Park, Ill.  
 O'Brien Electric Corp., 5614 Santa Monica Blvd., Hollywood 38, Calif.  
 Oerlikon Tool & Arms Corp. of America, Asheville, N. C.  
 Offer Electronics, 5320 N. Kedzie Ave., Chicago 25, Ill.  
 Ohio-Apex Div., Food Machinery & Chemical Corp., Nitro, W. Va.  
 Ohio Carbon Co., 12508 Berea Rd., Cleveland 11, Ohio.  
 Ohio Crankshaft Co., Tocco Div., 3800 Harvard Ave., Cleveland 5, Ohio.  
 Ohio Div. of Associated Spring Corp., 1825 E. First St., Dayton 3, Ohio.  
 Ohio Seamless Tube Div. of Copperweld Steel Co., Shelby, Ohio.  
 Ohmite Mfg. Co., 3601 Howard St., Skokie, Ill.  
 Ohmweve Co., 43 Darcy St., West Hartford 6, Conn.  
 Okonite Co., The, Canal Street, Passaic, N. J.  
 Olesen Co., Otto K., 1534 Cahuenga, Hollywood 28, Calif.  
 Olin Mathieson Chemical Corp., 460 Park Ave., New York 22, N. Y.  
 Olympic Metal Products Co., Inc., Third Ave., Alpha, N. J.  
 Olympic Plastics Co., Inc., 3471 S. La Cienega Blvd., Los Angeles 16, Calif.  
 Olympic Radio & Television Co., 34-01 38th Ave., Long Island City, N. Y.  
 Omco, U. S. 93 & Las Palomas St., Kingman, Ariz.  
 Omega Electronics Co., 355 Atlantic Ave., Brooklyn 17, N. Y.  
 Omega Instrument Co., Box 495M, Pasadena, Calif.  
 Omega Laboratories Inc., P. O. Box 264, Rowley, Mass.  
 Onan & Sons Inc., D. W., University Ave., at 25th St., S. E. Minneapolis 14, Minn.  
 O'Neil-Irwin Mfg. Co., 316 Eighth Ave., Lake City, Minn.  
 Onondago Pottery Works, Electronics Div., 1858 W. Lafayette St., Syracuse, N. Y.  
 Opad Electric Co., 69-5 Murray St., New York 7, N. Y.  
 Optimized Devices, Inc., P. O. Box 38, Gedney Station, White Plains, N. Y.  
 Optron Corp., 3526 State St., Santa Barbara, Calif.  
 Orange Products Inc., 554 Mitchell St., Orange, N. J.  
 Orbitran Co., Lakeside, Calif.  
 Oregon Electronic Mfg. Co., 2232 E. Burnside St., Portland 15, Ore.  
 Organic Development Corp., Spectra-Strip Div., 10052 Larson Ave., Garden Grove, Calif.  
 Orradio Industries, Inc., Shamrock Circle, Opelika, Ala.  
 Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.  
 Oryx Co., 9015 Wilshire Blvd., Beverly Hills, Calif.  
 Osborn Products, Glen Ellyn, Ill.  
 Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland 14, Ore.  
 Oster Mfg. Co., John, Avionics Div., 1 N. Main St., Racine, Wis.  
 Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn 5, N. Y.  
 Owen Laboratories, Inc., 55 Beacon Place, Pasadena, Calif.  
 Owens-Corning Fiberglas Corp., 598 Madison Ave., New York 22, N. Y.  
 Owens-Illinois Closure & Plastics Div., P. O. Box 1035, Toledo 1, Ohio.  
 Oxford Electric Corp., 3911 S. Michigan Avenue, Chicago 15, Ill.  
 Ozalid Div. of General Aniline & Film Corp., 770 Ansoo Rd., Johnson City, N. Y.

**P**

P.B.R. Manufacturing Co., H & Luzerne Sts., Philadelphia 24, Pa.  
 P I C Design Corp., 477 Atlantic Ave., East Rockaway, N. Y.  
 PSP Engineering Co., 8608 Otis St., South Gate, Calif.  
 Pace Electrical Instruments Co., Inc., 70-31 84th St., Glendale 27, N. Y.

Pacific Automation Products, Inc., 1000 Air Way, Glendale 1, Calif.

Pacific Electro-Nuclear Co., 11818 Teale St., Culver City, Calif.

Pacific Moulded Products, 905 E. 59th St., Los Angeles, Calif.

Pacific Relays, Inc., 12027 Vose St., North Hollywood, Calif.

Pacific Resistor Co., 1881 Sepulveda Blvd., Los Angeles 25, Calif.

Pacific Scientific Co., P. O. Box No. 22019, Los Angeles 22, Calif.

Pacific Semiconductors, Inc., 10451 W. Jeerson, Culver City, Calif.

Pacific Transducer EBG Corp., 11836 W. Pico Blvd., Los Angeles 64, Calif.

Pacific Universal Products Co., 168 Vista Ave., Pasadena 8, Calif.

Packard-Bell Co., 12333 W. Olympic Blvd., Los Angeles 64, Calif.

Painton Div. of British Electronics Sales Co., Inc., Oakland Garden Sta., Flushing 64, N. Y.

Paisley Products, Inc., 630 W. 51st St., New York 19, N. Y.

Palmer, Inc., M. V., 4002 Fruit Valley Rd., Vancouver, Wash.

Palnut Co., The, 77 Glen Rd., Mountainside, N. J.

Pameco, Mill Lane, Waterford, Conn.

Pan American Trade Development Corp., 2 Park Ave., New York 16, N. Y.

Pan-Electronics Corp., Box 404, Griffin, Ga.

Panelgraphic Corp., P. O. Box 254, Caldwell, N. J.

Panelyte Div., St. Regis Paper Co., 261 Madison Ave., New York 16, N. Y.

Panoramic Radio Products, Inc., 10 South Second Ave., Mt. Vernon, N. Y.

Pantek Co., Box 212, El Segundo, Calif.

Par-Metal Products Corp., 32-62 49th Street, Long Island City 3, N. Y.

Paragon Electric Co., Two Rivers, Wisconsin.

Paragon-Revolute Corp., 71 South Ave., Rochester 4, N. Y.

Parameters, Inc., 195 Herricks Rd., New Hyde Park, N. Y.

Paramount Paper Tube Co., 614 Lafayette St., Fort Wayne, Ind.

Paraplegics Mfg. Co., Inc., 10068 Franklin Ave., Franklin Park, Ill.

Paravox, Inc., 2056 E. 4th St., Cleveland 15, Ohio.

Parasian Novelty Co., 3510 South Western Ave., Chicago 9, Ill.

Park Nameplate Co., Inc., 34-10 Linden Place, Flushing 54, N. Y.

Parker-Kalon Division of General American Transportation Corp., Clifton, N. J.

Parsons Co., Ralph M., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.

Partridge Transformers, Ltd., Roebuck Rd., Tolworth, Surrey, England.

Patton-MacGuyver Co., 17 Virginia Avenue, Providence 5, R. I.

Paul & Beekman, Inc., 1801 Cortland St., Philadelphia 40, Pa.

Paul & Stein Bros., Inc., F. H., 235 Fifth Ave., New York 16, N. Y.

Pearce-Simpson, Inc., 3023 Coral Way, Miami 34, Fla.

Pearson Electronics, 1200 Bryant St., Palo Alto, Calif.

Pease Co., C. F., 2601 W. Irving Park Rd., Chicago 11, Ill.

Pease & Curran Inc., 780 Allens Ave., Providence, R. I.

Peck & Harvey Mfg. Corp., 5650 N. Western Ave., Chicago 45, Ill.

Pedersen Electronics Co., Mount Diablo Blvd., Lafayette, Calif.

Peeco Corp., 2760 Whittier Blvd., Los Angeles 23, Calif.

Peer, Inc., Benton Harbor, Mich.

Peerless Electrical Div. of Altec Lansing Corp., 1515 S. Manchester Ave., Anaheim, Calif.

Peerless Electronics Inc., 5338 Alhambra Ave., Los Angeles 32, Calif.

Peerless Photo Products, Inc., Shoreham, N. Y.

Peerless Products Industries, 812 N. Pulaski Ave., Chicago 51, Ill.

Pegasus Laboratories, Inc., 3692 Eleven Mile Rd., Berkeley, Mich.

Peirce Dictation Systems, 5900 Northwest Highway, Chicago 31, Ill.

Pelican Plastics, Inc., Homer, La.

Penfield Mfg. Co., 19 High School Ave., Meriden, Conn.

Penn Engineering & Mfg., Corp., Box 311, Doylstown, Pa.

Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia 34, Pa.

Penn Keystone Corp., 18 Elizabeth St., West Conshohocken, Pa.

Penn Precision Products, Inc., 501 Crescent Ave., Reading, Pa.

Penn Tran Corp., Belefonte, Pa.

Pennsylvania Testing Lab, Inc., Doylstown, Pa.

Penta Laboratories, Inc., 312 N. Nopal St., Santa Barbara, Calif.

Pentron Corp., 777 S. Tripp Ave., Chicago 24, Ill.

Perfection Electric Co., 2635 S. Wabash Ave., Chicago 16, Ill.

Perfection Mica Co., 1320 N. Elston Ave., Chicago 22, Ill.

Performance Measurements Co., 15310 W. McNichols, Detroit 35, Mich.

Perkin-Elmer Corporation, The, Main Ave., Norwalk, Conn.

Perkin Engineering Corp., 345 Kansas St., El Segundo, Calif.

Perkin Machine & Gear Co., Special Machinery Div., West Springfield, Mass.

Permacel Tape Corp., U. S. Highway 1, New Brunswick, N. J.

Permag Corp., 214 Taaffe Place, Brooklyn 5, N. Y.

Permo Inc., 6415 Ravenswood Ave., Chicago 26, Ill.

Permotux Corp., 4900 W. Grand Ave., Chicago 39, Ill.

Permonite Mfg. Co., 444 N. Lake Shore Drive, Chicago 11, Ill.

Permutit Co., 330 W. 42nd St., New York 36, N. Y.

Peschel Electronics, Inc., 13 Garden St., New Rochelle, N. Y.

Peter Partition Corp., 124 Boerum Place, Brooklyn 1, N. Y.

Peters-Dalton, Inc., 17872 Ryan Rd., Detroit 12, Mich.

Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.

Peterson Radio Co., 2800 West Broadway, Council Bluffs, Iowa.

Pfantsiehl Chemical Corp., 104 Lake View Ave., Waukegan, Ill.

Pfeger Products, 3901 W. 54th St., Los Angeles 43, Calif.

Phalo Plastics Corp., 25 Foster St., Worcester 8, Mass.

Phaestron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.

Phelps Dodge Copper Products Co., 300 Park Ave., New York 22, N. Y.

Phelps Dodge Copper Products Corp., Inca Mfg. Div., Fort Wayne, Ind.

Pheoil Mfg. Co., 5700 Roosevelt Rd., Chicago 50, Ill.

Philadelphia Quartz Co., 1146K Public Ledger Bldg., Philadelphia 6, Pa.

Philadelphia Scientific Glass Co., Quakertown, Pa.

Philamon Laboratories, Inc., 90 Hopper St., Westbury, N. Y.

Philbrick Researches, Inc., George A., 230 Congress St., Boston 10, Mass.

Philco Corp., C & Tioga Sts., Philadelphia 34, Pa.

Philco Corp., Government & Industrial Div., 4700 Wisconsin Ave., Philadelphia 44, Pa.

Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.

Phillips Control Corp., 59 W. Washington St., Joliet, Ill.

Phillips & Hiss Co., Inc., 1155 N. McCadden Place, Hollywood 38, Calif.

Phillips Mfg. Co., 3406 W. Touhy Ave., Chicago 45, Ill.

Phillips Process Co., Inc., 192 Mill St., Rochester 14, N. Y.

Philmore Mfg. Co., Inc., 113 University Place, New York 3, N. Y.

Philson Mfg. Co., Inc., 60-66 Sackett St., Brooklyn 31, N. Y.

Phosphor Bronze Corp., 25 Franklin St., Seymour, Conn.

Photo Chemical Products, Inc., 999A Stewart Ave., Garden City, N. Y.

Photo Crystals, Inc., 15 S. First St., Geneva, Ill.

Photobell Co., Inc., 43 Vesey St., New York 7, N. Y.

Photocircuits Corp., Glen Cove, N. Y.

Photocon Research Products, 421 N. Altadena Drive, Pasadena, Calif.

Photographic Products Inc., 1000 N. Olive St., Anahelm, Calif.

Photoswitch Div., Electronics Corp. of America, One Memorial Drive, Cambridge 42, Mass.

Photovolt Corp., 95 Madison Ave., New York 16, N. Y.

Photon Instrument Co., 6516 Detroit Ave., Cleveland 2, Ohio.

Physics Research Labs, Inc., P. O. Box 555, Hempstead, N. Y.

Pickard & Burns, Inc., Needham, Mass.

Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.

Pickering & Co., 309 Woods Ave., Oceanside, N. Y.

Piezo Products Co., Whitney St., Sherborn, Mass.

Pilgrim Screw Corp., 259 Dexter St., Providence, R. I.

Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.

Pimex Inc., 18 E. 60th St., New York 22, N. Y.

Pioneer-Central Division, Bendix Aviation Corp., Davenport, Iowa.

Pioneer Electronics Corp., 2235 S. Carmelina, West Los Angeles, Calif.

Pioneer Gen-E-Motor Corp., 5841 W. Dickens, Chicago 39, Ill.

Pioneer Machine Works, Inc., 6136 Adam St., West New York, N. J.

Pitometer Log Corp., 237 Lafayette St., New York 12, N. Y.

Pittsburgh Electrodryer Div. of McGraw-Edison Co., 300 32nd St., Pittsburgh 30, Pa.

Pittsburgh Plate Glass Co., 1 Gateway Center, Pittsburgh 22, Pa.

Pix Mfg. Co., Inc., 81A Hudson St., Newark, N. J.

Plamondon Magnetics Co., 1850 W. Hubbard St., Chicago 22, Ill.

Planet Mfg. Corp., 225 Belleville Ave., Bloomfield, N. J.

Plasteck, Inc., Poteau, Okla.

Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago 14, Ill.

Plastic-Chem Corp., 5725 S. Dixie Highway, Miami 43, Fla.

Plastic Mold & Engineering Co., Inc., 157 Clifford St., Providence 3, R. I.

Plastic Wire & Cable Corp., Jewett City, Conn.

Plastics & Electronics Co., Inc., P. O. Box 38, Station J, Buffalo 8, N. Y.

Plastics Engineering Co., 1607 Geale Ave., Sheboygan, Wis.

Plastoid Corp., 42-61 24th St., Long Island City 1, N. Y.

Plastronics, P. O. Box 96, Winter Hill 45, Mass.

Pneumafil Corp., Charlotte, N. C.

Poinsettia Co., Inc., 112 Cedar Ave., Pittman 6, N. J.

Polan Industries Inc., P. O. Box 1720, Huntington, W. Va.

Polarad Electronics Corp., 43-20 34th St., Long Island City 1, N. Y.

Pollak Corp., Joseph, 75-99 Freeport St., Dorchester 22, Mass.

Polyken Sales Div. of The Kendall Co., 309 W. Jackson Blvd., Chicago 6, Ill.

Polymer Corporation, The, Reading, Pa.

Polymica & Insulation Co., 683 Main St., Willimantic, Conn.

Polyphase Instrument Co., East Fourth St., Bridgeport, Penna.

Poly-Scientific Corp., Blacksburg, Va.

Polytechnic Research & Development Co., Inc., 202 Tillary St., Brooklyn 1, N. Y.

Polytron Engineering Inc., P. O. Box 5024, Middle River 20, Md.

Polytronic Research Inc., 7660 Woodbury Drive, Silver Spring, Md.

Pomona Electronics Co., Inc., 1126 W. Fifth Ave., Pomona, Calif.

Popper & Sons, Inc., 300 Fourth Ave., New York 10, N. Y.

Porcelain Products, Inc., Findlay, Ohio.

Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.

Ports Mfg. Co., 3265 E. Belmont Ave., Fresno 2, Calif.

Positive Lock Washer Co., 181 Miller St., Newark 5, N. J.

Post Co., Frederick, 3650 N. Avondale Ave., P. O. Box 803, Chicago 90, Ill.

Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.

Potter Aeronautical Corp., Route #22, Union, N. J.

Potter & Brumfield, Inc., Princeton, Ind.

Potter Co., The, 1950 Sheridan Rd., North Chicago, Ill.

Potter Instrument Co., 115 Cutter Mill Rd., Great Neck, N. Y.

Poughkeepsie Coil Co., Inc., 24 Charlotte St., Binghamton, N. Y.

Power Designs, Inc., 89-25 130th St., Richmond Hill 18, N. Y.

Power Equipment Co., 5740 Nevada, East, Detroit 34, Mich.

Power Industries Co., 2611 S. Indiana Ave., Chicago 16, Ill.

Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.

Power Supplies, Inc., 1007 Olive St., Highland, Ill.

Power Transformer Co., Inc., 532 Mulberry St., Newark 5, N. J.

Powers Co., J. J., 1317 S. Fifth Ave., Maywood, Ill.

Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.

Precious Metal Platers, The, P. O. Box 228, Fairfield, Conn.

Precise Development Corp., 2 Nell Court, Oceanside, N. Y.

Precise Instrument Parts Co., 4520 San Fernando Rd., Glendale 4, Calif.

Precise Measurements Co., R.D. #1, Millbrooks Rd., Flemington, N. J.

Precision Apparatus Co., Inc., 70-31 84th St., Glendale 27, N. Y.

Precision Capacitors, Inc., 150 W. Cypress Ave., Burbank, Calif.

Precision Crystal Laboratory, 2223 Warwick Ave., Santa Monica, Calif.

Precision Electronic Components Ltd., 50 Wingold Ave., Toronto 10, Ont.

Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.

Precision Electroplating Co., 519 S. Oakley Blvd., Chicago 12, Ill.

Precision, Inc., 730 Lyndale Ave., N., Minneapolis, Minn.

Precision Line, Inc., 63 Main St., Maynard, Mass.

Precision Metal Products Co., of Malden, 41 Elm St., Stoneham 80, Mass.

Precision Metalsmiths, Inc., 1081 E. 200th St., Cleveland 17, Ohio.

Precision Paper Tube Co., 2041 W. Charleston St., Chicago 47, Ill.

Precision Piezo Service, 427 Mayflower St., Baton Rouge, La.

Precision Products Co., Inc. of Waltham, 26 Bedford St., Waltham 54, Mass.

Precision Radiation Instruments, Inc., 4223 W. Jefferson Blvd., Los Angeles 16, Calif.

Precision Resistor Co., 109 U. S. Highway #22, Hillside 5, N. J.

Precision Tube Co., Inc., North Wales, Pa.

Prels Engraving Machine Co., H. P., 651 U. S. Highway 22, Hillside, N. J.

Premax Products Div., Chisholm-Ryder Co., Inc., Highland & College Aves., Niagara Falls 2, N. Y.

Premier Electronic Laboratories, 382 Lafayette St., New York 3, N. Y.

Premier Instrument Corp., 52 W. Houston St., New York 12, N. Y.

Premier Metal Products Co., 337 Manida St., Bronx 59, N. Y.

Premier Research Laboratories Inc., 83 Seventh Ave., New York 11, N. Y.

Prescott Television Co., 7352 Beverly Blvd., Los Angeles 36, Calif.

Press Wireless Laboratories, Inc., 25 Prospect Place, West Newton 65, Mass.

Pressman Associates, 7803 Farnsworth St., Philadelphia 15, Pa.

Presto Recording Corp., P. O. Box 500, Paramus, N. J.

Price Electric Corp., Frederick, Md.

Printed Cellophane Tape Co., 521 N. LaBrea Ave., Los Angeles 36, Calif.

Printed Circuit Div., LaPointe Electronics Inc., Rockville, Conn.

Printed Electronics Corp., 7 North Ave., Natick, Mass.

Printoid, Inc., 93 Mercer St., New York 12, N. Y.

Probescope Co., 44-05 30th Ave., Long Island City 3, N. Y.

Process & Instruments, 15 Stone Ave., Brooklyn 33, N. Y.

Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.

Production Instrument Co., 710 W. Jackson Blvd., Chicago 6, Ill.

Production Research Corp., Thornwood, N. Y.

Production Tool & Fixture Co., 37 W. Main St., Oyster Bay, N. Y.

Progress Electronics Co., 296 Broadway, New York 7, N. Y.

Progressive Mfg. Co., 50 Norwood St., Torrington, Conn.

Protective Coatings Corp., 596 River Rd., Clifton, N. J.

Pruyn-Moore, Inc., 1338 Cota Ave., Long Beach 13, Calif.

Pulse Engineering, Inc., 2657 Spring St., Redwood City, Calif.  
 Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.  
 Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England.  
 Pyle-National Co., 1334 N. Kostner Ave., Chicago 51, Ill.  
 Pyramid Electric Co., 1445 Hudson Blvd., North Bergen, N. J.  
 Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y.  
 Pyroferic Co., Inc., 621 E. 216th St., New York 67, N. Y.  
 PyroFilm Resistor Co., Inc., 8 Whippany St., Morristown, N. J.

Q

QRK Electronic Products, 445 N. Circle Drive, Fresno 4, Calif.  
 Q.V.S. Inc., 20 N. 15th St., East Orange, N. J.  
 Quadriga Mfg. Co., 213 W. Grand Ave., Chicago 10, Ill.  
 Quaker City Felt Co., 1734 Ludlow St., Philadelphia 3, Pa.  
 Quaker City Gear Works, Red Lion & Philmont Rd., Bethayers, Pa.  
 Quality Components, Inc., St. Marys, Pa.  
 Quality Hermetics, Ltd., 45 Hollinger Rd., East York, Toronto, Ontario.  
 Quality Products Co., 287 Charles St., Providence, R. I.  
 Quam-Nichols Co., Marquette Rd., & Prairie Ave., Chicago 37, Ill.  
 Quantum Electronics, Inc., 2312 Wisconsin St. NE, Albuquerque, N. M.  
 Qutronic Semi-Conductor Corp., 525 Broadway, New York 12, N. Y.  
 Qutronic Transformer Corp., 525 Broadway, New York 12, N. Y.

R

R. B. M. Division, Essex Wire Corp., Logansport, Ind.  
 R.C.L. Mfg. Co., New Jersey Ave., Riverside 1, N. J.  
 R.F. Manufacturing Corp., Jericho Turnpike, Mineola, N. Y.  
 R-F Electronics, Inc., Div. of Electro Switch Corp., Weymouth, Mass.  
 R-J Audio Products, Inc., 80 Shore Rd., Port Washington, N. Y.  
 RS Electronics Corp., 435 Portage Ave., P. O. Box 368, Station A, Palo Alto, Calif.  
 Racon Electric Co., 1261 Broadway, New York 1, N. Y.  
 Radar Design Corp., 210 Fifth Ave., New York 16, N. Y.  
 Radar Engineers, 403 E. 45th St., Seattle 5, Wash.  
 Radar Relay, Inc., 2120 Pontius Ave., Los Angeles 25, Calif.  
 Radex Corp., 2076 N. Elston Avenue, Chicago 14, Ill.  
 Radial Cutter Corp., 831 Bond St., Elizabeth, N. J.  
 Radiart Corp., The, 3455 Vega Ave., Cleveland 13, Ohio.  
 Radiation Counter Laboratories, Inc., 5122 W. Grove St., Skokie, Ill.  
 Radiation, Inc., Melbourne, Fla.  
 Radiation Instrument Development Labs., 2337 W. 67th St., Chicago 36, Ill.  
 Radio Apparatus Corp., 55 N. New Jersey St., Indianapolis 3, Ind.  
 Radio City Products Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Radio Condenser Co., Camden, N. J.  
 Radio Cores, Inc., 9540 Tulley Ave., Oak Lawn, Ill.  
 Radio Corp. of America, Consumer Products Div., Camden 8, N. J.  
 Radio Corp. of America, Engineering Products Div., Camden, N. J.  
 Radio Corp. of America, RCA Electron Tube Div., 415 S. Fifth St., Harrison, N. J.  
 Radio Craftsman, Inc., 4223 W. Jefferson Blvd., Los Angeles 16, Calif.  
 Radio Development & Research Corp., 100 Pennsylvania Ave., Paterson 3, N. J.  
 Radio Engineering Labs., Inc., 36-40 37th St., Long Island City 1, N. Y.  
 Radio Frequency Co., Inc., 44 Park St., Medfield, Mass.  
 Radio Frequency Labs., Inc., Boonton 2, N. J.  
 Radio Industries, Inc., 5225 Ravenswood Ave., Chicago 40, Ill.  
 Radio Mfg. Engineers, Inc., 501 Walnut St., Washington, Ill.  
 Radio Materials Corp., 3325 N. California Ave., Chicago 18, Ill.  
 Radio Merchandise Sales, Inc., 2016 Bronxdale Ave., New York 62, N. Y.  
 Radio Receptor Co., 240 Wythe Ave., Brooklyn 11, N. Y.  
 Radio Specialty Mfg. Co., 2023 S.E. 6th Ave., Portland 14, Ore.  
 Radioactive Products Inc., 2421 Wolcott, Ferndale, Mich.  
 Radon Corp., 1130 Wisconsin Ave., Chicago 14, Ill.  
 Radionic Transformer Co., 411 S. Sangamon St., Chicago 7, Ill.  
 Radix Wire Co., 26260 Lakeland Blvd., Cleveland 32, Ohio.  
 Rae Motor Corp., P. O. Box 269, Racine, Wis.  
 Railway Communications, Inc., 9351 E. 59th St., Raytown, Mo.  
 Ram Electronics, Inc., 600 Industrial Ave., Paramus, N. J.  
 Ram Meter, Inc., 1100 Hilton Rd, Ferndale, Detroit 20, Mich.

Ramy Mfg. Co., 1624 E. First St., Los Angeles 23, Calif.  
 Randall, Inc., Douglas, 6 Pawcatuck Ave., Westerly, R. I.  
 Rangertone, Inc., 73 Winthrop St., Newark 4, N. J.  
 Ransom Research, P. O. Box 382, San Pedro, Calif.  
 Rapid Electric Co., 2881 Middletown Rd., Bronx 61, N. Y.  
 Rapid Specialties Co., 327 W. Huron Street, Chicago 10, Ill.  
 Rare Earths, Inc., Box 488, Pompton Plains, N. J.  
 Ratican Electronics Inc., 3614 Maple Ave., Los Angeles 11, Calif.  
 Rattray & Co., Inc., George, 116-08 Myrtle Ave., Richmond Hill, N. Y.  
 Rauland-Borg Corp., 3515 W. Addison St., Chicago 18, Ill.  
 Rauland Corp., 4545 N. Knox Ave., Chicago 41, Ill.  
 Raway Bearing Co., 4-8 Forsyth St., New York 2, N. Y.  
 Rawson Electrical Instrument Co., 111 Potter St., Cambridge 42, Mass.  
 Ray-O-Vac Co., 212 E. Washington Ave., Madison, Wis.  
 Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J.  
 Raymond Engineering Laboratory, Inc., Smith St., Middletown, Conn.  
 Raymond Manufacturing Co., Corry, Pa.  
 Raypar, Inc., 7800 W. Addison St., Chicago, Ill.  
 Raytheon Mfg. Co., Ceramic Sales, Waltham 54, Mass.  
 Raytheon Mfg. Co., Equipment Marketing Dept., 100 River St., Waltham 54, Mass.  
 Raytheon Mfg. Co., Microwave & Power Tube Operations, Waltham 54, Mass.  
 Raytheon Mfg. Co., Receiving & Cathode Ray Tube Operations, 55 Chapel St., Newton 58, Mass.  
 Raytheon Mfg. Co., Television & Radio Div., 5921 W. Dickens Ave., Chicago 39, Ill.  
 Rea Co., J. B., 1723 Cloverfield Blvd., Santa Monica, Calif.  
 Rea Magnet Wire Co., Inc., E. Pontiac St., Fort Wayne, Ind.  
 Ready Power Co., The, Power Plant Div., 11231 Freud Ave., Detroit 14, Mich.  
 Recora Co., Inc., 6100 S. Archer Rd., Summit, Ill.  
 Recoton Corp., 52-35 Barnett Ave., Long Island City 4, N. Y.  
 Rectico Inc., 963 Frelinghuysen Ave., Newark 5, N. J.  
 Rectifier Engineering Co., Inc., 1803 E. Seventh St., Los Angeles 21, Calif.  
 Red Bank Division, Bendix Aviation Corp., Eatontown, N. J.  
 Red Point Corp., 1907 Riverside Drive, Glendale 1, Calif.  
 Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.  
 Redmond Co., Inc., Owosso, Mich.  
 Reed-Curtis Nuclear Industries, Inc., 9459 N. Jefferson Blvd., Cliver City, Calif.  
 Reeder & Co., Charles M., 173 Victor Ave., Detroit 3, Mich.  
 Reeve Electronics, Inc., 609 W. Lake St., Chicago 6, Ill.  
 Reeves-Hoffman Corp., 145 Cherry St., Carlisle, Pa.  
 Reeves Instrument Corp., 227 E. 91st St., New York 28, N. Y.  
 Reeves Soundcraft Corp., 10 E. 52nd St., New York 22, N. Y.  
 Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.  
 Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.  
 Regulator Equipment Corp., 100 Pennsylvania Ave., Paterson 3, N. J.  
 Reichhold Chemicals Inc., 525 N. Broadway, White Plains, N. Y.  
 Reilly Tar and Chemical Corp., 1615 Merchants Bank Bldg., 11 S. Meridian St., Indianapolis, Ind.  
 Reiner Electronics Co., Inc., Centre & Glendale Sts., Easton, Pa.  
 Rek-o-Kut Co., Inc., 38-01 Queens Blvd., Long Island City 1, N. Y.  
 Relay Sales Inc., P. O. Box 186B, West Chicago, Ill.  
 Relays, Inc., 162 W. 83rd St., New York 24, N. Y.  
 Reliable Spring and Wire Forms Co., Fulton Rd. and Paris Ave., Cleveland 9, Ohio.  
 Reliance Automatic Lighting Co., 1919 Mead St., Racine, Wis.  
 Reliance Mica Co., Inc., 341 39th St., Brooklyn 32, N. Y.  
 Rembar Co., Inc., The, 147 Main St., Dobbs Ferry, N. Y.  
 Rem-Cru Titanium, Inc., Midland, Pa.  
 Remington Rand Univac Div. of Sperry Rand Corp., Univac Park, St. Paul 16, Minn.  
 Remler Company, 2101 Bryant St., San Francisco 10, Calif.  
 Renbrandt, Inc., 98 Kirkland St., Cambridge 38, Mass.  
 Reon Resistor Corp., 117 Stanley Ave., Yonkers, N. Y.  
 Repath Pacific Div. of Arnold Engineering Co., 641 E. 61st St., Los Angeles 1, Calif.  
 Republic Electronic Industries Corp., 31 W. 27th St., New York 1, N. Y.  
 Republic Foil & Metal Mills, Inc., 55 Triangle St., Danbury, Conn.  
 Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.  
 Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena 1, Calif.  
 Rese Engineering Corp., 731 Arch St., Philadelphia 6, Pa.  
 Research Development Manufacture, Inc., 429 E. Collom St., Philadelphia 44, Pa.  
 Research Electronics Laboratories, Roslyn, Pa.  
 Research Mfg. Co., 2115 W. 17th St., Long Beach, Calif.  
 Resin Industries, P. O. Box 1589, Santa Barbara, Calif.  
 Resinite Corp. Sub. of Precision Paper Tube Co., 6981 N. Central Park Ave., Chicago 45, (Lincolnwood) Ill.  
 Resistance Products Co., 914 S. 13th St., Harrisburg, Pa.  
 Resistoflex Corp., Roseland, N. J.  
 Resistors, Inc., 5226 W. 26th St., Chicago 50, Ill.  
 Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.  
 Revere Camera Co., 320 E. 21st St., Chicago 16, Ill.  
 Revere Copper & Brass Inc., 230 Park Ave., New York 17, N. Y.

Revere Corporation of America, Sub. of Neptune Meter Co., Wallingford 2, Conn.  
 Rex Corp., The, Hayward Rd., West Acton, Mass.  
 Rex Rheostat Co., 3 Foxhurst Rd., Baldwin, N. Y.  
 Reynolds Electric Co., 3000 River Rd., River Grove, Ill.  
 Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.  
 Rheem Electronics Division, 7777 Industry Ave., Rivera, Calif.  
 Rhein Sound Systems, Inc., 133 Hamilton St., P. O. Box 1367, New Haven 5, Conn.  
 Rho Engineering Co., 2240-42 Sepulveda Blvd., Los Angeles 64, Calif.  
 Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.  
 Rhodes Inc., M. H., 30 Bartholomew Ave., Hartford, Conn.  
 Richards Co., Inc., Arklay S., 38 Winchester St., Newton Highlands 61, Mass.  
 Richards Electrocraft, Inc., 3743 N. Kedzie Ave., Chicago 18, Ill.  
 Richardson-Allen Corp., 116-15 15th Ave., College Point, N. Y.  
 Richardson Company, The, 2767 Lake St., Melrose Park, Illinois.  
 Richmond Engineering Co., Inc., 19 Concord St., South Norwalk, Conn.  
 Richmond, Inc., 922 S. Myrtle Ave., Monrovia, Calif.  
 Rlester & Thesmacher Co., 1510 W. 25th St., Cleveland 13, Ohio.  
 Ripley Co., Inc., Middletown, Conn.  
 Riverbank Laboratories, Dept. of Engineering, P. O. Box 65, Geneva, Ill.  
 River Edge Sales Corp., 80 Shore Rd., Port Washington, N. Y.  
 Roanwell Corp., 662 Pacific St., Brooklyn 17, N. Y.  
 Robbins Aviation, 1735 W. Florence Ave., Los Angeles 47, Calif.  
 Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield 99, Ohio.  
 Robco Mfg. Co., 225 W. Main St., Patchogue, N. Y.  
 Robertshaw-Fulton Controls Co., Aeronautical Div., Santa Ana Freeway at Euclid Ave., Anaheim, Calif.  
 Robinette Co., W. C., 802 Fair Oaks Ave., South Pasadena, Calif.  
 Robins Industries Corp., 214-26 41st Ave., Bayside, N. Y.  
 Robinson Aviation, Inc., Teterboro Air Terminal, Teterboro, N. J.  
 Robinson, Inc., Edward E., Machinery Div., 286 Preakness Ave., Paterson 2, N. J.  
 Robotron Corp., 21320 W. Eight Mile Rd., Detroit 19, Mich.  
 Rockbestos Products Corp., Nicol & Canner Sts., New Haven 4, Conn.  
 Rockwell Engineering Co., 2125 E. 45th St., Indianapolis 5, Ind.  
 Rode, Inc., 5 Green St., Woburn, Mass.  
 Roebing's Sons Corp., John A., 640 Broad St., Trenton 2, N. J.  
 Roesch, Douglas, Div. of Hall-Scott, Inc., 2950 N. Ontario St., Burbank, Calif.  
 Roffan Co., Corner Route 1 & Camp Meeting Rd., Topsfield, Mass.  
 Rogan Bros., 8031 N. Monticello Ave., Skokie, Ill.  
 Rogers Corporation, Goodyear, Conn.  
 Rohden Manufacturing Co., Inc., 4739 Montrose Ave., Chicago 41, Ill.  
 Rohn Mfg. Co., 116 Limestone, Bellevue, Peoria, Ill.  
 Rola Co., Inc., The, 2530 Superior Ave., Cleveland 14, Ohio.  
 Rollan Electric Co., 8233 S. Princeton Ave., Chicago 20, Ill.  
 Roller-Smith Corp., 1825 W. Market St., Bethlehem, Pa.  
 Romac Products Co., 48-01 25th Ave., Long Island City 3, N. Y.  
 Romar Plastics, Inc., 1309 E. Main St., St. Charles, Ill.  
 Rome Cable Corp., Ridge St., Rome, N. Y.  
 Rosan Inc., 2901 West Coast Highway, Newport Beach, Calif.  
 Rosenau, Harris & Co., Ontario & "I" Sts., Philadelphia 34, Pa.  
 Ross Metals Co., Milton, 505 Davisville Rd., Davisville, Pa.  
 Rostan Corp., 5660 59th St., Maspeth 78, N. Y.  
 Rotating Components, Inc., 269 Green St., Brooklyn 22, N. Y.  
 Rotron Mfg. Co., Inc., 7-9 Schoonmaker Lane, Woodstock, N. Y.  
 Rowe Engravers, 492 E. 39th St., Paterson 4, N. J.  
 Rowe Industries, 1702 Wayne St., Toledo 9, Ohio.  
 Royal Electric Corp., Pawtucket, R. I.  
 Royal Metal Mfg. Co., 175 N. Michigan Ave., Chicago 1, Ill.  
 Rubber & Asbestos Corp., 225 Belleville Ave., Bloomfield, N. J.  
 Rubicon Co., Ridge Ave., at 35th St., Philadelphia 29, Pa.  
 Ruby Chemical Co., 68 McDowell St., Columbus 16, Ohio.  
 Ruge Associates, Inc., Arthur, 733 Concord Ave., Cambridge, Mass.  
 Rumble, Inc., 15026 Oxnard St., Van Nuys, Calif.  
 Runzel Cord & Wire Co., 4723-31 W. Montrose Ave., Chicago 41, Ill.  
 Rush Wire Stripper Division, The Eraser Co., Inc., 1068 S. Clinton St., Syracuse 4, N. Y.  
 Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.  
 Russell & Stoll Co., Inc., 125-6 Barclay St., New York 7, N. Y.  
 Rust Industrial Co., Inc., 41 E. 42nd St., New York 17, N. Y.  
 Rutherford Electronics Co., 8944 Lindblade St., Cuiver City, Calif.  
 Rye Sound Corp., 21 Rye Rd., Rye, N. Y.  
 Ryerson & Son, Inc., J. T., 2558 W. 16th St., Chicago 16, Ill.



- S. N. C. Mfg. Co., Inc., Box 277, Oshkosh, Wis.  
 Safeway Heat Element Inc., 680 Newfield St., Middletown, Conn.  
 Saft Corp. of America, 2 Gregg St., Lodi, N. J.  
 Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.  
 Sage-Craft, Inc., Norwich, N. Y.  
 Sage Electronics Corp., 302 N. Goodman St., Rochester 7, N. Y.  
 Sage Laboratories, Inc., 30 Guinan St., Waltham 54, Mass.  
 St. John X-Ray Laboratory, Calton, N. J.  
 St. Marys Carbon Company, State Rd., St. Marys, Pa.  
 Samarius Electronic Corp., 123 Canal St., Shelton, Conn.  
 Sanborn Co., 175 Wyman St., Waltham 54, Mass.  
 Sanders Associates, Inc., Nashua, N. H.  
 San Fernando Electric Mfg. Co., 1509 First St., San Fernando, Calif.  
 Sanford Miller Co., 691 Bedford Ave., Brooklyn 6, N. Y.  
 Sangamo Electric Co., 1201 N. 11th St., Springfield, Ill.  
 Saratoga Scientific, P. O. Box 488, Saratoga, Calif.  
 Sargeant & Wilbur Heat Treating Corp., 170 York Ave., Pawtucket, R. I.  
 Sargent-Raymont Co., The, 4926-28 E. 12th St., Oakland 1, Calif.  
 Sarkes Tarzian, Inc., Rectifier Div., 415 College Ave., Bloomington, Ind.  
 Sarkes Tarzian, Inc., Tuner Div., East Hillside Drive, Bloomington, Ind.  
 Sauerisen Cements Co., Sauerisen Bldg., Pittsburgh 15, Pa.  
 Saxton Products, Inc., 1661 Boone Ave., Bronx 60, N. Y.  
 Scala Radio Co., 2814 19th St., San Francisco 10, Calif.  
 Scantlin Electronics, Inc., 11624 W. Pico Blvd., Los Angeles 64, Calif.  
 Schaevitz Engineering, P. O. Box 505, Camden 1, N. J.  
 Schauer Mfg. Corp., 4521 Alpine Ave., Cincinnati 36, Ohio.  
 Schenectady Varnish Co., Inc., Schenectady, N. Y.  
 Schuster Co., Carl W., 80 E. Montauk Pkwy., Lindenhurst, N. Y.  
 Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.  
 Schweitzer, Inc., Peter J., 261 Madison Ave., New York 16, N. Y.  
 Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.  
 Scientific Associates, Inc., 2162 Piedmont Rd., N.E., Atlanta 9, Ga.  
 Scientific-Atlanta, Inc., 2162 Piedmont Rd., N.E., Atlanta 9, Ga.  
 Scientific Electric Corp., 105-119 Monroe St., Garfield, N. J.  
 Scientific Electronic Labs., Inc., 866 Bergen St., Newark 8, N. J.  
 Scientific Engineering Laboratories, 2229 McGee Ave., Berkeley, Calif.  
 Scientific Instruments Div. Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.  
 Scientific Instruments Service Co., 44 Bromfield St., Boston 8, Mass.  
 Scientific Radio Products Co., Inc., 215 South 11th, Omaha, Neb.  
 Scientific Radio Service, 4301 Sheridan St., University Park, Md.  
 Scientific Wood Cabinet Co., 88 Holmes St., Belleville, N. J.  
 Scintilla Division, Bendix Aviation Corp., Sidney, N. Y.  
 Scott Inc., Hermon Hosmer, 385 Putnam Ave., Cambridge 39, Mass.  
 Scovill Manufacturing Co., Waterbury 20, Conn.  
 Scruggs Co., Loyd, P. O. Drawer 232, Festus, Mo.  
 Scully Machine Co., 62 Walter St., Bridgeport, Conn.  
 Seaboard Coil Spring Division, 15001 S. Broadway, Gardena, Calif.  
 Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.  
 Sealot Corp., Warwick Industrial Park, Providence 5, R. I.  
 Sealtron Corp., Reading Road at Amity, Cincinnati 15, Ohio.  
 Seco Mfg. Co., 5015 Penn Ave., S., Minneapolis, Minn.  
 Secon Metals Corp., 7 Intervale St., White Plains, N. Y.  
 Seeburg, J. P., A Div. of Fort Pitt Industries, Inc., 1500 N. Dayton St., Chicago 22, Ill.  
 Seeley Electronics, 1060 S. La Brea Ave., Los Angeles 19, Calif.  
 Segal, Edward, 72 Spring St., New York 12, N. Y.  
 Sel-Rex Corp., Precious Metals Div., 75 River Rd., Nutley 10, N. J.  
 Sel-Rex Corp., Rectifier Div., 155 Manchester Place, Newark 4, N. J.  
 Semimetals, Inc., 130-11 90th Ave., Richmond Hill 18, N. Y.  
 Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.  
 Sequoia Process Corp., 2201 Bay Rd., Redwood City, Calif.  
 Serdex, Inc., 91 Cambridge St., Boston, Mass.  
 Service Instruments Corp., 171 Official Rd., Addison, Ill.  
 Servo Corp. of America, 20-20 Jericho Turnpike, New Hyde Park, N. Y.  
 Servo-Recording Instruments Inc., 1815 W. Van Buren, Phoenix, Ariz.  
 Servo-Tek Products Co., 1086 Goffe Rd., Hawthorne, N. J.  
 Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.  
 Servomechanisms, Inc., Mechatrol Div., 625 Main St., Westbury, N. Y.  
 Servomex Controls Ltd., 80 Shore Rd., Port Washington, N. Y.  
 Servonic Instruments, Inc., 1143 S. Fair Oaks Ave., Pasadena 2, Calif.  
 Servonics, Inc., 822 N. Henry St., Alexandria, Va.
- Servospeed Div. of Electro Devices, Inc., 4 Godwin Ave., Paterson, N. J.  
 Servotrol Co., 114 W. Illinois St., Chicago 10, Ill.  
 Sessions Clock Co., Industrial Products Div., Forestville, Conn.  
 Set Screw & Mfg. Co., 470 Main St., Bartlett, Ill.  
 Setchell Carlson, Inc., 330 Fifth Ave., New Brighton, Minn.  
 Shakeproof, Div. of Illinois Tool Works, St. Charles Rd., Elgin, Ill.  
 Shallcross Mfg. Co., 10 Jackson Ave., Collingdale, Pa.  
 Shallite, Inc., 128 W. First Ave., Roselle, N. J.  
 Shamban & Co., W. S., 11617 W. Jefferson Blvd., Culver City, Calif.  
 Shand and Jurs Co., Sub. of General Precision Equipment Corp., Carleton & Eighth Sts., Berkeley 10, Calif.  
 Shasta Div. of Beckman Instruments, Inc., P. O. Box 296, Station A, Richmond, Calif.  
 Shaw Insulator Co., 160 Coit St., Irvington 11, N. J.  
 Shearcut Tool Co., 7045 Darby Ave., Reseda, Calif.  
 Sheffco Mfg. Co., Grand & Ruby Aves., Palisades Park, N. J.  
 Sheffield Corp., The, Dayton 1, Ohio.  
 Shell Chemical Corp., 380 Madison Ave., New York 17, N. Y.  
 Sheltered Workshop, 2521 5th St., Santa Monica, Calif.  
 Shepard Laboratories, 480 Morris Ave., Summit, N. J.  
 Sherman Industrial Electronics Co., Inc., 505 Washington Ave., Belleville 9, N. J.  
 Sherman Mfg. Co., H. B., 22 Barney St., Battle Creek, Mich.  
 Sherold Crystals, Inc., 1510 McGee St., Kansas City, Mo.  
 Shierron Electronics Co., 1201 Flushing Ave., Brooklyn 6, N. Y.  
 Shielding, Inc., Dept. IB, Riverton, N. J.  
 Shure Brothers, Inc., 246 Hartrey Ave., Evanston, Ill.  
 Shurite Meters, 35-B Hamilton St., New Haven 8, Conn.  
 Sibley Co., The, Haddam, Conn.  
 Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.  
 Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.  
 Sierra Electronic Corp., 3885 Bohannon Drive, Menlo Park, Calif.  
 Sierra Engineering Co., 123 E. Montecito Ave., Sierra Madre, Calif.  
 Sieler Design Products, 10460 San Pablo Ave., El Cerrito, Calif.  
 Sightmaster Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
 Sigma Instruments, Inc., 180 Pearl St., South Braintree 85, Mass.  
 Signal Equipment Co., Inc., 2706 Third Ave., Seattle 1, Wash.  
 Signal Transformer Co., 902 Coney Island Ave., Brooklyn 18, N. Y.  
 Signalite Inc., 37-41 Neptune Highway, Neptune, N. J.  
 Silicone Insulation, Inc., 1385 Seabury Ave., Bronx 61, N. Y.  
 Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago 18, Ill.  
 Silicones Division, A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.  
 Silfcocks-Miller Co., Maplewood, N. J.  
 Simmons Aerocessories, Inc., Tarrytown, N. Y.  
 Simmons Fastener Corp., 1752 N. Broadway, Albany 1, N. Y.  
 Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.  
 Simpson Electric Co., Div. of American Gage & Machine Co., 5218 W. Kinzie St., Chicago 44, Ill.  
 Simpson Mfg. Co., Inc., Mark, 32-28 49th St., Long Island City 3, N. Y.  
 Sims Casting Co., 2174 E. Erie Blvd., Syracuse 3, N. Y.  
 Sinclair Mfg. Co., Chartley, Mass.  
 Sioux Radio Products, 100 Douglas Ave., Yankton, S. D.  
 Sittler Corp., 18 N. Ada St., Chicago 7, Ill.  
 Skinner Electric Valve Div., The Skinner Chuck Co., Edgewood Ave., New Britain, Conn.  
 Skottite Electronics, Inc., 204 Bridge St., Peckville, Pa.  
 Skydyme, Inc., River Rd., Port Jervis, N. Y.  
 Skysweeper Inc., McHenry, Ill.  
 Slaughter Company, Piqua 9, Ohio.  
 Slepian & Co., Arthur, 2 Burroughs St., Bridgeport 7, Conn.  
 Slip Ring Co. of America, 3612-3622 W. Jefferson Blvd., Los Angeles 21, Calif.  
 Small Motors, Inc., 2076 Elston Ave., Chicago 14, Ill.  
 Smith, Inc., Herman H., 2326 Nostrand Ave., Brooklyn 10, N. Y.  
 Smith Mfg. Co., J. & H., Little Britain Rd., Newburgh, N. Y.  
 Smooth-On Mfg. Co., 572 Communipaw Ave., Jersey City 4, N. J.  
 Societe Anonyme de Machines Electrostatiques, B. P. 150, Grenoble, France.  
 Sola Electric Co., 4633 W. 16th St., Chicago 50, Ill.  
 Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles 58, Calif.  
 Solartron, Inc., Western Div., 10761 Burbank Blvd., North Hollywood, Calif.  
 Soldering Specialties Co., 19 Chatham Rd., Summit, N. J.  
 Somers Brass Co., 94 Baldwin Ave., Waterbury, Conn.  
 Sonar Radio Corp., 3050 W. 21st St., Brooklyn 24, N. Y.  
 Sonex, Inc., 73 S. State Rd., Upper Darby, Pa.  
 Sonic Recording Products, Inc., 58 Mill Rd., Freeport, N. Y.  
 Sonneborn Sons, Inc., L., Building Products Div., 404 Fourth Ave., New York 16, N. Y.  
 Sonotone Corp., Saw Mill River Road, P. O. Box 200, Elmsford, N. Y.  
 Soreng Products Corp., 9555 Soreng Ave., Schiller Park, Ill.  
 Sorensen & Co., Inc., Richards Ave., Norwalk, Conn.  
 Sorensen Industrial Electronic So., Route 10, Dover, N. J.
- Sorgel Electric Co., 838 W. National Ave., Milwaukee 4, Wis.  
 Sound Apparatus Co., Stirling, N. J.  
 SoundScriber Corp., Middletown Ave., North Haven, Conn.  
 South River Metal Products Co., Inc., 377-379 Turnpike, South River, N. J.  
 Southco Division, South Chester Corp., 233 Industrial Highway, Lester, Pa.  
 Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.  
 Southern Screw Co., P. O. Box 1360-EG, Statesville, N. C.  
 Southwestern Industrial Electronics Co., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas.  
 Sparta Mfg. Co., Div. of U. S. Ceramic Tile Co., Dover, Ohio.  
 Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.  
 Specialties, Inc., Skunks Misery Rd., Syosset, N. Y.  
 Specialty Automatic Machine Corp., 100 Gerrish Ave., Chelsea, Mass.  
 Specialty Engineering Div. of Specialty Assembling & Packing Co., 79 Clifton Place, Brooklyn 38, N. Y.  
 Specific Products, 14515 Dickens St., Sherman Oaks 13, Calif.  
 Spectrol Div. of Carrier Corp., 1704 S. Del Mar, San Gabriel, Calif.  
 Spectrum Instruments, Inc., 44-05 30th Ave., Long Island City 3, N. Y.  
 Speedway Mfg. Co., 1834 S. 52nd Ave., Cicero 50, Ill.  
 Speer Resistor Division, Speer Carbon Co., St. Marys, Pa.  
 Spellman Television Co., Inc., 3029 Webster St., New York 67, N. Y.  
 Spencer-Kennedy Labs., Inc., 1318 Soldiers Field Rd., Boston 35, Mass.  
 Spencer Mfg. Co., 3253 N. Cicero Ave., Chicago 41, Ill.  
 Spencer Thermostat Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.  
 Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y.  
 Sphere Co., Inc., The, 25 Amity St., Little Falls, N. J.  
 Spinco Div. of Beckman Instruments, Inc., Stanford Industrial Park, Palo Alto, Calif.  
 Spivey Inc., James S., 4908 Hampden Lane, Washington 4, D. C.  
 Sprague Electric Co., 125 Marshall St., North Adams, Mass.  
 Sprague of Wisconsin, Inc., Sixth & Beech St., Grafton, Wis.  
 Springer Aircraft Radio Co., Earl W., Route 11, Box 330, Sky Harbor Airport, Indianapolis, Ind.  
 Spruce Pine Mica Co., Spruce Pine, N. C.  
 Square D Co., 4041 N. Richards, Milwaukee 12, Wis.  
 Stackbin Corp., 1255 Main St., Pawtucket, R. I.  
 Stackpole Carbon Co., St. Marys, Pa.  
 Stacor Equipment Co., 732 E. New York Ave., Brooklyn 5, N. Y.  
 Staedtler Inc., J. S., 25 Dicarolis Court, Hackensack, N. J.  
 Stahlin Brothers, Inc., 103 Maple St., Belding, Mich.  
 Stainless, Inc., Third St., North Wales, Pa.  
 Stamford Metal Specialty Co., 429 W. Broadway, New York 12, N. Y.  
 Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood 38, Calif.  
 Standard Cabinet Co., 57 Washington Ave., Carlstadt, N. J.  
 Standard Coil Products Co., 2085 N. Hawthorne St., Melrose Park, Ill.  
 Standard Condenser Co., 3749 N. Clark St., Chicago 13, Ill.  
 Standard Crystal Co., 1714 Locust St., Kansas City 8, Mo.  
 Standard Electric Time Co., The, 97 Logan St., Springfield, Mass.  
 Standard Electronics Corp., 287 Emmet St., Newark 5, N. J.  
 Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.  
 Standard Felt Co., 29 S. Palm Ave., Alhambra, Calif.  
 Standard Instrument Corp., 657 Broadway, New York 12, N. Y.  
 Standard Locknut & Lockwasher Inc., 2250 Valley Ave., Indianapolis 18, Ind.  
 Standard Metals Corp., Broad & Whiting St., North Attleboro, Mass.  
 Standard Plastics Co., Inc., 62 Water St., Attleboro, Mass.  
 Standard Pressed Steel Co., Box 775, Jenkintown 10, Pa.  
 Standard Record Mfg. Co., 70 N. San Gabriel Blvd., Pasadena, Calif.  
 Standard Telephones & Cables Ltd., Connaught House, Aldwych, London, W. C. 2, England.  
 Standard-Toch Chemicals, Inc., 2600 Richmond Terrace, Staten Island 3, N. Y.  
 Standard Tool & Mfg. Co., Arlington, N. J.  
 Standard Winding Corp., 44-62 Johns St., Newburgh, N. Y.  
 Stanley-Judd Div. of Stanley Works, Wallingford, Conn.  
 Stanley Pressed Metal Div. of The Stanley Works, New Britain, Conn.  
 Stanley Tools, New Britain, Conn.  
 Stanley Transformer Co., 31-23 Vernon Blvd., Long Island City, N. Y.  
 Stanpat, 150-42 12th Rd., Whitestone 57, N. Y.  
 Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.  
 Star Expansion Products Co., 142 Liberty St., New York 6, N. Y.  
 Star Porcelain Co., 61 Muirhead Ave., Trenton 9, N. J.  
 Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.  
 State Labs., Inc., 649 Broadway, New York 12, N. Y.  
 States Co., 19 New Park Ave., Hartford 6, Conn.  
 Statham Laboratories, Inc., 12401 W. Olympic Blvd., Los Angeles 64, Calif.  
 Stator Electric Corp., 46-25 58th St., Woodside, N. Y.  
 Staver Co., Inc., The, 43 N. Saxon Ave., Bay Shore, N. Y.

- Steel Co., Herman D., Lafayette Bldg., Philadelphia 6, Pa.
- Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa.
- Steel Protection & Chemical Co., Inc., Mooresville, Ind. Steger Furniture Mfg. Co., Steger, Ill.
- Steinen Mfg. Co., Wm., 43 Bruen St., Newark 5, N. J.
- Steiner-Ives Co., Springfield Rd., Union, N. J.
- Stelma, Inc., 190 Henry St., Stamford, Conn.
- Stephens Tru-Sonic Inc., 8538 Warner Drive, Culver City, Calif.
- Sterling Bolt Co., 363-405 W. Erie St., Chicago 10, Ill.
- Sterling Mfg. Co., 7201 Wentworth, Cleveland, Ohio.
- Sterling Precision Corp., Instrument Div., 34-17 Lawrence St., Flushing 54, N. Y.
- Sterling Transformer Corp., 297 N. Seventh St., Brooklyn 11, N. Y.
- Stevens-Arnold Inc., 22 Elkins St., South Boston 27, Mass.
- Stevens Mfg. Co. Inc., P. O. Annex 1007, Mansfield, Ohio.
- Stevens Mfg. Co., Inc., Geo., 6022 N. Rogers Ave., Pulaski & Peterson, Chicago 30, Ill.
- Stevens Paper Mills, Inc., Windsor, Conn.
- Stevens Products Inc., 86-88 Main St., East Orange, N. J.
- Stevens-Walden, Inc., 475 Shrewsbury St., Worcester 4, Mass.
- Stevenson, Bro. & Co., 110 Race St., Philadelphia 6, Pa.
- Steward Mfg. Co., D. M., 3600 Jerrome Ave., Chattanooga 1, Tenn.
- Stewart Corp., F. W., 4311 Ravenswood Ave., Chicago 13, Ill.
- Stewart Engineering Co., Box 277, Soquel, Calif.
- Stewart Stamping Co., 630 Central Park Ave., Yonkers 4, N. Y.
- Stewart-Warner Electronics Div. of Stewart-Warner Corp., 1300 N. Kostner Ave., Chicago 51, Ill.
- Sticht Co., Inc., Herman H., 27 Park Place, New York 7, N. Y.
- Stimpson Co., Inc., Edwin B., 74 Franklin Ave., Brooklyn 5, N. Y.
- Stoddart Aircraft Radio Co., 6644 Santa Monica Blvd., Hollywood 38, Calif.
- Stokes Co., F. J., 5500 Tabor Road, Philadelphia 20, Pa.
- Stone City Machine & Tool Co., Inc., P. O. Box 351, 1206 Seventh St., Bedford, Ind.
- Stone Paper Tube Co., Inc., 900 Franklin St., N. E., Washington 17, D. C.
- Stow Manufacturing Co., 101 Shear St., Binghamton, N. Y.
- Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago 47, Ill.
- Streeter-Amet Co., Grayslake, Ill.
- Strickland Engineering Co., Inc., 177 Austin St., Newtonville, Mass.
- Stromberg-Carlson Co., Div. of General Dynamics Corp., 100 Carlsson Rd., Rochester 3, N. Y.
- Struthers-Dunn, Inc., Lamb's Road, Pittman, N. J.
- Stueck, Inc., W. Whitney, Dept. E, Old Saybrook, Conn.
- Sturupp, Inc., 50 Silver St., Middletown, Conn.
- Stupakoff, Div. of The Carborundum Co., Latrobe, Pa.
- Sturtevant Co., P. A., Addison, Ill.
- Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
- Sullivan Ltd., H. W., 80 Shore Rd., Port Washington, N. Y.
- Summers Gyroscope Co., 2328 Broadway, Santa Monica, Calif.
- Summit Coil Co., 4 Claremont Rd., Bernardsville, N. J.
- Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
- Sun Dial Corp., E. Passaic Ave., Caldwell, N. J.
- Sun Tube Corp., Washington, N. J.
- Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.
- Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
- Superior Carbon Products Co., 9115 George Ave., Cleveland 5, Ohio.
- Superior Electric Co., The, 5000 Bradley Ave., Bristol, Conn.
- Superior Electronics Corp., 208 Piaget Ave., Clifton, N. J.
- Superior Flux & Mfg. Co., 1302 Ontario St., Cleveland 13, Ohio.
- Superior Graphite Co., 33 S. Clark St., Chicago 3, Ill.
- Superior Instrument Co., 2435 White Plains Rd., New York 67, N. Y.
- Superior Insulated Wire Co., Route 9W, West Haverstraw, N. Y.
- Superior Sealite & Ceramic Corp., 83-91 W. Forest Ave., Englewood, N. J.
- Superior Tube Co., 2504 Germantown Pike, Norristown, Pa.
- Supreme Industrial Products Co., 367 N. Karlov Ave., Chicago 24, Ill.
- Supreme Process Corp., 44 Bond St., Westbury, N. Y.
- Suprenant Manufacturing Co., Clinton, Mass.
- Utter Electronics Co., P. O. Box 896, Palo Alto, Calif.
- Wedlow Plastics Co., 6986 Bandini Blvd., Los Angeles 22, Calif.
- Wiff & Sons, M., 10 Love Lane, Hartford 1, Conn.
- Wiss Jewel Co., Lafayette Bldg., Philadelphia 6, Pa.
- Witchcraft, Inc., 1320 N. Halsted St., Chicago 22, Ill.
- Sylvania Electric Products Inc., Argus Cameras Div., 405 Fourth St., Ann Arbor, Mich.
- Sylvania Electric Products Inc., Electronic Systems Div., 100 First Ave., Waltham, Mass.
- Sylvania Electric Products Inc., Executive Offices, 1740 Broadway, New York 19, N. Y.
- Sylvania Electric Products Inc., Lighting Div., 60 Boston St., Salem, Mass.
- Sylvania Electric Products Inc., Parts Div., 12 Second Ave., Warren, Pa.
- Sylvania Electric Products Inc., Radio & Television Set Div., 700 Ellcott St., Batavia, N. Y.
- Sylvania Electric Products Inc., Radio Tube Div., Emporium, Pa.
- Sylvania Electric Products Inc., Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
- Sylvania Electric Products Inc., Special Tube Operations, 100 Sylvan Rd., Woburn, Mass.
- Sylvania Electric Products Inc., Television Picture Tube Div., Seneca Falls, N. Y.
- Sylvania Electric Products Inc., Tungsten & Chemical Div., Towanda, Pa.
- Symphony Electronics Corp., 925 South Western Ave., Los Angeles 6, Calif.
- Synchro Start Products, Inc., 8151 N. Ridgway Ave., Skokie, Ill.
- Syncor Products Co., 30 Eastern Ave., Malden, Mass.
- Synthane Corp., Oaks, Pa.
- Syntorque, Inc., 601 W. 26th St., New York 1, N. Y.
- Syntron Co., 243 Lexington, Homer City, Pa.
- Syntronic Instruments, Inc., 100 Industrial Road, Addison, Ill.
- T**
- TA Mfg. Corp., 4613 Alger St., Los Angeles 39, Calif.
- TKM Electric Corp., 1160 University Ave., Rochester 7, N. Y.
- Tablet & Ticket Co., 1021 W. Adams St., Chicago 7, Ill.
- Taffet Radio & Television Co., 2705 Brooklyn-Queens Expressway, W., Woodside 77, N. Y.
- Taft-Peirce Mfg. Co., The, Woonsocket, R. I.
- Takk Corp., The, Box 346, Newark, Ohio.
- Talk-A-Phone Co., 1512 S. Pulaski Rd., Chicago 23, Ill.
- Talk-O-Products, Inc., 163 St. Paul St., Rochester 6, N. Y.
- Taller & Cooper Co., 75 Front St., Brooklyn 1, N. Y.
- Tally Register Co., 5300 W. 14th, N. W., Seattle, Wash.
- Ta-Mar, Inc., 11571 W. Jefferson Blvd., Culver City, Calif.
- Tarc Electronics, Inc., 48 Urban Ave., Westbury, N. Y.
- Taylor Fibre Co., Norristown, Pa.
- Taylor Instrument Companies, 95 Ames St., Rochester, N. Y.
- Taylor Tubes, Inc., 6 N. Michigan Ave., Chicago 12, Ill.
- Taylor-Winfield Corp., 1056 Mahonig, N.W., Warren, Ohio.
- Teca Corp., 80 Main St., White Plains, N. Y.
- Tech Laboratories, Inc., Bergen & Edsall Bldvs., Palisades Park, N. J.
- Techalloy Co., Inc., Box 34, Rahns, Pa.
- Technic, Inc., P. O. Box 965, Providence 1, R. I.
- Technical Apparatus Builders, 109 Liberty St., New York 6, N. Y.
- Technical Appliance Corp., Sherburne, N. Y.
- Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
- Technical Devices Co., 2346 Centinela Ave., Los Angeles 64, Calif.
- Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.
- Technical Materiel Corp., The, P. O. Box 142, Mamaroneck, N. Y.
- Technical Measurement Corp., 140-142 State St., New Haven 11, Conn.
- Technical Operations, Inc., 6 Schouler Court, Arlington 74, Mass.
- Technical Products Co., Instrument Div., 6670 Lexington Ave., Los Angeles 38, Calif.
- Technical Service Corp., 1404 W. Market St., Louisville 5, Ky.
- Technicraft Co., 1156 Commonwealth Ave., Boston 34, Mass.
- Technicraft Laboratories, Inc., Thomaston-Waterbury Rd., Thomaston, Conn.
- Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
- Technitrol Engineering Co., 1952 E. Allegheny Ave., Philadelphia 34, Pa.
- Technograph Printed Electronics Inc., 185 Valley St., Tarrytown, N. Y.
- Technology Instrument Corp., 533 Main St., Acton, Mass.
- Techron Corp., 81 Washington St., Boston 8, Mass.
- Teiner Co., Inc., Roland, 134 Tremont St., Everett 49, Mass.
- Teiner Engineering Corp., 116 Madison St., Malden, Mass.
- Tektronix, Inc., P. O. Box 831, Portland 7, Ore.
- TelAutograph Corp., 8700 Bellanca Ave., Los Angeles 45, Calif.
- Tele-Coil Co., Inc., 2733 Saunders St., Camden 5, N. J.
- Teletchrome Mfg. Corp., 28 Ranick Drive, Amityville, N. Y.
- Telecom, Inc., 1019 Admiral Blvd., Kansas City, Mo.
- Telecomputing Div. of Telecomputing Corp., 12838 Saticoy St., North Hollywood, Calif.
- Telectro Industries Corp., 35-16 37th St., Long Island City 1, N. Y.
- Telectron Co., The, Bldg. #9, Broward County International Airport, Fort Lauderdale, Fla.
- Tele Dynamics Inc., 32nd & Walnut Sts., Philadelphia, Pa.
- Telegraph Condenser Co., Ltd., Wales Farm Rd., Acton, London, W. 3, England.
- Tele-Matic Industries, Inc., 16 Howard Ave., Brooklyn 21, N. Y.
- Telemetering Associates, 6419 Indigo St., Houston, Texas.
- Telephonics Corp., Park Ave., Huntington, N. Y.
- Telequip Radio Co., 2559 W. 21st St., Chicago 8, Ill.
- Teletrad Mfg. Corp., 1440 Broadway, New York 18, N. Y.
- Telegrapher Corp., The, 445 Fairfield Ave., Stamford, Conn.
- TeleTest Instrument Corp., 136-10 31st Rd., Flushing 54, N. Y.
- Teletronic Laboratories, Inc., 1835 W. Rosecrans Ave., Gardena, Calif.
- Teletronics Laboratory, Inc., Kinkel St., Westbury, N. Y.
- Television Accessories Co., Box 368, Scottsdale, Ariz.
- Television Utilities Corp., 112-23 Colonial Ave., Corona, N. Y.
- Television Zoomar Corp., 500 Fifth Avenue, New York, N. Y.
- Televiso Corp., 1415 Golf Rd., Des Plaines, Ill.
- Televox Mfg. Co., 1307 Sansom St., Philadelphia 7, Pa.
- Telewave Laboratories, Inc., 43-20 34th St., Long Island City, N. Y.
- Telex Inc., Telex Park, St. Paul 1, Minn.
- Tel-Instrument Electronics Corp., 728 Garden St., Carlstadt, N. J.
- Tel-Labs, Inc., 1050 Second St., Manchester, N. H.
- Telonic Industries, 73 N. 2nd Ave., Beech Grove, Ind.
- Telrex, Inc., Asbury Park, N. J.
- Television Laboratories, Inc., Mill St., Wauconda, Ill.
- Tempel Mfg. Co., 1939 Bryn Mawr Ave., Chicago 26, Ill.
- Tempil Corp., 132 W. 22nd St., New York 11, N. Y.
- Tempo Instrument Co., 5 Centre St., Hempstead, N. Y.
- Ten Bosch, Inc., M., 80 Wheeler Ave., Pleasantville, N. Y.
- Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland 25, Ohio.
- Tennalab, Quincy, Ill.
- Tenney Engineering Inc., 1090 Springfield Rd., Union, N. J.
- Tensitron, Inc., Harvard, Mass.
- Tensolite Insulated Wire Co., Inc., 190 Main St., Tarrytown, N. Y.
- Tensolite Specialties, Inc., 198 Main St., Tarrytown, N. Y.
- Tensor Electric Development Co., Centroid Div., 1873 Eastern Parkway, Brooklyn 33, N. Y.
- Tepra Electric Corp., 421 Burke Bldg., 5 St. Paul St., Rochester 4, N. Y.
- Terado Co., 1059 Raymond Ave., St. Paul 14, Minn.
- Terpening Co., L. H., 16 W. 61st St., New York, N. Y.
- Terrell Corp., 19 Lane St., Waltham 54, Mass.
- Tesla Electric Co., 2871 N. Lincoln Ave., Chicago 13, Ill.
- Tetrad Co., Inc., 62 St. Mary St., Yonkers 2, N. Y.
- Tevo Insulated Wire, 108 Prospect Ave., Burbank, Calif.
- Texas Capacitor Co., Div. of K-C-K Corp., 922 S. 75th St., Houston, Texas.
- Texas Division, Brush Electronics Co., 3732 Westheimer Rd., Houston 6, Texas
- Texas Instruments Inc., 6000 Lemmon Ave., Dallas 9, Texas.
- Texloid Products Co., 81 Rumford Ave., Waltham, Mass.
- Ther Electric & Machine Works, 17 S. Jefferson St., Chicago 6, Ill.
- Thermador Electric Mfg. Co., 5215 S. Boyle Ave., Los Angeles 58, Calif.
- Thermal American Fused Quartz Co., Inc., 18-20 Salem St., Dover, N. J.
- Thermal-Devices Div. of Curtiss-Wright Corp., 631 Central Ave., Carlstadt, N. J.
- Thermo Materials, Inc., 4040 Campbell Ave., Menlo Park, Calif.
- Thermosen, Inc., 361 W. Main St., Stamford, Conn.
- Theta Instrument Corp., 204 Market St., East Paterson, N. J.
- Thiokol Chemical Corp., 780 N. Clinton Ave., Trenton 7, N. J.
- Thomas & Betts Co., 36 Butler St., Elizabeth 1, N. J.
- Thomas Electronics, Inc., 118 Ninth St., Passaic, N. J.
- Thomas Instrument Co., Three Rivers, Phoenix, N. Y.
- Thomas Mold & Die Co., Wooster, Ohio.
- Thomas & Skinner, Inc., 1122 E. 23rd St., Indianapolis, 5, Ind.
- Thomas & Sons, Inc., William, Slocum Ave., Ridgefield, N. J.
- Thompson-Bremer & Co., 520 N. Dearborn, Chicago 10, Ill.
- Thompson Fiberglass Co., H. I., 1733 Cordova St., Los Angeles 7, Calif.
- Thompson Products, Inc., Electronics Div., 2196 Clarkwood Rd., Cleveland 3, Ohio.
- Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
- Thor Transformer & Electronics Co., 750 San Antonio Rd., Palo Alto, Calif.
- Thorderson-Meisner Mfg. Co., 7th & Belmont Ave., Mt. Carmel, Ill.
- Thwing-Albert Instrument Co., 5351 Pulaski Avenue, Philadelphia 44, Pa.
- Tibbetts Industries, Inc., Camden, Maine.
- Times Facsimile Corp., 540 W. 58th St., New York 19, N. Y.
- Times, Wire & Cable Co., Wallingford, Conn.
- Timken Roller Bearing Co., Canton 6, Ohio.
- Tingstol Co., 1461 W. Grand Ave., Chicago 22, Ill.
- Tinnerman Products, Inc., P. O. Box 6688, Dept. No. 16, Cleveland 1, Ohio.
- Titan Metal Mfg. Co., Bellefont, Pa.
- Titchener & Co., E. H., 67 Clinton St., Binghamton, N. Y.
- Titellex, Inc., Hendee St., Springfield 4, Mass.
- Tobe Deutschmann Corp., 921 Providence Highway, Norwood, Mass.
- Todd Products Co., Inc., 156 Gramatan Ave., Mt. Vernon, N. Y.
- Todd-Tran Corp., 156 Gramatan Ave., Mt. Vernon, N. Y.
- Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.
- TopRight Corp., 160 E. Ninth Ave., York, Pa.
- Topp Industries, Inc., 5255 W. 102nd St., Los Angeles 45, Calif.
- Topper Mfg. Co., Inc., 43 Roselle St., Mineola, N. Y.
- Torit Mfg. Co., Walnut & Exchange Sts., St. Paul 2, Minn.
- Tork Time Controls Inc., 32 Grove St., Mt. Vernon, N. Y.
- Torngren Co., Inc., C. W. 236 Pearl St., Somerville 45, Mass.
- Torocoil Co., 2615 Bristol Rd., Columbus 21, Ohio.
- Torotel, Inc., 11505 Belmont Ave., Hickman Mills, Mo.
- Torrance Glass & Color Works, Torrance, Calif.
- Torrington Co., 59 Field St., Torrington, Conn.
- Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
- Towaco Electronics, Pine Brook Rd., Towaco, N. J.
- Tower Construction Co., 2700 Hawkeye Drive, Sioux City, Iowa.
- Tracerlab, Inc., 1601 Trapelo Rd., Waltham 54, Mass.
- Trad Electronics Corp., 1001 First Ave., Asbury Park, N. J.

- Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.
- Trans Electronics Inc., 7349 Canoga Ave., Canoga Park, Calif.
- Transco Products, Inc., 12210 Nebraska Ave., Los Angeles 25, Calif.
- Transformer Engineers, 161 E. California St., Pasadena 1, Calif.
- Transformer Metal Products Corp., 36 York St., Brooklyn 1, N. Y.
- Transformer Specialty Co., Inc., Bala Cynwyd, Pa.
- Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
- Transcoil Corp., Worcester, Penna.
- Transistor Components Co., 301 Oakwood Ave., East Aurora, N. Y.
- Transistor Devices, Inc., 730 Boulevard, Kenilworth, N. J.
- Transitron Electronic Corp., 168 Albion St., Wakefield, Mass.
- Transitron, Inc., 186 Granite St., Manchester, N. H.
- Transline Associates, 95 Summit St., Newark 3, N. J.
- Tranasonic, Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.
- Transradio Ltd., 138A Cromwell Rd., London SW 7, England.
- Trans-Sonics, Inc., P. O. Box 328, Lexington 73, Mass.
- Trent Tube Co., East Troy, Wis.
- Trenton Transformer Corp., Box 568B, Trenton, N. J.
- Tresco, Inc., 3824 Terrace St., Philadelphia 28, Pa.
- Triad Transformer Corp., Sub. of Litton Industries, 4055 Redwood Ave., Venice, Calif.
- Trico Fuse Mfg. Co., 2948 N. Fifth, Milwaukee 12, Wis.
- Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.
- Tricraft Products Corp., 1124 W. Newport Ave., Chicago 13, Ill.
- Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.
- Trimm Inc., 400 W. Lake St., Libertyville, Ill.
- Trimm Mfg. Co., W. H., 1811 Johnston St., Los Angeles 31, Calif.
- Trimount Instrument Co., 3119 W. Lake St., Chicago 12, Ill.
- Trlo Laboratories, Inc., 4025 Merrick Rd., Seaford, N. Y.
- Trio Mfg. Co., Griggsville, Ill.
- Trion, Inc., 1000 Island Ave., McKees Rocks, Pa.
- Tripl-T Co., Electronics Box 5352, Pasadena, Calif.
- Tripllett & Barton, Inc., 831 N. Lake St., P. O. Box 3128, Burbank, Calif.
- Tripllett Electrical Instrument Co., Harmon Road, Bluffton, Ohio.
- Tri-Point Plastics, Inc., 177 I. U. Willets Rd., Albertson, N. Y.
- Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn.
- Trop-Arcic, Inc., P. O. Box 334, Mishawaka, Ind.
- Tru-Connector Corp., 416 Union St., Lynn, Mass.
- Tru-Ohm Products Div., Model Engineering & Mfg. Co., 2860 Milwaukee Ave., Chicago 18, Ill.
- Trumbull Components Dept., General Electric Co., 41 Woodford Ave., Plainville, Conn.
- Truscon: Steel Division of Republic Steel Corp., Youngstown, Ohio.
- Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.
- Tubular Rivet & Stud Co., Weston Ave., Wollaston (Quincy) 70, Mass.
- Tung-Sol Electric Inc., 95 Eighth Ave., Newark 4, N. J.
- Tur-Bo Jet Products, Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif.
- Turner Co., The, 909 17th St., N. E., Cedar Rapids, Iowa.
- Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.
- Twentieth Century Electronics, Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.
- United Electrochemicals Div. of United Geophysical Corp., 1200 S. Marengo, Pasadena, Calif.
- United Electronic Mfg. Corp., 542 39th St., Union City, N. J.
- United Electronics Co., 42 Spring St., Newark 2, N. J.
- United Manufacturing & Service Co., 405 S. Sixth St., Milwaukee 4, Wis.
- United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.
- United Pressed Products Co., 741 W. Harrison St., Chicago 7, Ill.
- United Screw & Bolt Corp., 2514 W. Fullerton St., Chicago 8, Ill.
- United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.
- U. S. Components, Inc., 454 E. 148th St., New York 55, N. Y.
- United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.
- U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
- U. S. Electronics Corp. of America, 800 Slater Lane, Alexandria, Va.
- U. S. Electronics Development Corp., 1323 Airway, Glendale 1, Calif.
- U. S. Engineering Co., Div. of Litton Industries, 5873 Rodeo Rd., Los Angeles 18, Calif.
- U. S. Gasket Co., Camden, N. J.
- U. S. Gauge Div., American Machine & Metals, Inc., Sellersville, Pa.
- U. S. Gear Corp., 71 Broadway, Wakefield, Mass.
- U. S. Graphite Corp., Div. of The Wickes Corp., Saginaw 32, Mich.
- U. S. Plastic Rope Co., 2581 Spring St., Redwood City 10, Calif.
- U. S. Plywood Corp., Electrical Structures Dept., 55 W. 44th St., New York 17, N. Y.
- U. S. Radium Corp., Hanover & Horse Hill Rd., Morristown, N. J.
- U. S. Relay Co., 1740 Albion St., Los Angeles 31, Calif.
- U. S. Rubber Co., 1230 Avenue of the Americas, New York 20, N. Y.
- U. S. Steel Corp., 525 William Penn Place, Pittsburgh 30, Pa.
- U. S. Stoneware Co., The Akron 9, Ohio.
- U. S. Time Corp., 346 Tejon Place, Palos Verdes Est., Calif.
- United Technical Laboratories, Box 425-V, Morristown, N. J.
- United Transformer Corp., 150 Varick St., New York 13, N. Y.
- United Wire & Supply Corp., Providence 7, R. I.
- Unitronics, Inc., 472 Park Ave., Ferguson Station, St. Louis 21, Mo.
- Universal Atomics, A Div. of Universal Transistor Products Corp., 143 E. 49th St., New York 17, N. Y.
- Universal Aviation Corp., Div. of Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.
- Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.
- Universal Condenser Co., 3435 N. Kimball Ave., Chicago 18, Ill.
- Universal Drafting Machine Corp., 7960 Lorain Ave., Cleveland 2, Ohio.
- Universal Electric Co., 300 E. Main St., Owosso, Mich.
- Universal Electronics Co., 1720 Twenty-Second St., Santa Monica, Calif.
- Universal Mfg. Co., Inc., 410 Hillside Ave., Hillside, N. J.
- Universal Microphone Co., Box 55, Inglewood, Calif.
- Universal Wiring Co., P. O. Box 1605, Providence 1, R. I.
- University Loudspeakers, Inc., 80 S. Kensico Ave., White Plains, N. Y.
- Univox, 102 Warren St., New York 7, N. Y.
- Univave, Inc., 2 Marine St., P. O. Box 474, Farmingdale, N. Y.
- Utica Drop Forge & Tool Div. of Kelsey-Hayes Co., 2415 Whitesboro St., Utica 4, N. Y.
- Utility Brass & Copper Corp., 255 Conover St., Brooklyn 31, N. Y.
- Utrad, Inc., 305 N. Briant, Huntington, Ind.
- V-M Corp., Benton Harbor, Mich.
- Vacop Corp., 1905 Summit Ave., Union City, N. J.
- Vaco Products Co., 317 E. Ontario St., Chicago 11, Ill.
- Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.
- Vacuum Metals Corp., Div. of Crucible Steel Co. of America, P. O. Box 977, Syracuse 1, N. Y.
- Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.
- Valco Mfg. Co., 4700 W. Walton St., Chicago 51, Ill.
- Valley Engineering Co., P. O. Box 2, Los Alamos, N. M.
- Valor Electronic Components Co., 5808 Marilyn Ave., Culver City, Calif.
- Valpey Crystal Corp., 1244 Highland St., Holliston, Mass.
- Van Keuren Co., 176 Waltham St., Watertown, Mass.
- Vandercok & Sons, Inc., 3601 W. Touhy Ave., Chicago 45, Ill.
- Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.
- Varfex Corp., 506 W. Court St., Rome, N. Y.
- Varian Associates, 611 Hansen Way, Palo Alto, Calif.
- Vari-L Co., Inc., P. O. Box 1433, Stamford, Conn.
- Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas.
- Vector Electronic Co., 3352 San Fernando Rd., Los Angeles 65, Calif.
- Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.
- Vectrol Engineering Inc., P. O. Box 1089, Stamford Conn.
- Vectron, Inc., 1609 Trapelo Rd., Waltham 54, Mass.
- Veeco Vacuum Corp., 86 Denton Ave., New Hyde Park, N. Y.
- Veeder-Root, Inc., Hartford 2, Conn.
- Vega Electronics Corp., 1921 Pontius Ave., Los Angeles 25, Calif.
- Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.
- Vesto Co., Inc., 20th & Clay, North Kansas City, Mo.
- Vibration Research Labs., Inc., 97 Lake Ave., Tuckaheo, N. Y.
- Vibrex Fastener Corp., Mount Kisco, N. Y.
- Vibroplex Co., Inc., 833 Broadway, New York, N. Y.
- Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.
- Victor Adding Machine Co., Electronics Sales Div., 3900 N. Rockwell St., Chicago 18, Ill.
- Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.
- Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
- Victoreen Instrument Co., Components Div., 5806 Hough Ave., Cleveland 3, Ohio.
- Victory Engineering Corp., 101 Springfield Rd., Union, N. J.
- Vidaire Electronics Mfg. Corp., 576 W. Merrick Rd., Lynbrook, N. Y.
- Video Industries Co., 242 Madison Ave., Port Chester, N. Y.
- Video Electronic Corp., 902 E. Michigan St., Indianapolis 2, Ind.
- Viking Industries, Inc., 21343 Roscoe Blvd., Canoga Park, Calif.
- Vinson Co., E. R., 1401 Middle Harbor Rd., Oakland, Calif.
- Vitramon, Inc., Box 544, Bridgeport, Conn.
- Vitro Corp. of America, 261 Madison Ave., New York 16, N. Y.
- Vitrosteel Corp., The, 709 E. 106th St., Box 6048, Indianapolis 20, Ind.
- Vocaline Co. of America, Inc., Old Saybrook, Conn.
- Vocatron Mfg. Div. of Vocaline Co. of America, Inc., Old Saybrook, Conn.
- Vokar Corp., 7300 Huron River Drive, Dexter, Mich.
- Volkers & Schaffer Mfg. Corp., P. O. Box 996, Schenectady, N. Y.
- Volkert Stampings, Inc., 222-34 96th Ave., Queens Village 8, N. Y.
- Voltrac Tubes, Inc., 44 Cross St., Norwalk, Conn.
- Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.
- Vulcan Electric Co., Danvers, Mass.
- Waage Electric, Inc., 720 Colfax Ave., Kenilworth, N. J.
- WacLine, Inc., 35 S. St. Claire St., Dayton 2, Ohio.
- Waco, Inc., 2032 Broadway, Santa Monica, Calif.
- Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.
- Wagner Electric Corp., 6400 Plymouth Ave., St. Louis 14, Mo.
- Waldes Kohinoor Inc., 47-16 Austel Place, Long Island City 1, N. Y.
- Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.
- Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.
- Wales-Stripit Co., Akron, New York.
- Walker Co., George, 118 Amsterdam Ave., Passaic, N. J.
- Walkirt Co., 141 W. Hazel St., Inglewood 3, Calif.
- Wall Mfg. Co., Grove City, Pa.
- Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.
- Wallson Associates Ltd., 963 Frelinghuysen Ave., Newark 5, N. J.
- Walnut Machine Co., 1529 S. Walnut St., South Bend 14, Ind.
- Walco Electronics Mfg. Co., 100 Green St., Rockford, Ill.
- Walser Automatic Timer Corp., Graybar Bldg., New York 17, N. Y.
- Walsh Press & Die Co., Div. of American Gage & Machine Co., 47-09 W. Kinzie St., Chicago, Ill.
- Walter Co., Inc., S. 1400 Atlantic Ave., Brooklyn 16, N. Y.
- Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.
- Waltham Horological Corp., 395 Lynnway, Lynn, Mass.
- Waltham Screw Co., Waltham, Mass.
- Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.
- Wang Laboratories, Inc., 37 Hurley St., Cambridge 41, Mass.
- Wappler, Inc., 27-10 Astoria Blvd., Long Island 2, N. Y.
- Ward Leonard Electric Co., 31 South St., Mt. Vernon, N. Y.
- Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.
- Warren Plastics Corp., Warren, Pa.
- Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
- Warren Wire Co., Pownal, Vt.
- Warrick Co., Charles F., 1964 W. Eleven Mile Rd., Berkley, Mich.
- Warsaw Coil Co., Warsaw, Ind.
- Washington Machine & Tool Works, 1001 Washington Ave., S., Minneapolis 15, Minn.
- Wassco Electric Products Corp., 204 S. Larkin Ave., Joliet, Ill.
- Waterbury Companies, Inc., Waterbury 20, Conn.
- Waterbury Pressed Metal Co., P-M Nut Div., 300 Chase Ave., Waterbury 14, Conn.
- Waterman Products Co., Inc., 2445-63 Emerald St., Philadelphia 25, Pa.
- Waters Conley Co., Inc., 501 First St. N. W., Rochester, Minn.

- Waters Manufacturing Inc., Boston Post Rd., Wayland, Mass.
- Watlow Electric Mfg. Co., 1376 Ferguson Ave., St. Louis 14, Mo.
- Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.
- Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
- Wave/Particle Co., P. O. Box 252, Menlo Park, Calif.
- Waveforms, Inc., 333 Sixth Ave., New York 14, N. Y.
- Waveguide, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.
- Wavell, Inc., Box 470, Caldwell, N. J.
- Wax Corporation of America, 21-29 Dunham Place, Brooklyn 11, N. Y.
- Weathers Industries, 66 E. Gloucester Pike, Barrington, N. J.
- Webber Corp., P. O. Box 217, Indianapolis 6, Ind.
- Webcor, Inc., Chicago, Ill.
- Webster Electric Co., 1900 Clark St., Racine, Wis.
- Weckesser Co., 5701 Northwest Highway, Chicago 50, Ill.
- Weingarten Electronic Labs., Inc., 7556 Melrose Ave., Los Angeles 46, Calif.
- Weinschel Engineering Co., Inc., 10503 Metropolitan Ave., Kensington, Md.
- Welch Scientific Co., W. M., 1515 Sedgwick St., Chicago 10, Ill.
- Weldmatic Div. of Unitek Corp., 380 N. Halstead Ave., Pasadena, Calif.
- Weller Electric Corp., Box 345, Easton, Pa.
- Wells Co., Gary, 361 Rockaway Ave., Valley Stream, N. Y.
- Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago 39, Ill.
- Wells & Winegard, 3000 Scotten Blvd., Burlington, Iowa.
- Weltron Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.
- Welwyn International Inc., 3355 Edgecliff Terrace, Cleveland 11, Ohio.
- Wen Products, Inc., 5806 Northwest Highway, Chicago 31, Ill.
- Wenco Mfg. Co., 1133 W. Hubbard St., Chicago 22, Ill.
- West Coast Electrical Mfg. Corp., 233 W. 116th Place, Los Angeles 61, Calif.
- West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.
- West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.
- West Virginia Pulp & Paper Co., 230 Park Ave., New York 17, N. Y.
- Westberg Mfg. Co., 144 S. Coombs St., Napa, Calif.
- Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.
- Western Coil Products Co., 969 Commercial St., Palo Alto, Calif.
- Western Electric-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
- Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
- Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.
- Western Gold & Platinum Co., 589 Bryant St., San Francisco, Calif.
- Western Insulated Wire Co., 2425 E. 30th St., Los Angeles 58, Calif.
- Western Radiation Lab., 1107 W. 24th St., Los Angeles 7, Calif.
- Western Union Telegraph Co., 60 Hudson St., New York 13, N. Y.
- Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
- Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.
- Westlabs Inc., Dept. E, P. O. Box 1111, Palo Alto, Calif.
- Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.
- Westline Products Div. of Western Lithograph Co., 600 E. Second St., Los Angeles 54, Calif.
- Weston Electrical Instrument Corp., A Sub. of Daystrom, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.
- Westrex Corp., 111 Eighth Ave., New York 11, N. Y.
- Westronics of Calif. Div. of Electromotion Co., 1646 Eighteenth St., Santa Monica, Calif.
- Westronics, Inc., 3605 McCart St., Fort Worth, Texas.
- Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.
- Wheeler Laboratories, Inc., Great Neck, N. Y.
- Wheelock Signals Inc., 273 Branchport Ave., Long Branch, N. J.
- Whistler & Sons, Inc., S. B., 752 Military Rd., Buffalo 23, N. Y.
- Whitaker Cable Corp., Kansas City 16, Mo.
- White Aircraft Corp., Palmer, Mass.
- White Dental Mfg. Co., S. S., Industrial Div., 10 E. 40th St., New York 16, N. Y.
- White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.
- White Instrument Laboratories, Box 9006, Allendale Station, Austin 17, Texas.
- White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.
- Whiteford Laboratory, 420 Market St., San Francisco 11, Calif.
- Whitney Blake Co., New Haven 14, Conn.
- Whitso, Inc., 9328 Byron St., Schiller Park, Ill.
- Whittington Pump & Engineering Corp., 1126 Prospect St., Indianapolis 3, Ind.
- Wickes Engineering & Construction Co., P. O. Box 590, Camden 1, N. J.
- Wiedemann Machine Co., 4272 Wissahickon Ave., Philadelphia 32, Pa.
- Wiegand Co., Edwin L., 7606 Thomas Blvd., Pittsburgh 8, Pa.
- Wiegand Mfg. Co., 120 E. Hawthorne Ave., Valley Stream, N. Y.
- Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.
- Wildberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.
- Willard Storage Battery Div., The Electric Storage Battery Co., 246-286 E. 131st St., Cleveland 1, Ohio.
- Williams & Co., C. K., 640 N. 13th St., Easton, Pa.
- Williamson Development Co., Inc., 317 Main St., West Concord, Mass.
- Wilson Camera Co., Inc., 1395 Lawrence Rd., Haverstown, Pa.
- Willy Guenther K. G., 1138 Massachusetts Ave., Arlington 74, Mass.
- Wilmod Glass Co., Inc., Landisville, N. J.
- Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City 6, Mo.
- Wilmington Fibre Specialty Co., New Castle, Del.
- Wirrite Products, Inc., 3835 W. 150th St., Cleveland 11, Ohio.
- Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va.
- Wilson Co., H. A., The, 2655 U. S. Hwy. 22, Union, N. J.
- Wilton Tool Mfg. Co., 9525 Irving Park Rd., Schiller Park, Ill.
- Winatic Corp., The, P. O. Box 240, Endicott, N. Y.
- Wincharger Corp., E. 7th & Division Sts., Sioux City, Iowa.
- Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.
- Winco Electronics, 644 N. Hawthorne Blvd., Hawthorne, Calif.
- Wind Turbine Co., E. Market St. & Penna. R. R., West Chester, Pa.
- Winder Aircraft Corp., P. O. Box 2397, Lakeland, Fla.
- Winkler Laboratories, 5225 N. 20th St., Phoenix, Ariz.
- Winslow Co., Inc., 9 Liberty St., Newark 5, N. J.
- Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa.
- Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.
- Winzeler Mfg. & Tool Co., 1716 W. Arcade Place, Chicago 12, Ill.
- Wire Stripper Co., 1722 Eastham Ave., East Cleveland 12, Ohio.
- Witelrad Electrical Mfg., Inc., 76 Pulaski St., Stamford, Conn.
- Wolfe Co., Franklin C., Div. of Parker Appliance Co., 10567 Jefferson Blvd., Culver City, Calif.
- Wood Counter Laboratory, N., 5491 Blackstone, Chicago 37, Ill.
- Woodcraft Corp., 501 Salzburg Ave., Bay City, Mich.
- Woodwelding, Inc., 3000 W. Olive, Burbank, Calif.
- Worcester Pressed Aluminum Corp., 13-15 Hope Ave., Worcester 3, Mass.
- Worcester Pressed Steel Co., 101 Barber Ave., Worcester 6, Mass.
- Workman TV, Inc., 309 Queen Anne Road, Teaneck, N. J.
- World Radio Laboratories, Inc., 3415 W. Broadway, Council Bluffs, Iowa.
- Worner Electronic Devices, Rankin, Ill.
- Wright Electronics, Inc., 1519 McGee St., Kansas City 7, Mo.
- Wright Equipment Co., 128 N. Main St., Milltown, N. J.
- Wright Metalcoaters Inc., 255 West St., South Hackensack, N. J.
- Wright & Sons Co., William E., West Warren, Mass.
- Wright-Zimmerman, Inc., New Brighton, Minn.
- Wrought Washer Mfg. Co., 2264 S. Bay St., Milwaukee 7, Wis.
- Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.
- Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.
- Wye Industries, 6 General Devine Way, Boston 27, Mass.

X

Xcelite, Inc., 28 Bank St., Orchard Park, N. Y.  
X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

Y

Yale & Towne Mfg. Co., Powdered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.  
Yardney Electric Corp., 40 Leonard St., New York 13, N. Y.  
Yellow Springs Instrument Co., Inc., P. O. Box 106, Yellow Springs, Ohio.  
Yonkers Industries, Inc., 28 School St., Yonkers, N. Y.  
Young Brothers Co., 1831 Columbus Rd., Cleveland 13, Ohio.

Z

Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio.  
Zacharias Co., Robert, 519 S. Oakley Blvd., Chicago, Ill.  
Zagora Gears, Inc., 1327 S. Mint St., Charlotte 3, N. C.  
Zell Products Corp., 276-280 Main St., Norwalk, Conn.  
Zenith Aircraft Div. of Zenith Plastics Co., P. O. Box 91, Gardena, Calif.  
Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.  
Zenith Optical Laboratory, 1940 Great Neck Rd., Copiague, N. Y.  
Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Ill.  
Zephyr Products Co., 129 E. 124th St., New York 35, N. Y.  
Zero Mfg. Co., 1121 Chestnut St., Burbank 71, Calif.  
Zierick Mfg. Corp., Beechwood & Rockdale Aves., New Rochelle, N. Y.  
Zoomar, Inc., Glen Cove, N. Y.  
Zophar Mills, Inc., 115 26th St., Brooklyn 32, N. Y.

Trans-Aire Electronics, Inc., 195-02 Jamaica Ave., Hollis 23, N. Y.  
 Trans Electronics Inc., 7349 Canoga Ave., Canoga Park, Calif.  
 Transco Products, Inc., 12210 Nebraska Ave., Los Angeles 25, Calif.  
 Transformer Engineers, 161 E. California St., Pasadena 1, Calif.  
 Transformer Metal Products Corp., 36 York St., Brooklyn 1, N. Y.  
 Transformer Specialty Co., Inc., Bala Cynwyd, Pa.  
 Transformers, Inc., 200 Stage Rd., Vestal, N. Y.  
 Transcoil Corp., Worcester, Penna.  
 Transistor Components Co., 301 Oakwood Ave., East Aurora, N. Y.  
 Transistor Devices, Inc., 730 Boulevard, Kenilworth, N. J.  
 Transitron Electronic Corp., 168 Albion St., Wakefield, Mass.  
 Transitron, Inc., 186 Granite St., Manchester, N. H.  
 Transline Associates, 95 Summit St., Newark 3, N. J.  
 Transonic Inc., 808 Sixteenth St., Box 59, Bakersfield, Calif.  
 Transradio Ltd., 138A Cromwell Rd., London SW 7, England.  
 Trans-Sonics, Inc., P. O. Box 328, Lexington 73, Mass.  
 Trent Tube Co., East Troy, Wis.  
 Trenton Transformer Corp., Box 568B, Trenton, N. J.  
 Tresco, Inc., 3824 Terrace St., Philadelphia 28, Pa.  
 Triad Transformer Corp., Sub. of Litton Industries, 4055 Redwood Ave., Venice, Calif.  
 Trico Fuse Mfg. Co., 2948 N. Fifth, Milwaukee 12, Wis.  
 Tricon Mfg. Co., 8012 S. Wallace St., Chicago 20, Ill.  
 Tricraft Products Corp., 1124 W. Newport Ave., Chicago 13, Ill.  
 Tri-Dex Co., P. O. Box 1207, Lindsay, Calif.  
 Trimm Inc., 400 W. Lake St., Libertyville, Ill.  
 Trimm Mfg. Co., W. H., 1811 Johnston St., Los Angeles 31, Calif.  
 Trimount Instrument Co., 3119 W. Lake St., Chicago 12, Ill.  
 Trio Laboratories, Inc., 4025 Merrick Rd., Seaford, N. Y.  
 Trio Mfg. Co., Griggsville, Ill.  
 Trion, Inc., 1000 Island Ave., McKees Rocks, Pa.  
 Triplet Co., Electronics Box 5352, Pasadena, Calif.  
 Triplett & Barton, Inc., 831 N. Lake St., P. O. Box 3128, Burbank, Calif.  
 Triplett Electrical Instrument Co., Harmon Road, Bluffton, Ohio.  
 Tri-Point Plastics, Inc., 177 I. U. Willets Rd., Albertson, N. Y.  
 Tronic Coil Winding Co., Inc., 58 Wesley St., Waterbury, Conn.  
 Trop-Arctic, Inc., P. O. Box 334, Mishawaka, Ind.  
 Tru-Connector Corp., 416 Union St., Lynn, Mass.  
 Tru-Ohm Products Div., Model Engineering & Mfg. Co., 2800 Milwaukee Ave., Chicago 18, Ill.  
 Trumbull Components Dept., General Electric Co., 41 Woodford Ave., Plainville, Conn.  
 Truscon Steel Division of Republic Steel Corp., Youngstown, Ohio.  
 Trutone Electronics, Inc., 812-14 N. Highland Ave., Los Angeles 38, Calif.  
 Tubular Rivet & Stud Co., Weston Ave., Wollaston (Quincy) 70, Mass.  
 Tung-Sol Electric Inc., 95 Eighth Ave., Newark 4, N. J.  
 Tur-Bo Jet Products, Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif.  
 Turner Co., The, 909 17th St., N. E., Cedar Rapids, Iowa.  
 Tuttle & Kift, 1823 N. Monitor St., Chicago 39, Ill.  
 Twentieth Century Electronics, Ltd., Centronics Works, King Henry's Drive, New Addington, Surrey, England.

**U**

UBS Chemical Corp., 491 Main St., Cambridge 42, Mass.  
 U M & F Manufacturing Corp., 10929 Vanowen St., North Hollywood, Calif.  
 Ucinite Co., Division, United-Carr Fastener Corp., 459 Watertown St., Newtonville, Mass.  
 Ulanet Co., George, 413 Market St., Newark 5, N. J.  
 Ultradyne Engineering Labs., Inc., P. O. Box 8007, Albuquerque, N. M.  
 Ultrasonic Engineering Co., 2402 Second St., Peru, Ill.  
 Underwood Electric & Mfg. Co., Inc., 4926 W. Grand Ave., Chicago 39, Ill.  
 Ungar Electric Tools, Inc., 4101 Redwood Ave., Los Angeles 66, Calif.  
 Uniform Tubes, Level Rd., Collegeville 2, Pa.  
 Unimax Switch Div., The W. L. Maxson Corp., Ives Rd., Wallingford, Conn.  
 Union Electric & Mfg. Corp., 1057 Summit Ave., Jersey City, N. J.  
 Union Electronics & Machine Corp., Moulton & Munroe Sts., Georgetown, Mass.  
 Union Plastics Corp., 1630 Paterson Plank Rd., Secaucus, N. J.  
 Union Switch & Signal Div. of Westinghouse Air Brake Co., General Apparatus Sales, Pittsburgh 18, Pa.  
 Unit Process Assemblies, Inc., 61 E. 4th St., New York 3, N. Y.  
 United Aircraft Products, Inc., 1116 Bolander Ave., Dayton 1, Ohio.  
 United Cable Corp., Div. of Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
 United Carbon Products Co., Inc., P. O. Box 269, Bay City, Mich.  
 United-Carr Fastener Corp., Cambridge 42, Mass.  
 United Condenser Corp., 3400 Park Ave., New York 56, N. Y.  
 United Control Corp., 4540 Union Bay Place, Seattle 5, Wash.  
 United Electric Controls Co., 85 School St., Watertown 72, Mass.

United Electrodynamics Div. of United Geophysical Corp., 1200 S. Marengo, Pasadena, Calif.  
 United Electronic Mfg. Corp., 542 39th St., Union City, N. J.  
 United Electronics Co., 42 Spring St., Newark 2, N. J.  
 United Manufacturing & Service Co., 405 S. Sixth St., Milwaukee 4, Wis.  
 United Mineral & Chemical Corp., 16 Hudson St., New York 13, N. Y.  
 United Pressed Products Co., 741 W. Harrison St., Chicago 7, Ill.  
 United Screw & Bolt Corp., 2514 W. Fullerton St., Chicago 8, Ill.  
 United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.  
 U. S. Components, Inc., 454 E. 148th St., New York 55, N. Y.  
 United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass.  
 U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.  
 U. S. Electronics Corp. of America, 800 Slater Lane, Alexandria, Va.  
 U. S. Electronics Development Corp., 1323 Airway, Glendale 1, Calif.  
 U. S. Engineering Co., Div. of Litton Industries, 5873 Rodeo Rd., Los Angeles 18, Calif.  
 U. S. Gasket Co., Camden, N. J.  
 U. S. Gauge Div., American Machine & Metals, Inc., Sellersville, Pa.  
 U. S. Gear Corp., 71 Broadway, Wakefield, Mass.  
 U. S. Graphite Co., Div. of The Wickes Corp., Saginaw 32, Mich.  
 U. S. Plastic Rope Co., 2581 Spring St., Redwood City 10, Calif.  
 U. S. Plywood Corp., Electrical Structures Dept., 55 W. 44th St., New York 17, N. Y.  
 U. S. Radium Corp., Hanover & Horse Hill Rd., Morristown, N. J.  
 U. S. Relay Co., 1740 Albion St., Los Angeles 31, Calif.  
 U. S. Rubber Co., 1230 Avenue of the Americas, New York 20, N. Y.  
 U. S. Steel Corp., 525 William Penn Place, Pittsburgh 30, Pa.  
 U. S. Stoneware Co., The Akron 9, Ohio.  
 U. S. Time Corp., 346 Tejon Place, Palos Verdes Est., Calif.  
 United Technical Laboratories, Box 425-V, Morristown, N. J.  
 United Transformer Corp., 150 Varick St., New York 13, N. Y.  
 United Wire & Supply Corp., Providence 7, R. I.  
 Unitronics, Inc., 472 Park Ave., Ferguson Station, St. Louis 21, Mo.  
 Universal Atomics, A Div. of Universal Transistor Products Corp., 143 E. 49th St., New York 17, N. Y.  
 Universal Aviation Corp., Div. of Mutual Electronic Industries Corp., 85 Beechwood Ave., New Rochelle, N. Y.  
 Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.  
 Universal Condenser Co., 3435 N. Kimball Ave., Chicago 18, Ill.  
 Universal Drafting Machine Corp., 7960 Lorain Ave., Cleveland 2, Ohio.  
 Universal Electric Co., 300 E. Main St., Owosso, Mich.  
 Universal Electronics Co., 1720 Twenty-Second St., Santa Monica, Calif.  
 Universal Mfg. Co., Inc., 410 Hillside Ave., Hillside, N. J.  
 Universal Microphone Co., Box 55, Inglewood, Calif.  
 Universal Winding Co., P. O. Box 1605, Providence 1, R. I.  
 University Loudspeakers, Inc., 80 S. Kensico Ave., White Plains, N. Y.  
 Univox, 102 Warren St., New York 7, N. Y.  
 Uniwave, Inc., 2 Marine St., P. O. Box 474, Farmingdale, N. Y.  
 Utica Drop Forge & Tool Div. of Kelsey-Hayes Co., 2415 Whitesboro St., Utica 4, N. Y.  
 Utility Brass & Copper Corp., 255 Conover St., Brooklyn 31, N. Y.  
 Utrad, Inc., 305 N. Briant, Huntington, Ind.

**V**

V-M Corp., Benton Harbor, Mich.  
 Vacap Corp., 1905 Summit Ave., Union City, N. J.  
 Vaco Products Co., 317 E. Ontario St., Chicago 11, Ill.  
 Vacuum Equipment Div. of The New York Air Brake Co., 1325 Admiral Wilson Blvd., Camden, N. J.  
 Vacuum Metals Corp., Div. of Crucible Steel Co. of America, P. O. Box 977, Syracuse 1, N. Y.  
 Vacuum Tube Products Co., Inc., 506 S. Cleveland St., Oceanside, Calif.  
 Valco Mfg. Co., 4700 W. Walton St., Chicago 51, Ill.  
 Valley Engineering Co., P. O. Box 2, Los Alamos, N. M.  
 Valor Electronic Components Co., 5808 Marilyn Ave., Culver City, Calif.  
 Valpey Crystal Corp., 1244 Highland St., Holliston, Mass.  
 Van Keuren Co., 176 Waltham St., Watertown, Mass.  
 Vandercook & Sons, Inc., 3601 W. Touhy Ave., Chicago 45, Ill.  
 Vanguard Electronics Co., 3384 Motor Ave., Los Angeles 34, Calif.  
 Varfex Corp., 506 W. Court St., Rome, N. Y.  
 Varian Associates, 611 Hansen Way, Palo Alto, Calif.  
 Vari-L Co., Inc., P. O. Box 1433, Stamford, Conn.  
 Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas.  
 Vector Electronic Co., 3352 San Fernando Rd., Los Angeles 65, Calif.  
 Vector Manufacturing Co., 5616 Lawndale Ave., Houston 23, Texas.  
 Vectrol Engineering Inc., P. O. Box 1089, Stamford Conn.  
 Vectron, Inc., 1609 Trapelo Rd., Waltham 54, Mass.

Veeco Vacuum Corp., 86 Denton Ave., New Hyde Park, N. Y.  
 Veeder-Root, Inc., Hartford 2, Conn.  
 Vega Electronics Corp. 1921 Pontius Ave., Los Angeles 25, Calif.  
 Vemaline Products Co., P. O. Box 222, Hawthorne, N. J.  
 Vesto Co., Inc., 20th & Clay, North Kansas City, Mo.  
 Vibration Research Labs., Inc., 97 Lake Ave., Tuckahoe, N. Y.  
 Vibrex Fastener Corp., Mount Kisco, N. Y.  
 Vibroplex Co., Inc., 833 Broadway, New York, N. Y.  
 Vickers Electric Division, Vickers, Inc., 1825 Locust St., St. Louis 3, Mo.  
 Victor Adding Machine Co., Electronics Sales Div., 3900 N. Rockwell St., Chicago 18, Ill.  
 Victor Electric Wire & Cable Corp., 618 Main St., West Warwick, R. I.  
 Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.  
 Victoreen Instrument Co., Components Div., 5806 Hough Ave., Cleveland 3, Ohio.  
 Victory Engineering Corp., 101 Springfield Rd., Union, N. J.  
 Vidair Electronics Mfg. Corp., 576 W. Merrick Rd., Lynbrook, N. Y.  
 Video Industries Co., 242 Madison Ave., Port Chester, N. Y.  
 Videon Electronic Corp., 902 E. Michigan St., Indianapolis 2, Ind.  
 Viking Industries, Inc., 21343 Roscoe Blvd., Canoga Park, Calif.  
 Vinson Co., E. R., 1401 Middle Harbor Rd., Oakland, Calif.  
 Vitramon, Inc., Box 544, Bridgeport, Conn.  
 Vitro Corp. of America, 261 Madison Ave., New York 16, N. Y.  
 Vitrosec Corp., The, 709 E. 106th St., Box 6048, Indianapolis 20, Ind.  
 Vocaline Co. of America, Inc., Old Saybrook, Conn.  
 Vocatron Mfg. Div. of Vocaline Co. of America, Inc., Old Saybrook, Conn.  
 Vokar Corp., 7300 Huron River Drive, Dexter, Mich.  
 Volkers & Schaffer Mfg. Corp., P. O. Box 996, Schenectady, N. Y.  
 Volkert Stampings, Inc., 222-34 96th Ave., Queens Village 8, N. Y.  
 Voltarc Tubes, Inc., 44 Cross St., Norwalk, Conn.  
 Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.  
 Vulcan Electric Co., Danvers, Mass.

**W**

Waage Electric, Inc., 720 Colfax Ave., Kenilworth, N. J.  
 WacLine, Inc., 35 S. St. Claire St., Dayton 2, Ohio.  
 Waco, Inc., 2032 Broadway, Santa Monica, Calif.  
 Wade Electric Products Co., 400 Jacob St., Sturgis, Mich.  
 Wagner Electric Corp., 6400 Plymouth Ave., St. Louis 14, Mo.  
 Waldes Kohinoor Inc., 47-16 Austel Place, Long Island City 1, N. Y.  
 Waldom Electronics, Inc., 4625 W. 53rd St., Chicago 32, Ill.  
 Waldorf Instrument Co., Div. of F. C. Huyck & Sons, Park Ave., Huntington Station, N. Y.  
 Wales-Strippit Co., Akron, New York.  
 Walker Co., George, 118 Amsterdam Ave., Passaic, N. J.  
 Walkirt Co., 141 W. Hazel St., Inglewood 3, Calif.  
 Wall Mfg. Co. Grove City, Pa.  
 Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.  
 Wallson Associates Ltd., 963 Frelinghuysen Ave., Newark 5, N. J.  
 Walnut Machine Co., 1529 S. Walnut St., South Bend 14, Ind.  
 Walsco Electronics Mfg. Co., 100 Green St., Rockford, Ill.  
 Walser Automatic Timer Corp., Graybar Bldg., New York 17, N. Y.  
 Walsh Press & Die Co., Div. of American Gage & Machine Co., 47-09 W. Kinzie St., Chicago, Ill.  
 Walter Co., Inc., S. 1400 Atlantic Ave., Brooklyn 16, N. Y.  
 Walter Lee Chemical Co., 1381 Seabury Ave., Bronx 61, N. Y.  
 Waltham Horological Corp., 395 Lynnway, Lynn, Mass.  
 Waltham Screw Co., Waltham, Mass.  
 Waltham Watch Co., Instrument & Industrial Products, Waltham 54, Mass.  
 Wang Laboratories, Inc., 37 Hurley St., Cambridge 41, Mass.  
 Wappler, Inc., 27-10 Astoria Blvd., Long Island 2, N. Y.  
 Ward Leonard Electric Co., 31 South St., Mt. Vernon, N. Y.  
 Warren Mfg. Co., Inc., The, Newton Rd., Littleton, Mass.  
 Warren Plastics Corp., Warren, Pa.  
 Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.  
 Warren Wire Co., Pownal, Vt.  
 Warrick Co., Charles F., 1964 W. Eleven Mile Rd., Berkley, Mich.  
 Warsaw Coil Co., Warsaw, Ind.  
 Washington Machine & Tool Works, 1001 Washington Ave., S., Minneapolis 15, Minn.  
 Wassco Electric Products Corp., 204 S. Larkin Ave., Joliet, Ill.  
 Waterbury Companies, Inc., Waterbury 20, Conn.  
 Waterbury Pressed Metal Co., P-M Nut Div., 300 Chase Ave., Waterbury 14, Conn.  
 Waterman Products Co., Inc., 2445-63 Emerald St., Philadelphia 25, Pa.  
 Waters Conley Co., Inc., 501 First St. N. W., Rochester, Minn.

- Waters Manufacturing Inc., Boston Post Rd., Wayland, Mass.
- Watlow Electric Mfg. Co., 1376 Ferguson Ave., St. Louis 14, Mo.
- Watson Mfg. Co., Inc., 4700 Taylor St., Jamestown, N. Y.
- Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
- Wave/Particle Co., P. O. Box 252, Menlo Park, Calif.
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- Waveguide, Inc., P. O. Box 486, 14845 Oxnard St., Van Nuys, Calif.
- Waveline, Inc., Box 470, Caldwell, N. J.
- Wax Corporation of America, 21-29 Dunham Place, Brooklyn 11, N. Y.
- Weathers Industries, 66 E. Gloucester Pike, Barrington, N. J.
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- Weldmatic Div. of Unitek Corp., 380 N. Halstead Ave., Pasadena, Calif.
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- Wells Co., Gary, 361 Rockaway Ave., Valley Stream, N. Y.
- Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago 39, Ill.
- Wells & Winegard, 3000 Scotten Blvd., Burlington, Iowa.
- Weltronic Co., 19500 W. Eight Mile Rd., Detroit 19, Mich.
- Welwyn International Inc., 3355 Edgecliff Terrace, Cleveland 11, Ohio.
- Wen Products, Inc., 5806 Northwest Highway, Chicago 31, Ill.
- Wenco Mfg. Co., 1133 W. Hubbard St., Chicago 22, Ill.
- West Coast Electrical Mfg. Corp., 233 W. 116th Place, Los Angeles 61, Calif.
- West Coast Electronics Co., 9261 W. 3rd St., Beverly Hills, Calif.
- West Instrument Corp., 4363 W. Montrose Ave., Chicago 41, Ill.
- West Virginia Pulp & Paper Co., 230 Park Ave., New York 17, N. Y.
- Westberg Mfg. Co., 144 S. Coombs St., Napa, Calif.
- Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.
- Western Coil Products Co., 969 Commercial St., Palo Alto, Calif.
- Western Electric-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
- Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
- Western Gear Corp., Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.
- Western Gold & Platinum Co., 589 Bryant St., San Francisco, Calif.
- Western Insulated Wire Co., 2425 E. 30th St., Los Angeles 58, Calif.
- Western Radiation Lab., 1107 W. 24th St., Los Angeles 7, Calif.
- Western Union Telegraph Co., 60 Hudson St., New York 13, N. Y.
- Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
- Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira 1, N. Y.
- Westlabs Inc., Dept. E, P. O. Box 1111, Palo Alto, Calif.
- Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.
- Westline Products Div. of Western Lithograph Co., 600 E. Second St., Los Angeles 54, Calif.
- Weston Electrical Instrument Corp., A Sub. of Daystorm, Inc., 614 Frelinghuysen Ave., Newark 12, N. J.
- Westrex Corp., 111 Eighth Ave., New York 11, N. Y.
- Westronics of Calif. Div. of Electromotion Co., 1646 Eighteenth St., Santa Monica, Calif.
- Westronics, Inc., 3605 McCart St., Fort Worth, Texas.
- Wheeler Insulated Wire Co., Inc., The Div. of The Sperry Corp., 150 E. Aurora St., Waterbury 91, Conn.
- Wheeler Laboratories, Inc., Great Neck, N. Y.
- Wheelock Signals Inc., 273 Branchport Ave., Long Branch, N. J.
- Whistler & Sons, Inc., S. B., 752 Military Rd., Buffalo 23, N. Y.
- Whitaker Cable Corp., Kansas City 16, Mo.
- White Aircraft Corp., Palmer, Mass.
- White Dental Mfg. Co., S. S., Industrial Div., 10 E. 40th St., New York 16, N. Y.
- White Electron Devices, Inc., Roger, Fourth Ave., Haskell, N. J.
- White Instrument Laboratories, Box 9006, Allandale Station, Austin 17, Texas.
- White-Rodgers Electric Co., Armament Dept., 4407 Cook Ave., St. Louis 13, Mo.
- Whiteford Laboratory, 420 Market St., San Francisco 11, Calif.
- Whitney Blake Co., New Haven 14, Conn.
- Whitso, Inc., 9328 Byron St., Schiller Park, Ill.
- Whittington Pump & Engineering Corp., 1126 Prospect St., Indianapolis 3, Ind.
- Wickes Engineering & Construction Co., P. O. Box 590, Camden 1, N. J.
- Wiedemann Machine Co., 4272 Wissahickon Ave., Philadelphia 32, Pa.
- Wiegand Co., Edwin L., 7606 Thomas Blvd., Pittsburgh 8, Pa.
- Wiegand Mfg. Co., 120 E. Hawthorne Ave., Valley Stream, N. Y.
- Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.
- Wilberg Bros. Smelting & Refining Co., 742 Market St., San Francisco 2, Calif.
- Willard Storage Battery Div., The Electric Storage Battery Co., 246-286 E. 131st St., Cleveland 1, Ohio.
- Williams & Co., C. K., 640 N. 13th St., Easton, Pa.
- Williamson Development Co., Inc., 317 Main St., West Concord, Mass.
- Wilson Camera Co., Inc., 1395 Lawrence Rd., Haverstown, Pa.
- Willy Guenther K. G., 1138 Massachusetts Ave., Arlington 74, Mass.
- Wilmar Glass Co., Inc., Landisville, N. J.
- Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City 6, Mo.
- Wilmington Fibre Specialty Co., New Castle, Del.
- Wiltrite Products, Inc., 3835 W. 150th St., Cleveland 11, Ohio.
- Wilson & Co., G. C., 1915 Eighth Ave., Huntington, W. Va.
- Wilson Co., H. A., The, 2655 U. S. Hwy. 22, Union, N. J.
- Wilton Tool Mfg. Co., 9525 Irving Park Rd., Schiller Park, Ill.
- Winatic Corp., The, P. O. Box 240, Endicott, N. Y.
- Wincharger Corp., E. 7th & Division Sts., Sioux City, Iowa.
- Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.
- Winco Electronics, 644 N. Hawthorne Blvd., Hawthorne, Calif.
- Wind Turbine Co., E. Market St. & Penna. R. R., West Chester, Pa.
- Winder Aircraft Corp., P. O. Box 2397, Lakeland, Fla.
- Winkler Laboratories, 5225 N. 20th St., Phoenix, Ariz.
- Winslow Co., Inc., 9 Liberty St., Newark 5, N. J.
- Winston Electronics, Inc., 4312 Main St., Philadelphia 27, Pa.
- Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.
- Winzeler Mfg. & Tool Co., 1716 W. Arcade Place, Chicago 12, Ill.
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- Witelrad Electrical Mfg., Inc., 76 Pulaski St., Stamford, Conn.
- Wolfe Co., Franklin C., Div. of Parker Appliance Co., 10567 Jefferson Blvd., Culver City, Calif.
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- World Radio Laboratories, Inc., 3415 W. Broadway, Council Bluffs, Iowa.
- Worner Electronic Devices, Rankin, Ill.
- Wright Electronics, Inc., 1519 McGee St., Kansas City 7, Mo.
- Wright Equipment Co., 128 N. Main St., Milltown, N. J.
- Wright Metalcoaters Inc., 255 West St., South Hackensack, N. J.
- Wright & Sons Co., William E., West Warren, Mass.
- Wright-Zimmerman, Inc., New Brighton, Minn.
- Wrought Washer Mfg. Co., 2264 S. Bay St., Milwaukee 7, Wis.
- Wunderlich Radio Co., 2 Fifth Ave., New York 11, N. Y.
- Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.
- Wye Industries, 6 General Devine Way, Boston 27, Mass.

X

- Xcelite, Inc., 28 Bank St., Orchard Park, N. Y.
- X-Ray Dept., General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis.

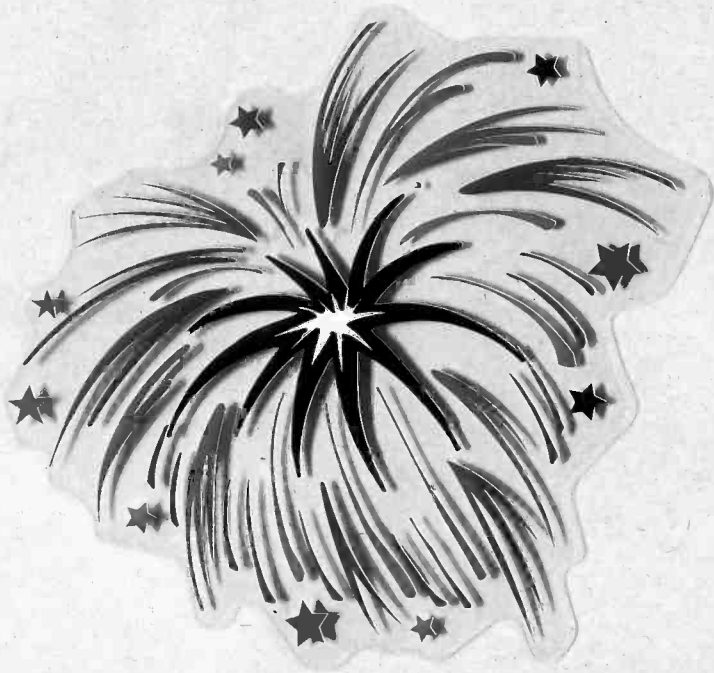
Y

- Yale & Towne Mfg. Co., Powdered Metal Products Div., 9335 Belmont Ave., Franklin Park, Ill.
- Yardney Electric Corp., 40 Leonard St., New York 13, N. Y.
- Yellow Springs Instrument Co., Inc., P. O. Box 106, Yellow Springs, Ohio.
- Yonkers Industries, Inc., 28 School St., Yonkers, N. Y.
- Young Brothers Co., 1831 Columbus Rd., Cleveland 13, Ohio.

Z

- Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio.
- Zacharias Co., Robert, 519 S. Oakley Blvd., Chicago, Ill.
- Zagora Gears, Inc., 1327 S. Mint St., Charlotte 3, N. C.
- Zell Products Corp., 276-280 Main St., Norwalk, Conn.
- Zenith Aircraft Div. of Zenith Plastics Co., P. O. Box 91, Gardena, Calif.
- Zenith Electric Co., 152 W. Walton St., Chicago 10, Ill.
- Zenith Optical Laboratory, 1940 Great Neck Rd., Copiague, N. Y.
- Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Ill.
- Zephyr Products Co., 129 E. 124th St., New York 35, N. Y.
- Zero Mfg. Co., 1121 Chestnut St., Burbank 71, Calif.
- Zierick Mfg. Corp., Beechwood & Rockdale Aves., New Rochelle, N. Y.
- Zoomar, Inc., Glen Cove, N. Y.
- Zophar Mills, Inc., 115 26th St., Brooklyn 32, N. Y.

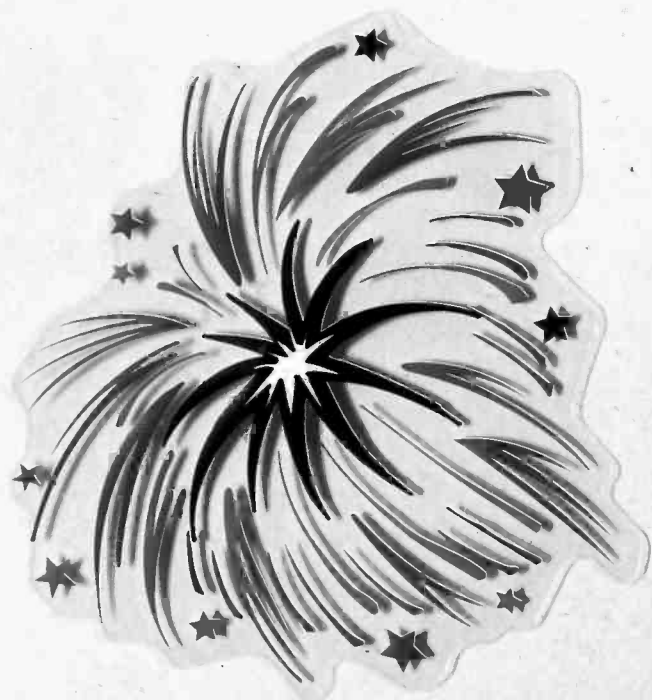
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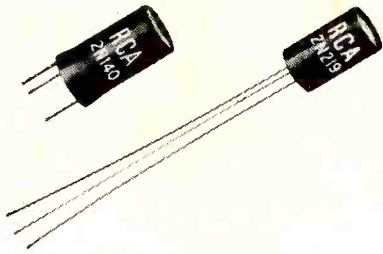


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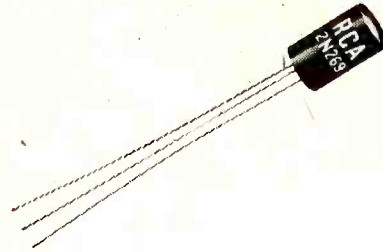


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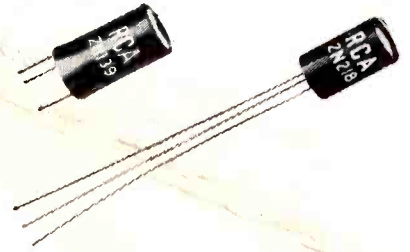




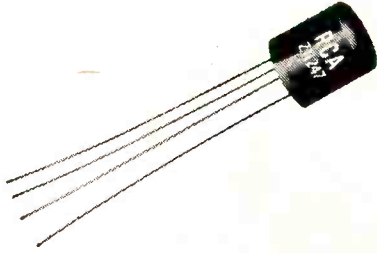
**RCA-2N140**—For converter and mixer-oscillator applications in standard-AM broadcast-band receivers. Linotetrah 3-pin base. For flexible-lead version, specify **RCA-2N219**.



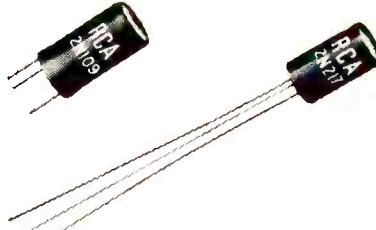
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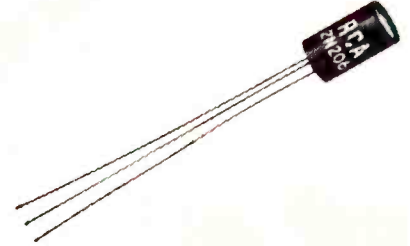
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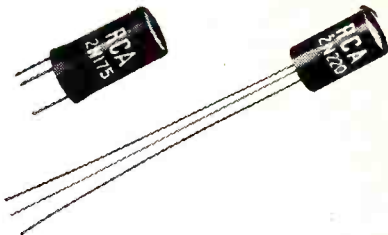
**RCA-2N247**—"Drift" Transistor for use as an RF amplifier in the AM broadcast-band and up into the short-wave bands.



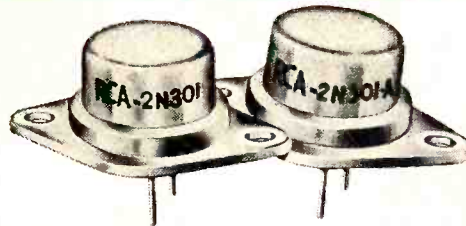
**RCA-2N109**—For large-signal AF amplifier service. In class B push-pull, two RCA-2N109's can deliver max. signal power output of approximately 150 milliwatts. Linotetrah 3-pin base. For flexible-lead version, specify **RCA-2N217**.



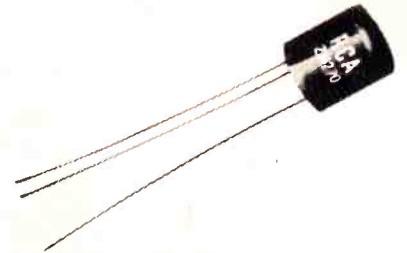
**RCA-2N206**—For moderate-power AF amplifier service. Meets military specification MIL-T-25380/4 USAF. (Max. collector dissipation, 75 mw. at ambient temp. of 25°C.)



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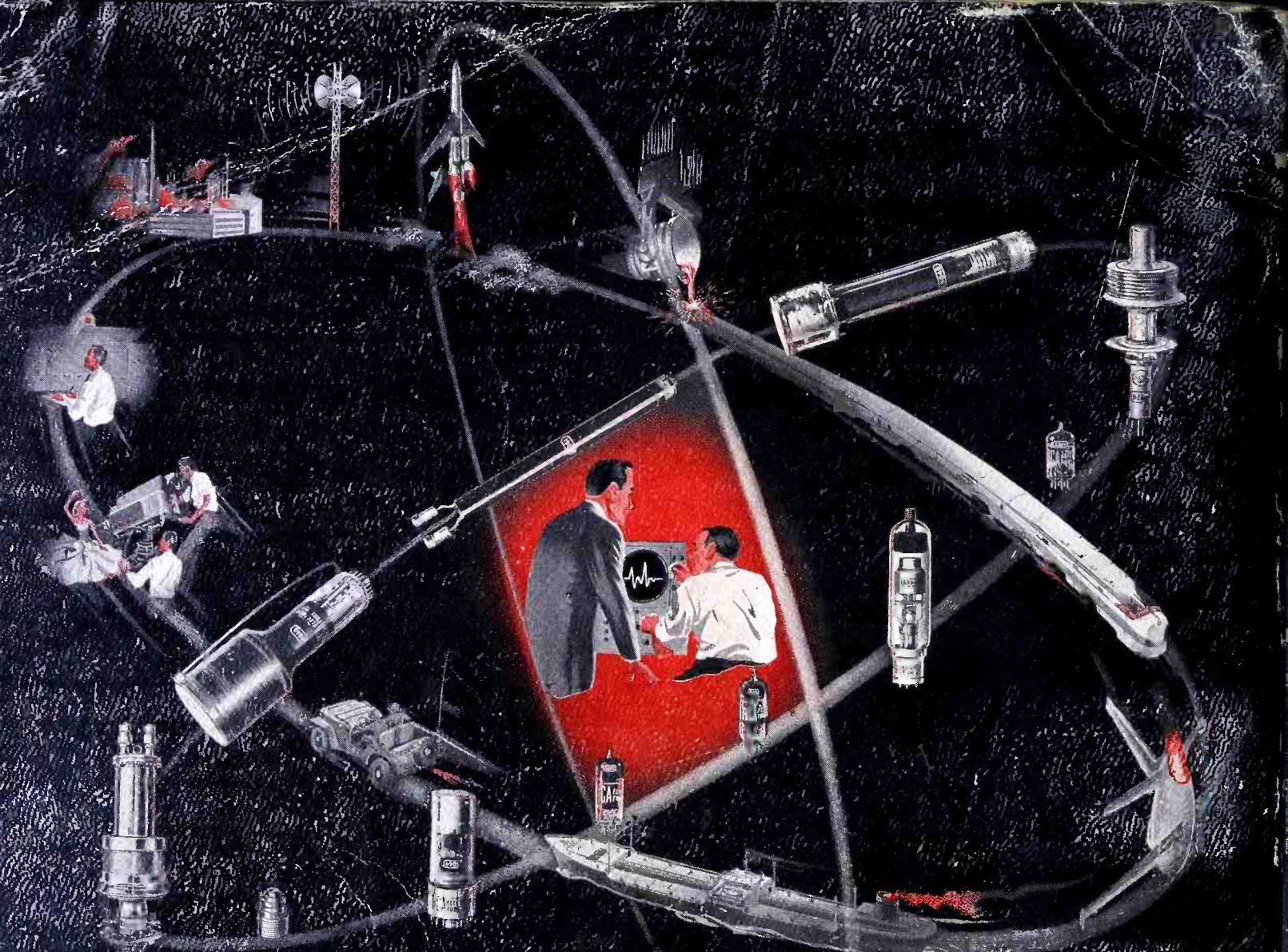
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HUmboldt 5-3900
- WEST** . . . . . Los Angeles, Calif.  
6355 E. Washington Blvd.  
RAYmond 3-8361
- MIDWEST** . . . . . Chicago, Ill., Suite 1181,  
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WHitehall 4-2900
- GOVERNMENT** . . . . . Dayton, Ohio  
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